

# QuaesitUM

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*QuaesitUM* is a double-blind-reviewed annual publication that provides an academic forum where University of Memphis undergraduate students can showcase research from all disciplines.

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# Editorial Board

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Dr. Sage Graham

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## To Our Readers

The endeavor to give undergraduate students at the University of Memphis a space where they could publish their research has been our primary mission since 2014 when we completed the inaugural issue of *Quaesitum* (kwáh-see-tum). Since that initial volume, we have received truly outstanding submissions from disciplines all over campus – including Counseling and Educational Psychology, Physics, Biology, History, Anthropology, Archeology, and English. The diverse representation of disciplines from Social & Behavioral Sciences to STEM fields to Humanities to Professional fields has allowed us to create a publication that highlights the very best of the University of Memphis.

As with any scholarly publication, there are many people who contribute at all levels, and we are grateful for their hard work in bringing Volume 3 to fruition. First, I would like to offer my sincerest thanks to the Director of the Helen Hardin Honors Program, Dr. Melinda Jones and the Technical Editor, Mr. Scott Dutt. Their contributions and hard work have been, and will continue to be, vital to this publication's success.

The three of us would also like to express our appreciation to the Provost, Dr. Karen Weddle-West, for the continuing administrative support that makes *Quaesitum* possible.

In striving to maintain the academic rigor that allows us to highlight the best work of our undergraduates, we have relied on a team of faculty reviewers and consultants that include: Dr. Cheryl Bowers, Dr. Ronald Fuentes, Ms. Stephanie Haddad, Dr. Mark A. Kaplowitz, Mr. Steven A. Knowlton, Ms. Amanda Lee Savage, Dr. Deranda Lester, Dr. Meghan McDevitt-Murphy, Dr. Andrew Mickelson, Dr. Ryan Parish,

Ms. Rhonda Powers, Dr. Lyndsay Saunders, and Dr. Carmen Weaver. We would like to offer our sincerest thanks for their willingness to give their time and talents to this enterprise.

Mr. Gary Golightly also continues to create cover designs that capture the energy and innovation that we strive for, and the Assistant Vice President for Technology Transfer, Dr. Kevin Boggs, has once again provided his support by graciously funding prizes for the best papers.

The faculty sponsors who have encouraged their students to submit their work are also a critical part of this process. Without their guidance, the authors represented here would not have begun the projects that are included in this volume, and the quality of the submissions we have received is a clear reflection of the time and effort that faculty mentors invest in their students.

Finally, we would like to express our appreciation to the students themselves. Writing and researching arises from passion in asking questions and seeking answers (thus the journal's name, *Quaesitum*, which is from the Latin 'to seek/to ask'). That passion for exploration and discovery, however, creates an investment that also brings a risk in submitting your work for critical review. The students whose work appears in this volume overcame that risk in order to allow their work to become part of the scholarly conversation that is the foundation of the academy. For that we offer our congratulations and thanks.

Dr. Sage Lambert Graham  
Editor-in-Chief

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Seth Harden is currently a graduate student at the University of Memphis in the English Department. He graduated with his Bachelor of Arts in History in August of 2015. By completing this paper and several honors courses, Seth graduated *magna cum laude* and as an Undergraduate Research Scholar. This paper will also be given at the National Conference on Undergraduate Research at the University of North Carolina, Asheville in April 2016. He hopes to finish his Masters of Arts in English Literature, teach at a community college, and eventually complete his doctoral degree. Even more so, Seth is ready to start his life with his best friend and future wife, Abbigail.

# **Seth Harden**

“A New Found Golgotha”: Puritan Perspectives On Violence  
In Native American New England, 1630-1704

**Faculty Sponsor**

Dr. Christine Eisel



## **Abstract**

Seventeenth-Century colonial America was an incredibly violent place. When English settlers came to the New World, hostilities occurred between them and Native American groups as they all sought to control land and resources. Puritans came out of what Susan Juster calls “The apex of human savagery”: specifically, the religious wars of seventeenth century Europe. The New World was equally violent, but Native Americans used violence for different purposes and in different ways. Both European and Native American strategies in violence were grounded in religion and shared similar characteristics. Dismemberments, flayings, scalplings, and beheadings were common features on both English and Indian fronts. In this paper, I argue that English colonists who immigrated to New England in the seventeenth-century brought certain perceptions of violence, which were put to use in the New World on Native American bodies, and those perceptions were framed in the light of Puritan and European ideologies.

*“The hand of God fell heavily upon them, with such a mortal stroke that they died on heapes...And the bones and skulls upon the several places of their habitations, made such a spectacle after my coming into those partes, that as I travailed in that Forrest, near the Massachusetts, it seemed to me a new found Golgotha.”*<sup>1</sup>

*- Thomas Morton, New English Canaan, 1634*

Thomas Morton, an English colonist living in Massachusetts and biographer from Devon, walked into a violent world that was taken over by disease, war, and chaos. His first reaction was to place what he saw in a framework he understood: the crucifixion of Jesus at Golgotha, the “place of the skull.” When Morton arrived in southern New England he saw blood, death, and violence; things he associated with the death of Jesus and “a new found Golgotha.” In New England, where Morton was, Pequot numbers before the plague of 1633 were around 16,000. At the beginning of the Pequot War, that number went to a dismal 3,000. Though sickness tore through the Pequot people, physical acts of violence also had their place.

Arising through the age of religious wars, Puritan English leaders in colonial America brought with them certain forms and ideas about violence, which did not die easily. After defending their faith for so long in the Old World, religious violence was a paramount feature of English society. Over the course of New World contact, violent outbreaks happened over and again. Land use, language barriers, mixed social signals, clothing, religion; all of these created friction between the English and Native Americans of New England which included the Wampanoag, Algonquian, Pequot, Nipmuck, and Narragansett. Violence was everywhere in the colonies. Though scholars tend to deflate some of the rhetoric used to describe these scenes and instances, archeological and ethno-historical methods have been used to prove them relatively accurate.<sup>2</sup> I argue that English perceptions of the violence were shaped by Puritan religion and ideologies, which were brought with them from the Old World. To make such a claim, I will examine the firsthand accounts of Captain John Mason, Colonel Benjamin Church, and Miss Mary Rowlandson. Finally, I will analyze

John Williams' *The Redeemed Captive Returning to Zion* and the events of the early eighteenth century, including the Deerfield Raid during Queen Anne's War, in order to understand these events as a continuation of the same forms of violence.

Several historians have extensively researched violence, European immigration, Puritan rhetoric, and English-Indian relations in early America. Daniel Richter's work, *Before the Revolution*, explores ancient America all the way through to the Revolution. He tries to connect the Old World with the new by looking at how politically, socially, and environmentally they were both experiencing the same changes; power systems from Middle Europe slowly declined as centers of power in America—like Cahokia—were also dissipating. A large part of his work is dedicated to understanding where colonial leaders were coming from, what they brought with them ideologically, and how that shaped the colonies. Daniel Richter gleaned much from Bernard Bailyn who wrote, amongst many other important works, *The Barbarous Years*, in which he closely examines violence in the colonies from 1600-1675, a particularly grisly era. Bailyn surveys Native American culture, English culture, Dutch ideologies, and the politics of the seventeenth century to provide a complete view of what was happening in the colonies. He reveals people's experiences in the New World and puts those encounters into the wider frame of Atlantic History. For the wars, three works in particular shaped this paper. Alfred Cave's book, *The Pequot War*, is the most extensive investigation into the war and its causes. In it, he crafts and develops the "The Satanic Principle" which is his theory on how Puritans viewed Native Americans; as an "other" separate from their Christian doctrine. Jill Lepore's, *The Name of War*, surveys the events and the rhetoric of King Philip's War, an event that was written about more than any other seventeenth-century struggle. Her work is useful for this approach, but at the same time, she provides a detailed account of the war and how both Puritans and Wampanoags perceived what happened. Finally, Evan Haefeli and Kevin Sweeney have compiled an extensive inquiry into the Deerfield Raid of 1704 in *Captors and Captives*. Like Bailyn, they sought to show personal instances of encounters and how those might speak to the overall problems in the colonies. They evaluate French-English relations and French-Indian relations, which helps give a greater context to what transpired in and around New England and why those events, like the Deerfield Raid, affected New England.

## The Violent Old World

From the Middle Ages to the time the pilgrims migrated from England, the power of monarchies was grounded in different forms and ideas about violence. In both the reigns of Elizabeth I and James I, the government used violence to control their subjects. During their reigns, some three hundred Catholics were executed compared to only a few that were merely labeled as “heretics.”<sup>3</sup> One of the most common forms of punishment was the act of beheading, literally removing someone’s crown for opposing the crown of England. For the monarchs of the time, beheadings held deep political meanings.<sup>4</sup> Historians have noted beheadings as a form of political and social assimilation. Sir Humphrey Gilbert, in the wars with Ireland, lined the streets with severed heads in the city of Munster to assert English dominance.<sup>5</sup> Once the English reached the colonies, they controlled physical bodies in similar ways repeatedly to exercise their divine right to be in the New World.

The violent outbreaks that took place between England and Ireland during the Irish wars were a prelude to violence in the New World. Sir Humphrey Gilbert, an Englishman sent by the crown to put down the Irish “problem,” used brutal military tactics to exert English dominance over the local Gaelic people. In one instance, Thomas Churchyard noted, “that the heddes of all those (of what sort they were) which were killed in the date, should be cutte from their bodies and brought the the place where he incamped at night.” These heads would line the path that the local Irish would have to walk in order to speak to Gilbert so that “their sawe the heddes of their deeded fathers, brothers, children, kinsfolke, and friends.”<sup>6</sup> Though this small part of historiography is based on actions in the Chesapeake area, the same actions and ideas are seen in New England. Pequots, Wampanoags, Nipmucks, Puritans and other European powers took heads as trophies and displayed them proudly, because their enemies understood how powerful the action was. The English would then bring these strategies to the New World to subvert the various cultural groups they encountered.

In England, the state used violence also as a spectacle in order to gain power over the people. Authorities shamed individuals publically for crimes they had committed. Similarly, with beheadings, the point was to always create a spectacle; something that the people could see and learn from.<sup>7</sup> Moreover, spectacles of violence did not happen in flux, they were

a part of everyday English life. John Coffey, professor of early modern history at the University of Leicester, has researched this area of English punishment, religion, and Puritan ideologies extensively. He asserts that from 1535-1681 around three hundred Roman Catholics were killed for their beliefs. The larger portion of those executed at the chopping block were there for heretical reasons.<sup>8</sup> These numbers show that Elizabeth and other monarchs, though tolerant of other religions, were conscious of how to use violence and the spectacle of public punishment to sway people politically.

## **Old World Puritans**

The chaos in the Old World created the New World Puritans—those who left England to pursue the fortune of the New World. Ministers such as John Winthrop felt that England, with its riotous, secular ways, was being torn apart; by God or the devil was not made clear, but for most it was attributed to the wrath of God.<sup>9</sup> The colonists were deeply concerned with how God was interwoven into their decisions. Leaving England was not merely just that; they were also crossing the mighty sea, finding their Eden, wandering through their wilderness, and abiding in a Canaan all at the same time.

Puritan thought called upon a literal interpretation of the Bible. When John Winthrop left England in 1630, his aim was to create a city on a hill. He and the colonists who followed wanted to be a light in a world of pure darkness, even though their impression of the New World was glowing.<sup>10</sup> Every aspect of the Puritan's life was steeped in religion, whether it be rhetorical, physical, or spiritual. While in sinful England, they were the Israelite slaves of Egypt. When crossing the Atlantic to Massachusetts, they were pushing through the Red Sea. Once they reached the shore, their attitudes changed with the severe reality of barren ground with no milk and honey; yet, they were still the people of God walking through the wilderness making the best of their God-given trial.

Their Biblical interpretations in turn solidified their ideas about land, sovereignty, and divine right. Propaganda, which was spreading through England, emphasized Indian inferiority to the English. Coming out of an era of fear of infidels and intruders, Francis Jennings notes that, “what Europeans saw of Indian religion passed through refracting and filtering lenses of preconceptions” that were formed through propa-

ganda.<sup>11</sup> Once they reached the New World, Puritan ideals preached that the land was available for settling. Sovereignty, therefore, fell into their hands. With language and cultural barriers, Indians were rarely consulted on legal matters. Divine right pervaded all the other senses and ideas the Puritans carried. This was their land; their sanctuary in the wilderness. The land was their escape from the evil land of England. Soon, however, they would find that their sanctuary was already in turmoil.

Along with literal biblical interpretation came ideas of war and violence. According to Francis Jennings, Puritan ideas of war were directly born out of Biblical traditions from the medieval period. He asserts that the distinction between “heathen” and “Christian” was important for the colonizers in Medieval times, because it was how they waged war; specifically, “just” wars. “When religion was bad,” he writes, “its people were necessarily also bad.”<sup>12</sup> He also argues that without this critical distinction, there can be no “arguably proper” war.<sup>13</sup> However, we must remember that Puritans were people, and they were a fervent people at that. Winning souls to God, creating a new home for themselves, and setting it on a hill were their goals. Indians, for these settlers, were souls, not merely “red” men and women distinct from themselves.<sup>14</sup> Soon, however, the peaceful aspect of their preaching would be interrupted by America’s first climactic war.

## **The Pequot War: Mystic and Mason**

The Pequot War, 1636-1637, reshaped southern New England. The war paved the way for the English to establish governmental institutions and further their colonial expansions. However, the road it paved was marked with blood, disfigured bodies, lies, and deceit. Puritans at this time saw the Pequot as ferocious and sought to separate themselves by labeling the tribe as “Devils in the Woods.”

The war between the Pequot and the Puritans began as a struggle for power. Pequot Indians of New England were already in a struggle with the Narragansett Indians and Dutch traders for the control of trade routes and access to goods.<sup>15</sup> After killing a group of Narragansett Indians who were going to trade with the Dutch, the Pequots officially became their enemies. Tatobem, the Pequot sachem who had been in a peace agreement since 1633 with the Dutch, was lured to one of their ships in order to negotiate a trade agreement. He was captured instead. Told that he was being

held for ransom, the Pequots under Tatobem anxiously sent “a bushel of wampum” to his captors; however, “they received in return his corpse.”<sup>16</sup> Even so, the Pequots still sought to trade with the Dutch traders; never was it their goal to break off any kind of trade connections. In retribution for the murder, the Pequots murdered a group of Europeans, (thought to be Dutch by the Pequots), anchored hopelessly in their ship on the Connecticut River. However, they were not Dutch. They were English Colonists, and their captain was John Stone.<sup>17</sup>

John Stone’s murder led to a series of misunderstandings between the Pequots and the Puritans. In terms of the Puritan response, John Stone was hardly the sole reason for such a conflict in 1636. Stone is known by scholars now to be a “privateer, smuggler, drunkard, and adulterer” who had a less than dazzling reputation. Nonetheless, he was an English Puritan and a captain at that.<sup>18</sup> What is difficult to reconcile about this murder is the fact that most Pequots, and their counterpart New England neighbors, could distinguish Dutch from English. The Dutch were much more crude, rough, and overall forceful in their interactions with the Native Americans.<sup>19</sup> Stone’s murder was more than likely not accidental, but part of the Pequot’s strategic plan. This murder pushed Pequot-English relations to a breaking point, especially with the increasing tensions that were already at work in the region amongst Native American cultural groups.

The actual violence of the Pequot War began with small skirmishes. In one instance, before the attack on Saybrook led by the Pequots and their Western Niantic allies, Joseph Tilly, a river trader in the Connecticut River Valley, was taken captive while hunting. His friend was killed immediately, but he was used for a more violent purpose and one that was stock full of meaning. As John Underhill records, the Pequots “tied him to a stake, flayed his skin off, put hot embers between his flesh and the skin, cut off his fingers and toes, [to] make hatbands of them.”<sup>20</sup> The brutality of the scene, the calculated measures of removing certain parts of the body, the time it took to create the hot embers to be placed in Tilly’s body, darkened the mind of those who witnessed the event. Torture practices used by the Pequots did not differ greatly from traditional New England. If a warrior was captured by their enemy, and was found to be guilty of a crime against them, “they would most likely be burned to death after disembowelment, some parts of their bodies having been eaten and their blood drunk in celebration by their captors.”<sup>21</sup> The Puritans, however, who

were constantly in a struggle to reconcile what they saw with what they believed, labeled the Indians as brutes, barbarians, and completely void of a benevolent God, despite the fact that they themselves often committed similar barbaric acts.

On May 26 1637, the English Puritans of New England launched an attack on the Pequots at Fort Mystic that was designed to be devastating. The attack was a hallmark of English Puritan retaliatory brutality and aggressiveness. Built in an area of around two acres, the fort contained several wigwams, women, and children, and the English found the place so packed tight with the Pequots that they “wanted foot room to grapple with their adversaries.<sup>22</sup> The plan was to “destroy them by the sword” and then take the plunder of the town. However, after completely surrounding the town, the soldiers laid waste to it. John Mason recorded the burning of the town to be “a dreadful Terror did the Almighty let fall upon their Spirits, that they would fly from us and run into the very Flames, where many of them perished. And when the Fort was thoroughly Fired, Command was given, that all should fall off and surround the Fort.”<sup>23</sup>

The fighting and ensuing devastation happened quickly. Mason suggests that some six to seven hundred Pequots were killed, but scholars conservatively say around four hundred.<sup>24</sup> Two invaders were killed and twenty were wounded. William Bradford stated, “It was a fearful sight to see them thus frying in the fire and the streams of blood quenching the same, and horrible was the stink and scent thereof.”<sup>25</sup> Bodies of Pequot Indians undoubtedly littered the entire scene, and even the retreat was scattered in violence.

Prominent in Mason’s narrative is the concern with God’s hand on the war. In fact, Bernard Bailyn theorizes that the soldiers who were under John Mason experienced some form of a trance-like state when engaging in the battle at Mystic. “We were like Men in a Dream...then was our mouth filled with Laughter, and our tongues with Singing.” Many of the men at that battle had never seen war before, especially one that was so bloody and ruthless. And Captain Underhill himself was intrigued by the way God sat his vengeance upon the Indians.<sup>26</sup> The men were ecstatic, driven by the desire to conquer all those who stood in their way of God’s glory. This enlivened them, but it also caused many of the problems that followed in the area of Southern New England and New England at large, for fear became one of the Puritan’s greatest tools.

Fear led Puritans in Southern New England to distance themselves from the Pequots. Alfred Cave assesses this phenomena calling it the “Satanic Principle”: the English Puritan belief that the Pequots, and all other Native American groups, were agents of Satan who were bent on the destruction of the English.<sup>27</sup> For the most part, the ideas and rhetoric used to describe the battles and interchanges with the Pequots were tactical; the English understood that if the stake was driven deep enough between the two cultures that a natural hate would evolve. There was no actual Satan in the woods howling at the English until destruction came; rather, the English Puritans created this myth to justify English acts of violence, fears, and war.<sup>28</sup> Where the real difference came was in religious perspective. Whereas flaying and scalping a body was appropriate in Indian cultures, devastation and destruction in the name of God was acceptable in Puritan ideology. The texts reveal how people viewed these events, and for the Puritans, these stories were “the fulfillment of a prewar mythology that foretold conflicts in the wilderness between the people of God and the hosts of Satan.”<sup>29</sup> These ideas can be seen in John Mason’s account of the war and in Winthrop’s journals. They were often full of violent stories that travelled back to old world England to let Englishmen and women know how violent the New World was.

The Pequot War left a wake of destruction in southern New England. Rumors, insecurities, distrust, and violence all loomed after the Pequots were nearly annihilated.<sup>30</sup> After the battle, not only did English troops track down and kill as many Pequot Indians as they could find, they also forbade anyone from calling themselves “Pequots.”<sup>31</sup> Through killings and political domination, the Puritan objective was to eliminate the Pequots from the region by death and cultural genocide in order to completely dominate the suffering group. And even though the Pequot lineage survived, the war laid the foundation for the brutal wars that were still to come between the Puritans and the Algonquian tribes led by eponymous leader, Metacomet.

### **King Phillips’ War: Popularity of Violence**

*“As they were leading them away in this lamentable condition, one of the Sisters being big with childe, going into the Woods to be privately delivered, the Indians followed, and in a jeering manner, they would help her, and be her Midwives, and thereupon they*

*barbarously ript up her body and burnt the chide before her face, and then in a merciful cruelty, to put her out of her pain, knockt her o'th head.*"<sup>32</sup>

- *A New and Further Narrative of the State of New England, 1676*

Much like the Pequot War, King Philips' War began with confusion. Some scholars attribute the war to the death of Massasoit, the Algonquin leader whose son, Metacomet, was labeled "King Philip" by the colonists. Metacomet's agreements with the Puritans kept a decent level of peace in New England, and in effect kept the English alive.<sup>33</sup> Even so, Massasoit's death complicated the political climate between the Wampanoag's and the Puritans, and the contempt Metacomet later acquired for the Puritans made the situation all the more volatile.

While some attribute King Philip's war to Metacomet, Jill Lepore marks the beginning of battles and skirmishes (although not the entire war itself) with the murder of John Sassamon, a Christian Indian who was sympathetic towards colonial causes and who served as a linguist who worked between the Wampanoag and English (including King Philip's own people).<sup>34</sup> Regardless of the cause, it is during this war that the split from thinking of Indians as fellow saints to barbaric enemies can be seen explicitly.

During and after the conflict, colonists were eager to write about what transpired. Jill Lepore is the foremost scholar to study this literary phenomenon, and she asserts that the war had a profound psychological effect on the English. Though not everyone penned their own opinion about the war, those who did were not lacking in their material. Lepore believes that, "even while the English lamented their helplessness against Indian attacks, they took comfort in the knowledge that they controlled the pens and the printing press."<sup>35</sup> When writing back to the Old World, authors made it their goal to do two things: first, to present that Indians in a distasteful light, and second, to suggest that America was actually "a bucolic world of peaceful settlers."<sup>36</sup> It is easy to see the hypocrisy at work here. But if Cave's "Satanic Principle" holds true, the creation of the "Other" in Puritan documents can be understood. Puritans were still seeking ways to attract settlers to the New World and future potential sponsors. There was no way that the English could simply write all New England Indians out of their histories. To juxtapose them against traditional English views of the world was the best way to deal with them.

King Phillip's War was entrenched in brutality. After the battle of Nashaway, the author of *A New and Further Narrative of the State of New England* penned a particularly horrible scene of violence in which two Indians followed a pregnant woman into the woods and "thereupon they barbarously ript up her body and burnt the childe before her face, and then in a merciful cruelty, to put her out of her pain, knockt her o'th head."<sup>37</sup> Though this act seems incredibly inhumane, the symbolic impact that a newborn child might have on the mind of a New England Indian was substantial. A child meant reproduction; reproduction meant more English; more English meant less land and resources for the Wampanoag. At an attack on Springfield, there was a similar reaction to English children. When Major Savage, one of the founders of Rhode Island and a colonial army major from Massachusetts, took after two of the raiders who had captured two infants, the Indians "took the two poor infants, and in the sight both of their Mothers and our men, tossed them up in the air, and dashed their brains out against the rocks."<sup>38</sup> In the worldview of the Puritan, these tactics were merciless, infringing on their God given rights to land and their call to replenish the earth.

The violence and torture on the physical body weighed heavy in the minds of both the English and the Indians. Benjamin Church, born in Plymouth, Massachusetts, played a key role in the colonial victories due to his passion for learning Indian militaristic strategies and using them for the colonial army. On Benjamin Church's approach to Mount Hope- the place where Metacomet was believed to be- he noted several incidents between the English and various axis enemy groups. After this contact with Indians, Church believed "they thirsted for English blood."<sup>39</sup> Linda Colley, in *Captives*, also states "when they stripped white captives naked and forced them to cover their genitals with pages ripped out of the Bible, they were making clear their opinion of Christianity."<sup>40</sup> What Church did not realize was that he was documenting a consistent Native American practice: dismemberment, beheading, scalping. Nathaniel Saltonstall, in "A True but Brief Account of our Losses" also mentions the treatment of English bodies. Note the detailed descriptions of these killings and how they aligned with Native American practice:

"Of whom many have been destroyed with exquisite Torments, and most inhumane barbarities; the Heathen rarely giving Quarter to those that they take...either cutting off the Head, ripping open the belly, or

skulping the Head of Skin and Hair, and hanging them up as Trophies; wearing Men's Fingers as Bracelets about their Necks, and Stripes of their Skins which they dress for Belts."<sup>41</sup>

The human head was the seat of power in English and in New England cultures, thus cutting it off asserted power. The belly was the place of reproduction, which was “perhaps a conscious strike at these invaders’ capacity to reproduce themselves abundantly.”<sup>42</sup> And fingers, scalps, heads and skin were signs that someone had been dominated.

Mary Rowlandson, who wrote her own captivity narrative during King Philip’s War, was also caught up in this world of violence and brutality. In February of 1676, Rowlandson was taken captive after an attack on Lancaster. She spent a total of eleven weeks with the Nipmuck raiders. Just as in Cave’s analysis of the Pequot War, the same principles can be applied to the Puritan thinking behind acts of violence in King Philip’s War. Since the Indians were agents of Satan, “Indian captivity was apprehended as one of God’s ways of testing, punishing, or instructing His creatures.”<sup>43</sup> According to Rowlandson’s narrative, the attack was sudden, unexpected, and lethal. Rowlandson noted how her sister, mother, children, and nephews were all either killed or taken captive.<sup>44</sup> “It is a solemn sight to see so many Christians lying in their own blood, some here, some there, like a company of Sheep torn by Wolves,” Rowlandson reflected as she was taken away on her first remove.<sup>45</sup> Throughout the narrative, she relates many scenes of violence, most of which could be associated with Native American ceremony instead of devilish barbarity. Subsequent scholars have sought to show why Rowlandson wrote to such an extent. On one hand, Susan Juster believes that such narratives were meant, “to capture for readers the physical sensations associated with a given activity (torture, enslavement, death, sex, birth).”<sup>46</sup> In any case, her narrative was reprinted several times, and, therefore, must have weighed heavily on Puritan minds.<sup>47</sup>

During the Battle of the Swamp, Benjamin Church placed his entire regiment all around the swamp. A mistake actually ignited the battle according to Church—Captain Golding fired at one of Philip’s men who he thought saw him- and then the entire regiment unleashed their weapons as well. Philip was shot “through his heart” and fell face down into the mud of the swamp.<sup>48</sup> Church described him as “a doleful, great, naked, dirty beast” after being dragged through the mud onto a nearby hill.<sup>49</sup> Then, he sent an executioner to the body of Philip:

“Captain Church then said that, forasmuch as he had caused many an Englishman’s body to lie unhurried and rot above ground, that not one of his bones should be buried. And, calling his old Indian executioner bid him behead and quarter him.”<sup>50</sup>

And so the war ended in the minds of the New Englanders. Richard Hutchinson, an English Puritan who migrated to Massachusetts, wrote “The Warr in New England Visibly Ended,” and ends his short letter by stating that “The English go many of them now to their Old Habitations” as if life was completely normal—whatever that may have been—once more.<sup>51</sup> The English rallied in their victory and praised God for his divine hand, once again juxtaposing the Puritans to the heathen “Others” who needed to be defeated in order to secure the Puritans a place in the world. Physical domination, therefore, led to spiritual domination. By killing the “creature,” they were fulfilling a divine plan, not wiping out indigenous populations.

King Philip’s War forever changed the landscape of New England. Not only was the land at certain times scattered with the bodies of English and Indian warriors, but the political and social realms shifted as well. “The killing of Metacomet came to symbolize an end to Indian independence.”<sup>52</sup> From this point onward, Native Americans seemed to struggle to climb out from under the thumb of European politics. Colonial towns now realized the necessity of effective coordination, court systems gained power, and investors sought a more controlled environment through which to do their business.<sup>53</sup> Thus, the wars of seventeenth century New England carried over into the eighteenth century as the United Colonies began to take shape.

### **Queen Anne’s War: Deerfield and John Williams**

*“The history I am going to write, proves, that days of fasting and prayer, without reformation will not avail to turn away the anger of God.”<sup>54</sup>*

*- John Williams, The Redeemed Captive, 1707*

By the turn of the century, Native America (and New England to some extent), was in complete disarray. Not only were Native Americans caught in worsening political situations with New England, they were also caught between a European power struggle for land and resources. French and Dutch influences grew. Both New Netherland and New France devel-

oped at fast rates, although, much like England, their supporters at home became leery of the charge to take North America. The wars that burned through Europe did not help in the cause for North America. By 1704, France had become a dominating force in New England and played a key role in its immediate future. Despite new players and circumstances, the violence still continued and in many cases worsened.

Even after the Pequots were burned out of Fort Mystic, even when Metacomet's head swung from the flagpole of Plymouth, the wars never ended. In both cases, hate, rage, memory, and revenge weighed heavy in the hearts and minds of the Indians. Combat, battles, and mutilation all still continued into the eighteenth century. "New England Indians did not stop fighting after King Philip's War, and men continued to be called away to war."<sup>55</sup> Calloway proposes that this is the case because Puritans had the tendency to write Indians out of their histories. Since King Phillip's War, perceptions had switched from the Indians being brothers who were in sin to enemies causing problems. The political landscape of New England had shifted leaving the Indians to fuse themselves, in many cases, to European powers.

Deerfield, Massachusetts was ground-zero for one of the most devastating attacks in the eighteenth century and early American history in general. Deerfield was notoriously poorly placed on the outskirts of New England, and it had a dark history of exposure that led to many attacks.<sup>56</sup> It was more than a small, vulnerable town in the eyes of the English; it was England in the eyes of the French. New France, a few hundred miles from Deerfield, was pictured as a massive industrial and urban center on maps of the time, but in reality it was still relatively small as well. A raid on Deerfield would prove to be profitable for the French; a "solution to diplomatic problems that had their roots in the collapse of the Canadian beaver trade and uncertain relations with their Native allies."<sup>57</sup>

The actual assault was devastating, according to an eyewitness account from Rev. John Williams. He starts out his narrative of *The Redeemed Captive* by noting, "The history I am going to write, proves, that days of fasting and prayer, without reformation will not avail to turn away the anger of God."<sup>58</sup> The attack was swift and ungoverned. According to historians Evan Haefeli and Kevin Sweeney, warfare at the turn of the century became about inflicting damage, not about keeping honor. "Stealth, surprise, and quick withdrawal had become the essence of Indian warfare

by the later 1600's" and the French, who were joined to the Mohawks, Iroquois, and Hurons, used these same tactics.<sup>59</sup> Militarily, the Indians had fused the way they made war with the way Europeans conducted themselves; destruction over preservation. John Williams records their infiltration to the household, their thievery, and their eventual imprisonment.

Refreshingly for the historian, Williams' account of his captivity is not covered with scathing comments about the savageness of the Native Americans. In his writings, he does not constantly refer to his Canadian captors as "savages" or "devils." When faced with acts of violence, Williams instead relays what happened and how he actually perceived it, much like what is in Mary Rowlandson's account. For example Williams gives us an account about the death of his wife:

"I asked each of the prisoners (as they passed by me) after her, and heard that in passing through the above said river, she fell down, and was plunged over head and ears in the water; after which she travelled not far; for at the foot of this mountain, the cruel and blood-thirsty savage, who took her, flew her with his hatchet at one stroke."<sup>60</sup>

Though Williams endured many hardships throughout his trek, this instance was the worst. The language of Williams, writing years after his return to Deerfield, is cool and calculated. Clearly, he is not in the business of creating an "Other" effect with the Indians, which is what many writers tried to do. At the beginning of his trek, Williams simply quotes Job 1:21: "Naked came I out of my mother's womb and naked shall I return thither." Williams believed God gave him this scripture "to persuade to a patient bearing of my affliction."<sup>61</sup> In many cases, "The extreme pathos of many of these early American captivity narratives was partly calculated," and by looking at them, we can see that Williams' world, and the world of New England, was in chaos and shock.<sup>62</sup> The reality is obvious; even though the Indians were helpful to the English, it was more on business principle than one of courtesy. Killing off or hurting your source of income and resources amounted to nothing. But this is what the Indians were driven into—taking prisoners to the French for money.

From the mutilation of English bodies during the Pequot War to the hanging of King Philip's head outside of the Plymouth colony, violence and the perceptions surrounding it pervaded seventeenth century American minds. Thomas Morton located what he thought to be "a new found Golgotha." John Winthrop and his fellow Puritans, along with a host of believers in England, believed they were settling New Canaan, inhab-

iting their Eden, and having their own wilderness experience at the same time. What they saw, they perceived through the lenses of Puritan religion. Every Englishmen killed was a sign of God's vengeance. Any Indian who was killed was seen as God's victory. Thomas Morton, at the beginning of this century of great brutality, did not see what he had expected. What he found was far more complex; a world being disrupted by Puritan forces that would eventually, in later years, come to take over the landscape of New England.

## Endnotes

1. Thomas Morton, "Description of the Indians in New England, 1637," Accessed June 3, 2015, <http://www.swarthmore.edu/SocSci/bdorseyl/41docs/08-mor.html>.
2. Jill Lepore, Alfred Cave, and Emma Anderson are a few scholars who show in their works how Puritan rhetoric may or may not have created many of these scenes of violence alone. Jason Urbanas and Kevin McBride are two archeologists who have shown how many of the texts that we have now recount impressively true stories.
3. John Coffey. *Persecution and Toleration in Protestant England, 1558-1689* (Harlow: Pearson Education Limited, 2000), 23.
4. Andrew Lipman, "A Meanes to Knitt Them Together': The Exchange of Body Parts in the Pequot War." *The William and Mary Quarterly* 65.1 (2008): 3-28, accessed 30 June 2015, 6.
5. Ibid, 8.
6. Nicholas Canny, "The Ideology of English Colonization: From Ireland to America," *The William and Mary Quarterly* 30.4 (1973): 575-598, accessed 26 July 2015, 582.
7. Michel Foucault, *Discipline and Punishment: The Birth of the Prison* (New York: Vintage Books, n.d. PDF accessed from [www.soc.iastate.edu](http://www.soc.iastate.edu). Web. 12 Nov. 2014.
8. John Coffey, 26.
9. Peter N. Carroll, *Puritanism and the Wilderness: The Intellectual Significance of the New England Frontier, 1629-1700*, (New York: Columbia University Press, 1969),
17. Winthrop believed that the "land doe call for judgements rather then blessings."
10. Ibid, 5. Carroll states that the colonizers were bold, yet ignorant; their vision of the New World came from expository pamphlets, which placed the Americas in Edenic terms.
11. Francis Jennings, *The Invasion of America: Indians, Colonialism, and the Cant of Conquest*, (Chapel Hill: The University of North Carolina Press, 1975), 45.
12. Ibid, 43.
13. Ibid, 44.
14. Peter Carroll, 12.
15. Alfred Cave, *The Pequot War*, (University of Massachusetts Press: Amherst, 1996). Cave, who is possibly the most well read of the Pequot War historians, titled the section in his book, "Wampum, pelts, and power."

16. Ibid, 58-59.

17. Ibid, 59.

18. Bernard Bailyn, *The Barbarous Years: The Peopling of British North America: The Conflicts of Civilizations, 1600-1675*, (New York: Vintage Books, 2013), 443. See also Alfred Cave's *The Pequot War*, 74. Cave believes that Stone's murder was no matter to the Massachusetts government, because it was simply reported and forgotten about. William Bradford claimed that he more than likely provoked the Indians.

19. See Baiyln's chapter on "The Dutch Farrgo" for a detailed discussion of Dutch involvement in the New World, 191-241.

20. Cave, 130-131. Cave cites John Underhill's *Newes from America*, 66-67.

21. Bailyn, 9.

22. Cave, 148.

23. Ibid, 8.

24. Jason Urbanus, "America's First War," *Archeology* 68.1 (2015): 32-37.

25. Daniel Richter, *Before the Revolution: America's Ancient Pasts*, (Cambridge: Harvard University Press, 2011), 166. Excerpt found in William Bradford's *Of Plymouth Plantation, 1620-1647*, ed. Samuel Eliot Morison (New York, 1952): 296.

26. Bailyn, 446-447.

27. Cave, 8.

28. Ibid, 168-169. It should be noted to not be overly critical of these texts, because it is nearly impossible to assess personal sentiments from any historical document.

29. Cave, 177.

30. Katherine Grandjean, "The Long Wake of the Pequot War," *Early American Studies* 9.2 (2011): 379-411. Project Muse. accessed 10 July 2015. See Grandjean's article for a full study of how the sociopolitical environment of New England was in a crisis state in terms of its relations with the New England tribes.

31. Ibid, Bernard Bailyn, *The Barbarous Years*, 448: Bailyn states that "Obliteration- total and final annihilation- of the Satanic enemy was the ultimate, if unobtainable, object."

32. "A New and Further Narrative of the State of New-England Being a continued Account of the Bloody Indian War, 1676" *King Philip's War Narratives*, (Ann Arbor: University Microfilms, 1966), 4-5.

33. Ian K. Steele, *Warpaths: Invasions of North America*, (New York: Oxford University Press, 1994), 87. Steele shows how Massasoit watched the English at Plymouth closely to see if they were potential allies. Though the English would “fraudulently” claim their inheritance of his land because of their peace treaty, relations were still decent.
34. Eric B. Schultz and Michael J. Tougas, *King Philip’s War: The History and Legacy of America’s Forgotten Conflict* (Vermont: The Countryman Press, 1999), 25.
35. Jill Lepore, *The Name of War: King Phillip’s War and the Origins of American Identity*, (New York: Vintage Books, 1999), 68.
36. Bailyn, 501.
37. “A New and Further Narrative of the State of New England Being a continued Account of the Bloody Indian War,” *King Philip’s War Narratives*, (Ann Arbor: University Microfilms, 1966), 4-5.
38. Ibid, 6.
39. Benjamin Church, *Diary of King Philip’s War, 1675-1676*, (Connecticut: The Pequot Press, 1975), 75.
40. Linda Colley, *Captives: Britain, Empire, and the World, 1600-1850*, (New York: Anchor Books, 2002), 145.
41. Nathaniel Saltonstall, *New and Further Narratives*, “A True but Brief Account of our Losses sustained since this Cruel and Mischievous War began” 1676. Found in Jill Lepore’s *The Name of War*, 72.
42. Colley, 145.
43. Richard VanDerbeets, *Held Captive by Indians: Selected Narratives, 1642-1836* (Knoxville: The University of Tennessee Press, 1973), 42. Reference here comes from VanDerbeets introduction to Rowlandson’s narrative.
44. Mary Rowlandson, “A Narrative of the Captivity and Restauration of Mrs. Mary Rowlandson,” 42-90. Richard VanDerbeets Ed. *Held Captive by Indians: Selected Narratives, 1642-1836*, 44.
45. Ibid, 45.
46. Susan Juster, “What’s Sacred about Violence?” *Common-Place* 6.1 (2005). accessed 25 June 2015, <http://www.common-place.org/vol-06/no-01/juster/>.
47. Lepore, 128-129.
48. Church, 153.

49. Ibid, 154.

50. Ibid, 156.

51. Richard Hutchinson, "The Warr in New-England Visibly Ended," in *King Philip's War Narratives*, (Ann Arbor: University Microfilms, 1966), 1-2.

52. Colin G. Calloway Ed., *After King Phillips War: Presence and Persistence in Indian New England*, (Hanover: University Press of New England, 1997), 2.

53. Steele, 108.

54. John Williams, *The Redeemed Captive Returning to Zion* (Ann Arbor: University Microfilms, 1966), 1.

55. Calloway, 7.

56. Evan Haefeli and Kevin Sweeney, *Captors and Captives: The 1704 French and Indian Raid on Deerfield* (Amherst: University of Massachusetts Press, 2003), 28.

57. Ibid, 35.

58. Williams, 7.

59. Haefeli and Sweeney, 102.

60. Ibid, 14.

61. Williams, 15.

62. Colley, 150.

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Hunter S. Rhodes will graduate from the University of Memphis in the spring of 2016. He is a part of the English and Philosophy Departments' respective honors programs and will graduate *summa cum laude* with University Honors with Thesis, including a thesis project in both the English and the Philosophy Departments. Beyond academia, Hunter is heavily involved in his church as an Elder and a Sunday school teacher, and he has tentative plans to attend Vanderbilt Divinity School in the future in pursuit of a master's of divinity degree. For now, though, he will take at least a year off from school to focus on woodworking, his job as a personal trainer, his cats, and most importantly, his wife after his wedding in June 2016. He is also the recipient of a *Quaesitum* outstanding paper award.

# **Hunter S. Rhodes**

The Apostle, the Rock, and the Resurrection

**Faculty Sponsor**  
Dr. Brad McAdon



## **Abstract**

One of the traditions in Christianity is the idea that the early followers of Jesus were united in their ideology and mission; since the nineteenth century, however, scholars have studied the New Testament texts while considering what appears to be opposition between two of the most well-known early leaders of Christianity: Paul and Peter. This opposition, known as the Pauline-Petrine Controversy, is evident from both Paul's letters and the Synoptic Gospels. By combining evidence of the controversy from Paul's letters alongside various conceptions of resurrection, I conduct a rhetorical analysis of the Synoptic Gospel's resurrection accounts to determine how the authors interpret the Pauline-Petrine Controversy and apply this interpretation alongside their own ideology in their unique resurrection narratives. From this, I argue that Mark follows the Pauline tradition, Matthew the Petrine, and Luke uses his narrative to blend elements from the two sects in order to whitewash the controversy altogether.

## Introduction<sup>1</sup>

The subject of this project is the Pauline-Petrine Controversy—that the early followers of Jesus were not as united as many believe; instead, there were two main fronts leading the early-followers-of-Jesus movement: the Paulines (various churches under Paul) and the Petrines (Jerusalem center under Peter and James).<sup>2</sup> I aim to look at the distinctions between the two factions and how they are present in the New Testament, specifically looking at the resurrection accounts in the three Synoptic Gospels.

The Pauline-Petrine Controversy is an understanding in New Testament studies that dates back to the nineteenth century with Ferdinand Christian Baur, a German theologian who first posited that the early followers of Jesus were in fact not united, but rather that there were opposing sects. There appears to be evidence of this opposition in both the letters of Paul as well as the three Synoptic Gospels. While this understanding of such a controversy was popular in the mid to late 1800's, it is still mostly rejected by fundamentalists and evangelicals who still hold to the idea of ideological unity within the earliest groups of followers of Jesus through notions of the historical accuracy of the New Testament texts, mainly the book of Acts, or by documents such as the hypothetical Q source.<sup>4</sup> The “unified-early-followers” understanding often arises from a traditional view that insists that the biblical texts are inerrant or that the Christian texts should be read differently than other historical documents; on the other hand, even when scholars do recognize a controversy within the texts, many believe that the opposition comes not from Peter and James, but from other sources.<sup>5</sup> That said, this recognition of this controversy has been re-emphasized recently by many, including Michael Goulder and Gerd Luedemann, both of whom argue that there never was a single, united church as far as we can trace back (which is to the 1940's), and in fact there has been a controversy between the Pauline and Petrine sects of followers of Jesus from the beginning of early church history. I am going to argue two main points: I will demonstrate the problems with the aforementioned claims that argue for the unity of the early followers of Christ, and I will demonstrate that there are sharp differences between the Pauline and Petrine sects, even within the texts comprising the New Testament. I will argue the shortcomings of holding to the united church position and instead turn to the more historically and biblically accurate (from a literal and literary standpoint) view of the early church.

My method is rhetorical analysis. I am not looking at the Bible as a sacred or holy text; rather, I am analyzing it as a collection of rhetorical and polemical works of literature—texts that demonstrate the various authors' interests in presenting and defending a particular stance, either Pauline or Petrine. The authors of these texts employ various rhetorical techniques that I analyze more thoroughly in subsequent sections, including Paul's use of comparison (σύγκρισις) and his rhetorical questions in his letters as well as Matthew's and Luke's alteration of their sources (perhaps examples of Greco-Roman *mimesis*) in the forming of their own resurrection accounts. I am focusing specifically on those letters thought to be genuinely written by Paul<sup>6</sup> and the three Synoptic Gospels.<sup>7</sup> This will involve not simply looking at the historical context and dating of the texts, but particularly reading Paul's letters against the Synoptic Gospels, conducting verse-by-verse analysis, and cross-referencing the epistles and gospels to themselves and each other. My reasons for doing so are to demonstrate the differences between the two sects and to reveal ultimately that the early followers of Jesus were not as united as many believe.

The following discussion will include five sections. The first introduces the Pauline-Petrine Controversy and will include further discussion of how the opposition between the two factions becomes apparent within the biblical texts, particularly within Paul's letters. The second introduces ideas regarding the resurrection, including Jewish and Christian conceptions of the resurrection within the Old and New Testaments, Jewish and Christian apocryphal and pseudepigraphical texts, and Paul's conception of resurrection evidenced within those epistles thought to be genuinely written by Paul. The third, fourth, and fifth sections will cover the resurrection accounts within Mark, Matthew, and Luke, respectively.<sup>8</sup> Each of these three sections will analyze the ideas of the controversy, looking at the different stances of Peter and Paul, alongside conceptions of resurrection, especially Paul's ideas, to determine how the details of the individual resurrection accounts align with a Petrine or Pauline stance and to note how the accounts align with and differ from one another. In so doing, I will demonstrate that Mark seems to align with a Pauline stance, Matthew seems to align with a Petrine stance, and Luke seems to be a middle-ground, merging ideas from both Pauline and Petrine stances, and I will argue that these alignments are evident within the resurrection accounts of the Synoptic Gospels themselves.

## Developing the Pauline-Petrine Controversy

Nearly every letter thought to be genuinely written by Paul has evidence of a controversy between him and at least one person in opposition to him.<sup>9</sup> In particular, the letter to the Galatians as well as both letters to the Corinthians provide evidence that Paul faces strong opposition. Much of this controversy surrounds the issue of Paul's (alleged) apostleship and authority.

### Signs of the Controversy in Galatians

Paul begins his letter to the Galatians by calling himself an apostle, and he further says that he was neither sent nor commissioned by humans "but through Jesus Christ and God the Father, who raised him from the dead." Further, Paul claims that his teaching is not "from a human source, nor was [he] taught it, but [he] received it through a revelation of Jesus Christ" (Gal. 1.1, 12). As Gerd Luedemann states, "The emphatic declaration of (the independence of) the Pauline apostleship can...be best understood if its validity had been challenged from the opponents' side" (98). Paul faces strong opposition from someone or some group, and it is immediately apparent in the first few lines of Galatians, and, as the letter progresses, he intensifies his defense of his own apostleship and authority.

He begins to show how angry he is beginning at verse six, noting that not only is he surprised that the group is so "quickly deserting the one who called" them, but he also argues that there are false brothers who are attempting to confuse them and "pervert the gospel of Christ" (Gal. 1.6-7). It is clear this early in the letter who these people are whom Paul so adamantly opposes, and he does not "explicitly say that the opponents had attacked him directly" (Luedemann 97), but he offers a hint at who these opponents may be through the slightly-autobiographical passage beginning at verse thirteen.

Although it still is not entirely clear at this point in the letter, it appears as though his opposition originates from the leaders in Jerusalem. Whereas Paul mentions in general that he did not confer with any human being before his departure for Syria and Cilicia (Gal. 1.16), he brings up specifically that he did not see the leaders in Jerusalem. He goes out as soon as he received his calling, and after seeing Peter in Jerusalem three years later, did not go back to Jerusalem for fourteen years,. Even then, he went only "in response to a revelation" (Gal. 2.2). The Jerusalem leaders

are recognized as apostles, even by Paul, but mentioning them specifically and noting that he consciously does not visit them in the beginning of his ministry suggests that there must be, at the very least, tension between them.

Paul then begins to employ stronger language in his description of his later meeting with the leaders in Jerusalem. He notes that he “laid before them...the gospel that [he] proclaim[s] among the Gentiles” and that even though false believers came in to undermine him, he “did not submit to them even for a moment” and that those supposedly acknowledged leaders “contributed nothing to [him]” (Gal. 2.2-6). Paul aims to undermine the Jerusalem leaders’ authority in this short passage. First, he does not ask for their permission to spread his message to the Gentiles; instead, he meets with them after fourteen years to tell them what his message is and simply that he spreads it. Second, he uses comparison,<sup>10</sup> a rhetorical technique common to Pauline writing and one that “involves the presentation of a parallel case / item which may be compared in some detail with the subject in hand in order to show how the one is better, worse, or equal to the other” (Anderson 110). Paul’s comparison here contrasts the freedom inherent in his message with the submission required in the message of the false believers. Third, Paul notes that these people were “supposed to be acknowledged leaders” and that what they actually are does not matter because “God shows no partiality” (Gal. 2.6). To Paul, even though many consider them to be leaders within the body of Jesus followers, they may or may not actually be leaders, and in the end it is not important whether they are leaders because they are, in Paul’s view, misleading people.<sup>11</sup> Ultimately, their leadership status also made no difference to Paul because they “contributed nothing” to Paul or his mission.<sup>12</sup>

Paul next offers a description of a face-to-face interaction with Peter,<sup>13</sup> whom he “opposed...to his face, because he stood self-condemned” (Gal. 2.11). Paul sees Peter as a hypocrite, living like a Gentile when not watched, but then living as a Jew when watched by the “circumcision faction” (Gal. 2.12). When Paul does not see him as living according to Paul’s conception of the truth, he angrily questions Peter on his hypocrisy of living like a Gentile as a Jew while simultaneously attempting to convince Gentiles to live like Jews. It is clear now who the opposition against Paul is: the Jerusalem followers of Jesus under Peter and James,<sup>14</sup> the latter of whom sent emissaries to Antioch, henceforth referred to as Petrites.

Paul has moved from the generality of the earlier parts of the letter to a specific confrontation against Peter, instigated by James and the Jerusalem leaders, thus revealing the source of his opposition and the other side of this controversy.

### **Signs of the Controversy in 1 Corinthians**

Transitioning to evidence of the controversy in 1 Corinthians, Paul immediately expresses more details within the opening lines of the letter. Instead of remaining vague by saying that there is “someone” or “some people” who are causing the people in Corinth to stray from his teachings, Paul specifically mentions that there are people within the group who pledge allegiance to certain factions, including one under Peter and another under Apollos (1 Cor. 1.12). Goulder argues that this faction is best understood as “a group of emissaries from Jerusalem, like the ‘false brethren of Gal. 2.4 or ‘those from James’ of Gal. 2.12...[who] might then appeal to [Peter’s] authority and cause divisions in the church” (*Competing Mission* 19). It is not until a third group comes, the Petrines (those under Peter), that there begins to be evidence of controversy between the factions. By way of a metaphor, Paul says that he himself “like a skilled master builder...laid a foundation, and someone else is building on it” (1 Cor. 3.10).<sup>15</sup> As opposed to building a true foundation, this person is simply reappropriating what Paul started, using it in their own ways, perhaps to spread their own message. All of the factions have Jesus involved in some manner, but Paul writes as though the Corinthians are not merely following the ideologies of the different factions, but are in fact worshipping the persons under whom the factions exist., This is evidenced by his continual embedding of faction leaders’ names within the text, saying, “So let no one boast about human leaders...whether Paul or Apollos or Cephas” (1 Cor. 3.21-22).

Paul again mentions Peter specifically in chapter nine when asking rhetorical questions about his apostleship, an issue of utmost importance here as it is in Galatians. He questions the Corinthian group on his apostleship. Luedemann suggests that the context surrounding these circumstances is that Paul has not taken advantage of his rights as an apostle to be supported by the Corinthian group, and thus the opponents argue that this proves he is not an apostle. However, Paul argues that this does not make his status inferior to the other apostles, as he has good reasons for not taking advantage of the support, and the mere fact that he does not take

the support does not negate his right and authority to have it (Luedemann 66). Instead of arguing for his need to take advantage of his rights, Paul offers a simpler defense for his own apostleship, a defense he must offer because it seems clear that he knows the Corinthians do not consider him an apostle when he says to them, “Am I not free? Am I not an apostle? Have I not seen Jesus our Lord? Are you not my work in the Lord? Since I am not an apostle to others, at least I am to you; for you are the seal of my apostleship in the Lord” (1 Cor. 9.1-2). Indeed, as Luedemann notes, “Paul’s apostleship follows...from the existence of the Corinthian church, of which he is the founder” (67). While the opponents under Peter want to reject Paul’s apostleship, Paul defends it vehemently here and in the following verses.

Paul compares Barnabas and himself with the other apostles and Peter in verse five. He rhetorically asks, “Do we not have the right to our food and drink? Do we not have the right to be accompanied by a believing wife, as do the other apostles and the brothers of the Lord and [Peter]?” (1 Cor. 9.4-5). Paul, if he is a true apostle, can expect to be answered in the affirmative to these two questions. As Goulder argues, “Of course, Paul has the right to live at the charge of the local Christian community and, for that matter, the right to take a Christian wife around with him at church expense...Paul has sown spiritual seed at Corinth, and it is a small return to ask for his physical needs free” (*Competing Mission* 29). These two rhetorical questions follow the comparison Paul often depicts between himself, Peter, and the Jerusalem leaders. As Luedemann argues, “The chiasmic structure indicates that Paul wants to compare the groups...with each other” (66). In this comparison, Paul elevates himself up to those who are clearly acknowledged to be apostles. He seems to be asking, “Why do the other apostles besides Barnabas and me have these rights?” The question of Paul’s apostleship arises in 1 Corinthians as it does in Galatians, and Paul has to strongly defend his apostleship against both his opponents and the group to whom he writes.

### **Signs of the Conflict in 2 Corinthians**

Regarding 2 Corinthians, Paul does not mention Peter specifically, but given the context of Galatians and 1 Corinthians, it is reasonable to believe that the opposition to which he refers in 2 Cor. 10-13 is from the same group. As Goulder argues, “It may not be important that [Peter’s] name does not occur in 2 Corinthians...The two Corinthian letters are

written to the same community at not much more than a year's interval, and it is more plausible that the same problems underlie both than that an entirely new group of troublemakers has arrived (*Competing Mission* 17). Beyond this, evidence from chapter 11 of 2 Corinthians strongly suggests that Paul's opposition is from Peter and the Petrine group. Paul says, "Are they Hebrews? So am I. Are they Israelites? So am I. Are they descendants of Abraham? So am I." (2 Cor. 11.22). Speaking historically, Paul most likely was actually Jewish and possibly a Pharisee,<sup>16</sup> and here he is characterizing his opponents as Jewish also. As Goulder argues, "'Hebrews,' 'Israelites,' and 'the seed of Abraham' are all laudatory versions of the term *Jews*, the first stressing racial purity, the other two stressing theological significance" (*Competing Mission* 39). Moreover, the addition of "Are they ministers of Christ...I am a better one" (2 Cor. 11.23) adds to "the fact that they belong to the Christian movement" (Luedemann 86). Paul then adds that he is also these, suggesting further that these opponents are not merely Jewish, but Jewish Christians. The opponents in 2 Corinthians are the same opponents, or at least are members of the Petrine party, as the opponents in Galatians and 1 Corinthians. Although the dates of composition for Galatians, 1 Corinthians, and 2 Corinthians 10-13 are still debated, an order of 1 Corinthians, then Galatians, then 2 Corinthians 10-13 appears to explain Paul's anger toward the super-apostles, particularly if Paul's account of the event in Galatians 2 occurred prior to the composition of 2 Corinthians 10-13. At any rate, drawing upon the end of the letter, it is evident that Paul is facing a similar type of opposition from the Petrites as he was at the time of the composition of 1 Corinthians. His opponents and the Corinth group are once again questioning his apostleship as the relationship between Paul and the Corinthians has deteriorated between the time of 1 Corinthians and 2 Corinthians, possibly due to the effects of the events described in Galatians 2.

In chapter 11, Paul invokes again the idea that the group is turning away from the gospel they received from him in favor of a different gospel, the same concern that Paul expressed in Galatians 1.7. He states that he is "not in the least inferior to these super-apostles" and he "may be untrained in speech, but not in knowledge; certainly in every way and in all things we have made this evident to you" (2 Cor. 11.5-6). It is clear that the opponents speak of themselves as apostles and with authority. While this group of super-apostles may not include Peter himself, it is evident that the super-apostles are supported by the Jerusalem leaders, and

they are in clear opposition to Paul, questioning his claims of apostleship.

Later in the same chapter, Paul aims to seriously challenge the super-apostles. He states that he will continue to do what he has done “in order to deny an opportunity to those who want an opportunity to be recognized as [his equal] in what they boast about.” To Paul, these opponents are “false apostles, deceitful workers, disguising themselves as apostles of Christ,” and he then compares them to Satan disguising himself as an angel of light, noting that “it is not strange if [Satan’s] ministers also disguise themselves as ministers of righteousness” (2 Cor. 11.12-15). This point cannot be stressed enough: Paul must always make “for the high ground because he cannot compete on the low ground” (*Competing Mission* 39). Paul must argue based on the grounds of his apostleship under God, the high ground, because he cannot argue by way of authority under the Mosaic Law, the low ground. The Petrines, coming from Jerusalem, have authority, and they exercise this authority when opposing Paul, particularly in ways to undercut Paul’s apostleship. Thus, Paul must always make claims to and in defense of his apostleship in order to actually stand a chance against these opponents. Further, as Luedemann argues, “Paul cannot concede the legitimacy of the opponents’ claims to apostleship” (Luedemann 87), for to do so would undercut his own argument, and he must show himself as an apostle and an authority in light of the claims against him.

In chapter 12, Paul draws one last comparison between himself and the Petrines. He says that the Corinth group should be “commending [him], for [he] is not at all inferior to these super-apostles,” and that “the signs of a true apostle were performed among you with the utmost patience, signs and wonders and mighty works” (2 Cor. 12.11-12). Further, there is a parallel between 2 Corinthians 12.13 and 1 Corinthians 9.4. In both instances, Paul’s claims to his apostleship are countered by the idea that a true apostle takes financial support from the groups he is over, as mentioned previously. If this is a point of contention for Paul’s apostleship, then it is clear that his opponents, if they want to be perceived as true apostles, must be taking financial support from the Corinthian group. Luedemann draws the same conclusion, noting, “If Paul was thus attacked... on account of his renunciation of support by the congregation, then it is clear at the same time that his opponents themselves in fact were supported by the church” (89). This attack consists of an adamant denial of Paul’s apostleship; if Paul were indeed a true apostle, he would, theoretically,

accept support from the group in Corinth. Moreover, “if the anti-Paulinists of 1 and 2 Corinthians are the same group, the point discussed here would cast light on...those missionaries whose arrival in Corinth would have led to the formation of the [Peter] party” (*Ibid.*, 90). In order to combat this attack from the Petrines, Paul consistently refers to himself as an apostle against those who are generally acknowledged as such. Moreover, he wants to show that his apostleship is genuine, and thus he defends it with appeals to God’s calling (Gal. 1.1), his claim of revelation (Gal. 1.16), and good deeds that have been performed among the groups (1 Cor. 9.1-2). He compares (σύγκρισις) himself with the “super-apostles” who are from Jerusalem and who, instead of building up a new foundation with true teachings, build upon Paul’s foundation and pervert Paul’s proclamation of Jesus (1 Cor. 3.10, Gal. 1.7). This Petrine group, led by Peter, is a constant source of opposition for Paul, be it in the group at Galatia or the group in Corinth. Paul perceives their intrusion into his groups as a threat, and thus he tries to undermine them in various ways, while simultaneously elevating himself to the office of apostleship, and thus a controversy is born.

## **Conceptions of Resurrection from Judaism through Paul**

### **Pre-New Testament Conceptions of Resurrection**

To put it simply, there is no conception of life after death in the Hebrew Bible that involves eternal life or eternal torment until Daniel was composed around 167-165 BCE.<sup>17</sup> The Israelites did not have dreams or visions of an afterlife that consisted in perfection and unity with God. This does not mean, however, that the Israelites did not think people simply died and decomposed. Rather, they believed the dead went to a place called Sheol, mentioned sixty-six times in the Hebrew Bible. Sheol is described as an underground place that is dusty and dark (Gen. 3.19; Psalms 90.3, 104.29). The dead who are in Sheol are considered forgotten (Psalms 88.13; Ecc. 3.19-21, 9.5-10), and they do not have contact with anyone living, and even less contact with God (Psalms 88.6-12). Moreover, the dead who go to Sheol do not have the ability or the opportunity to come back to the land of the living (Job 7.9-10, 21).

However, under the possible influence of the Persians and Zoroastrianism during the Babylonian captivity (ca. 586-538 BCE),<sup>18</sup> the Jewish conceptions of resurrection begin to change. Instead of having one God

who is responsible for every aspect of life, both good and bad (Isa. 45.7), now there are conceptions of a God who is all good and all powerful. Other conceptions also arise that were never before seen in Judaism, such as angels and an eternal, good afterlife for those who are righteous. This becomes evident in the Hebrew Bible in Daniel (ca. 165 BCE), which states:

At that time Michael, the great prince, the protector of your people, shall arise. There shall be a time of anguish, such as has never occurred since nations first came into existence. But at that time your people shall be delivered, everyone who is found written in the book. Many of those who sleep in the dust of the earth shall awake, some to everlasting life, and some to shame and everlasting contempt. Those who are wise shall shine like the brightness of the sky, and those who lead many to righteousness, like the stars forever and ever. (Dan. 12.1-3)

This cannot be overstated: this is the first and only reference in the Hebrew Bible to a concept of eternal life after death. The idea is simply not a conception in Judaism until about the third century BCE.

The conceptions of resurrection in Judaism that align with Daniel are much more evident in the apocryphal and pseudepigraphical texts, dated to around the same time as Daniel and even closer to the turn of the eras. In fact, many of the apocryphal and pseudepigraphical texts include numerous references to these conceptions of resurrection, from the third century BCE to around the second century CE. For example, the *Book of Enoch* (ca. 3<sup>rd</sup> century BCE) states that the righteous will enter the holy place and there will be no more sorrow or calamity for them while the wicked will be gathered in place of judgement (24-27). *Jubilees* (ca. 2<sup>nd</sup> century BCE) states that the dead's "bones shall rest in the earth, and their spirits shall have much joy, and...it is the Lord who executes judgement, and shows mercy...to all that love Him (23.31). *2 Maccabees* (2<sup>nd</sup> century BCE) states that "the King of the world shall raise us up, who have died for his laws, and revive us to life everlasting," and for the righteous narrator later in the same chapter, "Tis meet for those who perish at men's hands to cherish hope divine that they shall be raised up by God again; but thou—thou shalt have no resurrection to life" (7.9, 14). *4 Maccabees* (1<sup>st</sup> century CE) speaks perhaps more frequently than any other apocryphal or pseudepigraphical Old Testament text regarding the themes of immortality and eternal life that begins as soon as a person dies.<sup>19</sup> *Psalms of Solomon* (ca. 1<sup>st</sup> century BCE) notes that "[It is He] who setteth me up in glory, and

bringeth down the proud to eternal destruction in dishonor, because they knew Him not” (2.35). 2 *Baruch* (ca. 100 CE) mentions that:

the glory of those who have now been justified in My law, who have had understanding in their life, and who have planted in their heart the root of wisdom, then their splendour shall be glorified in changes, and the form of their face shall be turned into the light of their beauty, that they may be able to acquire and receive the world which does not die, which is then promised to them. (51.3)

As demonstrated by these texts, after around the time of the third century BCE, after the return of the Israelites from Babylonian exile, ideas of resurrection and afterlife begin to appear in Jewish texts. Perhaps with the influence of the Persians, Judaism was fundamentally changed, and the ideas of resurrection and afterlife continued to be a part of the religion, and these conceptions influenced Paul and other early followers of Jesus.

### **Paul’s Conception of Resurrection**

As Paul writes to his churches, the views of resurrection continue to reflect an eternal good afterlife for the righteous in communion with God. Paul takes this a step further, arguing not simply that people will be in communion with God, but with Jesus himself, and those who follow Jesus will experience this afterlife. Indeed, within about twenty years following Jesus’s purported death (ca. 30 CE), claims of his resurrection were arising. Paul in his letters (ca. early 50s) and the authors of the Synoptic Gospels (ca. 70-110) write about the resurrection in different ways, but all were in support or defense of the truth of the resurrection. The New Testament offers two types of evidence for this defense: visual evidence, in that people claimed to see Jesus after he was allegedly resurrected, and physical evidence, in that people claimed to touch and spend time with Jesus after he was allegedly resurrected. An important point to keep in mind, though, is the difference in the dates of these two types of evidence. As Goulder states, “The bulk of the visual evidence, the reports of *appearances*, are so early that it would be absurd to question them” (*St. Paul*, 173). That is, it can hardly be contested that people were arguing for the resurrection by saying that they saw Jesus. In fact, 1 Cor. 15.3-8 reads:

For I handed on to you as of first importance what I in turn had received: that Christ died for our sins in accordance with the scriptures, and that he was buried, and that he was raised on the third day in accordance with the scriptures, and that he appeared to [Peter], then to the twelve. Then he appeared to more than five hundred brothers

and sisters at one time, most of whom are still alive, though some have died. Then he appeared to James, then to all the apostles. Last of all, as to one untimely born, he appeared also to me.<sup>20</sup>

The accounts of physical appearances that involve touching and spending time with Jesus come later, possibly as early as 80 CE.<sup>21</sup> For Paul, though, resurrection is not about physicality; as evidenced by Paul's comparison of physicality and spirituality later in 1 Corinthians 15, Paul argues for a notion of resurrection that is spiritual rather than bodily.<sup>22</sup>

Before looking specifically at the physical versus spiritual conception of resurrection in Paul, I find it important to highlight some of the similarities between Daniel, the apocryphal / pseudepigraphical texts, and Paul's view of the resurrection. The texts described earlier (Daniel and the non-canonical texts) mention numerous times a God who rules all and brings down those other authorities in opposition to him. For example, *Psalms of Solomon* states that God "bringeth down the proud into eternal destruction" (2.35), which sounds remarkably similar to Paul's statement that by the time Christ hands over the key of the kingdom to God, God will have "destroyed every ruler and every authority and power." Further, although Paul adds Jesus's return, his statement that "all will be made alive in Christ" and that after Christ, "those who belong to Christ" (1 Cor. 15.24, 23) will be resurrected, sounds like the author of Daniel's statement, "Your people shall be delivered, everyone who is found written in the book. Many of those who sleep in the dust of the earth shall awake, some to everlasting life" (Dan. 12.1-2).<sup>23</sup> Paul seems not only to be familiar with and influenced by the traditions of resurrection in these texts, but he even seems to be writing his conceptions of resurrection in line with them.

Paul adapts these conceptions of resurrection that have influenced Judaism, the early followers of Jesus, and himself, for his own use. Whereas Daniel and the non-canonical Old Testament texts appear to be concerned with a bodily resurrection, Paul is concerned with a spiritual resurrection. That is not to say that the spirit is simply an unembodied mass and that is what goes to the afterlife; rather, for Paul, the body someone has at the resurrection is not physical, but it is spiritual, where spirit is a new substance that embodies the soul.<sup>24</sup> Paul states that "it is sown a physical body, it is raised a spiritual body. If there is a physical body, there is also a spiritual body." For Paul, the physical body is not sufficient. The physical body that someone has during this life cannot go to the after-

life because “flesh and blood cannot inherit the kingdom of God, nor does the perishable inherit the imperishable” (1 Cor. 15.44, 50). Those who are resurrected must receive a new body at the time of passage into the afterlife because “this perishable body must put on imperishability and this mortal body must put on immortality” so that the final enemy who will be destroyed, death, will be “swallowed up in victory” (1 Cor. 15.44-54).

This distinction between a physical or a spiritual resurrection is of utmost importance for a number of reasons. One, it is a key part of Paul’s overall conception of resurrection. Keep in mind that, for Paul, the primary concern for the early followers of Jesus is the resurrection.<sup>25</sup> He even goes so far as to say that “if the dead are not raised, then Christ has not been raised [and if] Christ has not been raised, your faith is futile and you are still in your sins” (1 Cor. 15.16-17). Moreover, Paul uses rich imagery to explore the relationship between old and the new bodies, using seed and grain, earthly and heavenly bodies, and physical and spiritual bodies. He does this because there is a competing conception of resurrection in Corinth—the Petrine conception that involves a bodily resurrection. As with other times in 1 Corinthians when the Corinthians ask Paul about various doctrinal issues,<sup>26</sup> they again wonder about which conception of resurrection is correct. Paul says, “But someone will ask, ‘How are the dead raised? With what kind of body do they come? Fool!’” or the even more forceful “What stupid questions!” in the *Revised English Bible* (1 Cor. 15.35-36). As Goulder contends, these questions arise when the Petrites come into the group to cause divisions (*Competing Mission* 19) and teach different ideas to the Corinthians. Here, these competing conceptions of resurrection become an important aspect of the Pauline-Petrine Controversy.

The Petrine group is influencing the group in Corinth, and Paul is obviously not happy about it. He presents his conception of a spiritually-embodied resurrection, alongside eschatological views that align with those of Daniel and the apocryphal / pseudepigraphical literature, to argue against the views of a physically-embodied resurrection held by the Petrites. From both sides of the controversy, different accounts of the resurrection narratives appear in the three Synoptic Gospels, and part, but not nearly all, of the evidence to see whether they align with a Pauline or Petrine viewpoint hinges on the conception of a spiritual versus physical resurrection.

## The Resurrection Narrative in Mark

I begin with Mark because of the nearly unanimous agreement amongst scholars that this was the first of the Synoptic Gospels written. In addition to this, Matthew and Luke most likely used Mark as a primary source for their own accounts, so it is important to gain an understanding of Mark's account first. Of the different resurrection accounts, Mark's is by far the shortest. Excluding the later interpolation of Mark 16.9-20,<sup>27</sup> there are only eight verses that make up Mark's resurrection account. That said, this brief narrative paints a significant picture of the controversies of the time, and we can see that Mark hopes to discredit the Petrine perspective through his narrative.

To start, three women head to the tomb: Mary of Magdala, Mary the mother of James, and Salome. They go "very early...when the sun had risen" (Mark 16.2). Mark does not care to detail how the stone was moved, so he simply notes that they already found that it had been moved when they arrive. When they enter the tomb, they see not the body of Jesus but a "young man, dressed in a white robe, sitting on the right side" (Mark 16.2). This is an important point. Paul has no concern for a bodily resurrection; rather, as discussed previously, he cares only for a spiritual rebirth. In 1 Corinthians, Paul states, "But someone will ask, "How are the dead raised? With what kind of body do they come? Fool!...Not all flesh is alike...There are both heavenly bodies and earthly bodies...sown a physical body, it is raised a spiritual body" (1 Cor. 15.35-44). Mark, a Pauline author, has a similar discontentment with the concern for a literal, physical resurrection of Jesus. This is something different. This is not physical; this is spiritual.

The young man tells the women not to be alarmed. He does have an interesting note that many tend to gloss over, though—the young man states, "He has been raised" (Mark 16.6). This seems to be a small power shift. Typically, Christians consider Jesus to be the conqueror of death, the omnipotent being who can overcome and be born again. However, this verb "raised" (ἡγέρθη, the aorist passive form of ἐγείρω) is in the passive voice. Jesus did not do the raising; someone, or something, raised him. The young man continues with one of the most problematic verses that has plagued scholars for centuries: "But go, tell his disciples *and Peter* [emphasis added] that he is going ahead of you to Galilee; there you will see him, just as he told you" (Mark 16.7). As I have been arguing, Mark

is not a fan of Peter. Here he goes so far as to make a distinction between Jesus's disciples and Peter. This has led to a range of interpretations, but I will only mention one here—this could suggest that Peter, even if he were a disciple, was not actually with the disciples. This may be feasible after his denials in chapter 14, as he may have not wanted to be seen with the associates of Jesus, particularly after his denial of him.

Turning to the last verse, the three women run away from the tomb in fear and terror. Mark ends with, “They said nothing to anyone, for they were afraid” (Mark 16.8). This verse states quite clearly that the women kept the knowledge of this event to themselves. They did not tell any disciples what happened. If anyone were to claim he knew of the events in Mark's account, he would have to appeal to the women telling him secretly or he would have to have seen the young man himself, neither of which seems very believable. The author of Mark wants so desperately to undermine Petrine doctrine that he has the characters in his account not only never see a body, but also never take the news of the resurrection to anyone, including the disciples.

In these eight short verses, Mark utilizes two main rhetorical techniques to undercut the Petrine doctrine. The first is the allegedly angelic figure who does not seem like the most important or credible figure,<sup>28</sup> compared to an archangel like Gabriel, whom, for example, Luke has appear to Mary in his birth narrative. The second technique, and perhaps more important for this Pauline-Petrine Controversy, is the fact that there is no body. Mark is only dealing in the spiritual realm here, as Paul does in his authentic letters. For the Petrites to claim a bodily resurrection, they have their work cut out for them; fortunately, Matthew and Luke are up to the task.

## **The Resurrection Narrative in Matthew**

As stated previously, the author of Matthew knew and used Mark's account to craft his own. This compositional practice has been viewed as rhetorical *mimesis*, a common Greco-Roman practice that is present in all genres and is defined by Michael Fronda as “an author's conscious use of features and characteristics of earlier works” (“Imitation”). *Mimesis* can involve any and all aspects of a predecessor's writing from which an author pulls information, and Dionysius of Halicarnassus argues that “in virtually all kinds of discourse two things require study: the ideas and the

words. We may regard the first of these as concerned chiefly with subject-matter, and the latter with expression; and all those who aim to become good [rhetors] pay close attention to both these aspects of discourse equally” (*Critical Essays* 17). Indeed, *mimesis* involves an author not only imitating the work that comes before him, but also paying careful attention to both the words and ideas, and even studying the words and ideas to radically alter them for the author’s unique purposes. As Dr. Brad McAdon has argued, “It is (almost) astonishing that recent studies that concern themselves with compositional conventions within the synoptic gospels have...either neglected or outright dismissed its role in the composition of these texts” (*Mimesis and Conflict*, 39).

In fact, this imitation of Mark’s resurrection narrative is clear in Matthew’s own resurrection narrative, not only from what details the author of Matthew chooses to maintain from Mark, but particularly those he chooses to alter to better fit his own Petrine viewpoint. Unlike Mark, who, as a Pauline, can support a resurrection that is spiritual in nature instead of bodily,<sup>29</sup> Matthew is Petrine who needs a bodily appearance to support his viewpoint. Matthew keeps the same time at which the women go to the tomb, but then the author notes that “Mary Magdalene and the other Mary” (Matt. 28.1) were those at the grave. There is no mention of Salome here, which seems troubling for the credibility of his account from the outset.<sup>30</sup> Matthew also adds detail regarding how the stone was moved: “And suddenly there was a great earthquake; for an angel of the Lord, descending from Heaven, came and rolled back the stone and sat on it.” Further, this angel is magnificent in appearance, and his actions and appearance are so great that the guards of the tomb “shook and became like dead men” (Matt. 28.2-4). Instead of dealing with vagueness or glossed-over detail as in Mark, the author of Matthew provides divine intervention to describe how the stone was moved. This aids in the credibility of his account. To start, he has added credibility by adding a divine figure, credibility that he would have lost by simply keeping the two women as the sole witnesses. Instead of seeing a young boy as in Mark, who may or may not be open to interpretation as a divine figure, the women see a powerful angel who comes from heaven. Moreover, the guards also see what occurs and they later go and report their findings to the chief priests, showing that not only was there a divine figure who came down to interact with the people and environment, but that there were men at the tomb who saw the event, adding to the number of witnesses to validate the account.

The angel says statements remarkably similar to those made by the young boy in Mark. He states that “[Jesus] has been raised from the dead, and indeed he is going ahead of you to Galilee.” One key difference to note here is that the angel tells the women to “go quickly and tell [Jesus’s] disciples” (Matt. 28.7). This seems like an obvious revision of Mark’s odd phrase “say to his disciples and Peter” (Mark 16.7). Matthew, as a Petrine, does not want to exclude Peter from the group of disciples. In fact, the author has Jesus say in Matt. 16.18 that Peter is the rock on which the church will have its foundation, pointing to the significance that this author attributes to Peter and the Petrine sect. From this viewpoint, the author of Matthew must include Peter in the disciples lest we have serious interpretive issues on our hands.

Next, notice that Matthew 28.8 blatantly contradicts Mark 16.8. Whereas in Mark the women are filled with fear, in Matthew the women are filled with awe and great joy, and in sharp contrast to the women in Mark who say nothing to anyone, the women Matthew’s account “ran to tell [Jesus’s] disciples” (Matt. 28.8). This is of utmost importance to the gospel, for if there is no account of a physical resurrection, then Christianity probably would not be what it is today. Matthew needs an appearance of the physically resurrected Jesus here for his narrative purpose of portraying a Petrine viewpoint.

It is worth noting a few key points on the difference between Mark 16.8 and Matthew 28.8.<sup>31</sup> as seen in Table 1 below:

<p>καὶ ἐξελθοῦσαι ἔφυγον<sup>α</sup> ἀπὸ τοῦ μνημείου, εἶχεν<sup>β</sup> γὰρ αὐτὰς τρόμος καὶ ἔκστασις, καὶ οὐδενὶ οὐδὲν εἶπαν, ἐφοβοῦντο γάρ.<sup>γ</sup></p> <p>And they went out and fled from the tomb, for trembling from fear [τρόμος] and astonishment from terror [ἔκστασις] had seized them, and they said nothing to anyone, for they were terrified. Mark 16.8</p>	<p>καὶ ἀπελθοῦσαι ταχὺ ἀπὸ τοῦ μνημείου μετὰ φόβου καὶ χαρᾶς μεγάλης ἀπαγγεῖλαι τοῖς μαθηταῖς αὐτοῦ</p> <p>And they immediately went out from the tomb with awe (or reverence) and great joy to tell his disciples. Matthew 28.8</p>
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Table 1: Greek-English Translations of Mark 16.8 and Matthew 28.8

The original *Koine* Greek is on the top, and the English translation is on the bottom. Notice the ἔφυγον in Mark 16.8a. The verb is “fled,” which denotes “to flee,” “take flight,” or “escape.” Matthew deletes this word and slightly alters Mark’s word “they went out” (ἐξέλθοῦσαι) with “they departed from” (ἀπελθοῦσαι). Matthew removes any notion that the women “flee” or “escape” from the tomb in fear. Second, look at the two instances of the word γὰρ in Mark 16.8c. This is called a *gar* clause, and according to Smyth’s *Greek Grammar*, this “is especially common in sentences which offer a reason for, or an explanation of, a preceding statement” (638). This means that in the context of Mark 16, the women fled from the tomb *because of* their fear. Matthew deletes this clause and replaces it with a prepositional phrase, “with (μετὰ) awe,” completely removing any notion that the women ran away *because of* fear or another emotion. Third, Mark 16.8b uses the word εἶχεν, which denotes “possession,” meaning that this passage can be translated “because they were in a mental state of trembling from fear and astonishment from terror.” Matthew deletes this word, not only removing the possibility of fear in the women that Mark describes, but also transforming Mark’s narrative scene of fear and terror to one of awe, even reverential awe. We can clearly see the author’s mimetic skill here by his altering Mark’s Pauline account to defend his own Petrine account.

Not only is there an appearance to the disciples later in this chapter, but there is also an appearance to the women on the way to go see the disciples. Jesus appears in the path and then repeats a shorter version of what the angel said earlier to the women, telling them again to “go and tell [his] brothers to go to Galilee; there they will see [him]” (Matt. 28.10). There are two interesting points to note here. One, Jesus now refers to the group as his *brothers* instead of simply his *disciples*, showing an even closer relationship. Involved in this group of brothers is Peter. Whereas Mark appears to separate Peter from the disciples, here Matthew makes Peter not just a disciple, but a brother of Jesus. Two, Matthew potentially adds more credibility for the readers in his account, for, while he is still using only two women instead of three as the main witnesses, they have now not only seen an angel but they have seen the risen Jesus himself, and there have been two guards who witnessed the events at the tomb.

The author then inserts a section detailing what the guards relay to the chief priests. After the disciples meet, they decide on a “large sum of

money” to give to the guards and tell them to say, “His disciples came by night and stole him away while we were asleep” (Matt. 28.12-13). This story allegedly becomes spread widely in the Jewish community. Ideologically speaking, while Matthew was a Petrine author, in support of a Jewish Christianity of sorts, he was not particularly in favor of the chief priests and elders, having Jesus call them hypocrites frequently earlier in Matthew (Matt. 6.5, 23.14). In the same vein, the chief priests and elders here spread what the author considers to be a lie, and thus they are portrayed in a negative light.

In the conclusion of this chapter, the disciples meet Jesus at a mountain in Galilee.<sup>32</sup> Jesus claims that he has “all authority in heaven and on earth” (Matt. 28.18). Moreover, this authority has been given to him, supposedly from God. He then commands them to go to all places, make the people in those places disciples, and then baptize them. Verse twenty seems to follow a Petrine line of thought when connected to the rest of the gospel. Jesus tells them to teach the people to “obey everything that [he has] commanded [them]” (Matt. 28.20). Compare this command to Matthew 5 (the Sermon on the Mount), in which Jesus is preaching to the crowds and says, “Do not think that I have come to abolish the Law or the prophets; I have come not to abolish but to fulfill. For truly I tell you, until heaven and earth pass away, not one letter, not one stroke of a letter, will pass from the Law until all is accomplished” (Matt. 5.17-18). This is a significant part of the teaching that the disciples must do; they must teach others to follow the Mosaic Law and Jesus. Further, Jesus is “with [the disciples] always, to the end of the age” (Matt. 28.20). Matthew here wants to solidify the importance and eternity of the Mosaic Law for the Christian—the Law that Paul consistently claims is now null and void, as, for example, in Romans 10.4 wherein he claims that “*Christós* is the end of the law.” In this manner, he directly opposes the author of Mark and overall supports a Petrine perspective.

## **The Resurrection Narrative in Luke**

The resurrection narrative in Luke is not so distinctly Pauline or Petrine, as Mark and Matthew are, respectively. Next we will analyze how the author of Luke alters his sources (Mark and Matthew) to defend the Petrine theology in some ways, but even more so to attempt to mediate between the two sects, essentially whitewashing the controversy, possibly to depict a unity between Paul and Peter that historically never existed.

Looking at Luke, it seems clear that not only did the author use Mark's account, but that he also used Matthew's account.<sup>33</sup> In Luke, the time of day is the same, and the women are not mentioned specifically until verse 10 when they are identified as Mary of Magdala, Joanna, and Mary the mother of James, along with some others. While there is the addition of Joanna and other unnamed women, the two Marys are consistent with Mark and Matthew's accounts. Luke rejects Matthew's account of the stone in favor of Mark's narrative version. The first difference between Luke, Mark, and Matthew is that the women actually go inside the tomb themselves before an angel's presence is announced. They see that there is no body and then two "men in dazzling clothes"<sup>34</sup> appear to explain the situation to the women. They have a message strikingly similar to that of the young man in Mark and the angel in Matthew, and, as in Matthew, the women go out to tell the disciples what they witnessed. Unlike Matthew's account, however, the disciples do not believe the women, noting that "these words seemed to them an idle tale" (Luke 24.11). Luke revises his sources, adding the narrative in which Jesus sees two men, instead of two women, who report to the disciples, thus adding more witnesses to the resurrection.

In this "Road to Emmaus" narrative, two men, one named Cleopas and one unnamed, are walking to Emmaus, a village outside of Jerusalem. The risen Jesus comes alongside them and the two men do not recognize him. Jesus is portrayed as ignorant regarding the news of the resurrection, and the men begin to explain to him what has allegedly occurred. They describe Jesus as "a prophet mighty in deed and word before God and all the people" and they reveal that they hoped he was "the one to redeem Israel" (Luke 24.19-21). Then they recount that the women told them about the empty tomb and the angels (not men)<sup>35</sup> who told the women that Jesus was alive. Consistent with what was accounted earlier, the men do not believe the women, and some, namely Peter, go to the tomb to see for themselves if it is indeed empty. Further, whereas the disciples in Matthew seem to believe the women's account, evidenced by their going to a mountain outside Galilee to meet Jesus, Luke simply has Jesus communicate the news directly to men.

After listening to the men, Jesus, still unrecognized, goes through "all the scriptures" (Luke 24.27) to explain what was allegedly prophesied about him. The "scriptures" were an important consideration for Petrine,

the followers who maintained the Mosaic Law, but not for Paulines, who reject the Law. It seems the author of Luke is continuing to attempt to reconcile Pauline and Petrine ideas; while he presents a Jesus who has been physically resurrected, and the resurrected Jesus uses the scriptures as a defense for the resurrection, both Petrine ideas, he also presents Jesus as the promised *Masih*, an idea that Paul asserts frequently (1 Cor. 15.23-24, 1 Thess. 4.16).<sup>36</sup>

As the three close in on Emmaus, Jesus planned to depart from these two, but they convince him to stay, and they enter a house. While in the house, Jesus breaks bread and blesses it, similar to the events of the Last Supper, and the men recognize him after Jesus offers them the bread. Jesus immediately vanishes as soon as the men recognize him, and they set out to go tell the eleven disciples and others in Jerusalem what they had seen, but soon learn that the disciples already know of the risen Jesus because he “appeared to Simon.”<sup>37</sup> As they are all together, Jesus suddenly appears to all of them and they believe they are seeing a spirit,<sup>38</sup> but Jesus assures them that he is not a ghostly figure because he has “flesh and bones” (Luke 24.39). The men, despite seeing the risen Jesus in front of them, still seem doubtful, and thus Jesus, as he did for the two men on the Emmaus road, “opened their minds to understand the scriptures” (Luke 24.45) that allegedly referred to him. This is truly an appropriation for Luke’s view of Jesus, but there is good reason for Luke’s doing this. In order to successfully mediate the Pauline-Petrine controversy, Luke must appeal to elements of both sects. Jesus is a teacher and spiritual being in this account, as he is in Mark (as teacher) and Paul (as a spiritual entity after the resurrection). On the other hand, Luke has Jesus appeal to the scriptures twice in this account, and not simply parts, but “the Law of Moses, the prophets, and the psalms”—the whole of it (Luke 24.44). Luke points out that both Pauline and Petrine conceptions of Jesus and the *Christós* (Greek for *Masih*) are important, and he wants to whitewash the controversy between the two groups.

Luke’s Jesus then continues to explain the importance of Jerusalem, a Petrine idea, as the spot at which forgiveness of sins will begin. He then takes the men out to Bethany, blesses them, ascends, and the men return to Jerusalem to worship God in the temple. There are three important firsts here in Luke when compared to Mark and Matthew. One, the narrative in Luke focuses on Jerusalem instead of Galilee. Jerusalem is a

more important city for the Petrines than the Paulines, evidenced by Paul's continual mention of his opposition that comes from Jerusalem and his hardly going to Jerusalem, helping make this more of a whitewash account than a Pauline or Petrine one specifically. Two, this is the first time in which Jesus ascends after his time on Earth after his resurrection, setting the scene for the beginning of the narrative in Acts. Tradition may assume that an ascension happened after the so-called Great Commission in Matthew 28.18-20, but looking at the text of Matthew reveals that this is not at all mentioned, thus the first explicit account of an ascension is in Luke. Three, Luke is the first account to describe what the men do after their interaction with the risen Jesus. In Matthew, the men are commanded what to do, but the text does not say if they follow the command. Luke, however, shows that the men praise God in the temple in Jerusalem. The men are not told to follow the commandments, especially the Mosaic Law, as they are told in Matthew, a Petrine work, but they do head back toward Jerusalem, the Petrine center, to worship in the temple. This account of the resurrection appears to show that the author of Luke not only knew Mark, a Pauline work, and Matthew, a Petrine work that advocates obeying every "letter" and "stroke of a letter" (Matt. 5.18) of the Mosaic Law, but also he used their accounts in the formation of his own resurrection narrative in an attempt to blur the Pauline-Petrine lines.

## **Conclusion**

The Pauline-Petrine Controversy is of utmost importance for the scholar and the lay person alike. Not only is it important to understand that Paul had opposition from someone or some group in general, but it is important to recognize that this opposition is from Peter and James, the leaders of the followers of Jesus centered in Jerusalem. This controversy is based on nearly every aspect of doctrine, but especially the resurrection of Jesus. The Paulines argue that the resurrection is spiritual, and the Petrines argue that it is physical. The different conceptions of resurrection from Paul and Peter influence not only the followers alive during the decades following Jesus's death, including the authors of the Synoptic Gospels, but also people in and associated with a church today. While many today talk about the spiritual nature of resurrection, they nevertheless often suggest that a Christian's resurrection, as well as Jesus's, is a physical event, demonstrating that these competing views of resurrection have not definitively been decided, even to this day.

The different narratives that arise from the Synoptic Gospels' resurrection accounts are crucial to understanding an important part of this Pauline-Petrine Controversy and to gaining a more thorough understanding of the history of the early followers of Jesus. As opposed to holding on to a more traditional view that the early followers were united, this work demonstrates that not only were the earliest followers divided—and two of the most well-known early leaders of the movement, Paul and Peter, were diametrically opposed to one another—but also this opposition influenced various understandings of covenants and doctrines, especially conceptions of resurrection, as well as various texts that responded to the controversy and came after Paul's writing. This type of research, analyzing both the Pauline-Petrine Controversy and various conceptions of resurrection, must be continued if we are to gain a more accurate view of the history of the early followers and of the texts. Through this, we can all become more religiously literate, being better able to understand the history and tradition behind one of the world's most influential religious traditions, Christianity.

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## Endnotes

1. I want to thank the reviewer and the editor for their comments and suggestions for revision, which improved the coherence and focus of this essay.
2. Different scholars refer to these groups by different names, including Hellenistic (Pauline) followers of Jesus / Christians and Jewish (Petrine) followers of Jesus / Christians. For the purposes of my research, I prefer to refer to the two groups as either Pauline or Petrine.
3. The Synoptic Gospels (Mark, Matthew, and Luke) are so called because of the ability to line up narratives within the three texts and notice similarities and differences between them. This leads to what is called the Synoptic Problem, which Mark Goodacre defines as “the study of the similarities and differences of the Synoptic Gospels in an attempt to explain their literary relationship” (16).
4. The Q document is alleged to be a source that the authors of Matthew and Luke used in addition to Mark’s material. The main idea is that Q contained sayings of Jesus and is an independent source from which Matthew and Luke pulled their information on what Jesus reportedly said. Matthew and Luke then weave those sayings, plus parts from Mark, into the particular accounts of the Jesus they want to portray. I do not accept Q’s legitimacy, but lean more towards the view that Matthew knew and used Mark and that Luke knew and used both Mark and Matthew, a view most recently advanced in Mark Goodacre’s *The Synoptic Problem*.
5. See A.E. Harvey’s “The Opposition to Paul” in which Harvey proposes that “those who are troubling the church [in Galatia] are not Jews by birth, but Gentiles who have only recently become Jewish proselytes, or who are still contemplating doing so” and further, “there is no longer any reason to suppose that the Judaizing opposition in Galatia represented a theological position. The issue, once again, was a matter, not of doctrine, but of observances” (*The Galatians Debate* 326, 328). I concede that Jewish observances were a part of what Paul’s opponents wanted the Gentiles to perform, but I argue in this paper that the controversy is not only between Paul and Peter instead of Paul and new Jews, but also that the controversy is highly concerned with opposing theological viewpoints or doctrines, not merely observances of Jewish customs.
6. Many scholars include seven letters in the list of authentic Pauline works: Galatians, 1 and 2 Corinthians, Romans, Philemon, Philippians, and 1 Thessalonians. I will only be focusing on Galatians and 1 and 2 Corinthians for this work because, while a controversy seems to appear in six of the seven letters (Philemon being the exception), the Pauline-Petrine Controversy is most evident in the three I have chosen to focus on.
7. I will be using the *New Revised Standard Version* for this project.
8. I chose this order to follow what I understand to be the chronological order of the texts.
9. The only exception I have found in the list of allegedly genuine letters that does not

mention a controversy is Philemon.

10. The Greek rhetorical term, as mentioned previously, is σύγκρισις.

11. Cf. *Ibid.* 1.7-9 in which Paul says that these individuals are perverting the gospel and that anyone who does so should be “accursed.”

12. *Ibid.* 2.6. I find it noteworthy to mention briefly that one may find fault with my argument so far by mentioning Galatians 2.7-9, verses that suggest unity between the Jerusalem leaders (Peter and James) and Paul. Dr. Brad McAdon, in his article “Galatians 2.7-9 as Interpolation,” has argued that these three verses are a later interpolation for two main reasons. One, these verses serve as an awkward break where verse six followed by verse ten flows smoothly, and they do not align with what is happening in the verses immediately preceding and following. For the first point, the ending of verse six and the beginning of verse ten are as follows: “those leaders contributed nothing to me. They asked only one thing, that we remember the poor.” This flows much better than the awkward addition of verses seven through nine. For the second point, Paul and the “pillars” making peace while Paul condemns the Jewish practices in favor of his gospel seems to be implausible as well as inconsistent with other texts that come in the following decades that either recast the controversy (Acts) or demonstrate that the controversy is still alive (*Kerygmata Petrou*). Some might further argue that these verses as an interpolation run counter to the common New Testament interpolation arguments, and it does. Noticing that this section could be an interpolation, though, supports the idea of the controversy more generally as those three verses describe a unity between Paul and Peter that the rest of Galatians and the other Pauline letters do not demonstrate. See Brad McAdon, “Galatians 2.7-9 as Interpolation.”

13. Cephas is the Aramaic name for the Greek Πέτρος. Discussion on why Paul uses the Aramaic name and the canonical gospels use the Greek name could be extensive, but for simplicity’s sake, I use the name Peter to refer to both Cephas and Πέτρος.

14. Although John is often included in the list of leaders of the Jewish Christians, I choose not to add him because, as Dr. Brad McAdon argues, the only time in early Christian literature in which all three are named is in Galatians 2.9, (which I hold to as a later interpolation) and John does not appear in any of Paul’s letters or at the Jerusalem Council in Acts 15 (Brad McAdon, “Galatians 2.7-9 as Interpolation”).

15. Cf. Matthew 16.18 in which the author has Jesus say, “And I tell you, you are Peter, and on this rock I will build my church.” As will be discussed later, Matthew aligns with a Petrine viewpoint, and certainly, as I have argued thus far, the idea of authority and alleged apostleship are at the center of this controversy, and this even comes to the idea of who the foundational leaders of the followers of Jesus are.

16. Cf. Philippians 3.4-6 in which Paul offers an autobiographical sketch of his religious life before his conversion.

17. For much of the information in this section, particularly the information regarding the extra-biblical texts, I am indebted to Dr. Brad McAdon's lecture and handout on conceptions of resurrection from Judaism to Paul.

18. This is merely one line of reasoning to explain the development of resurrection within Judaism. It certainly seems clear that Judaism was impacted by that culture, but the extent of this impact is still debated. That said, "the idea of a general resurrection of the whole of mankind...seems to have been moulded by contact with Iran. An earlier idea (Isa. 26.19; Dan. 12.2-3) seems to have envisaged a selective resurrection – and that idea may or may not have been originally Jewish" (Davis and Finkelstein 323).

19. The many references include *4 Maccabees* 7.3; 9.22; 13.17; 14.5-6; 15.3; 16.13, 25; 17.12; 18.19

20. It is important to note here that some have argued that this passage may be a later interpolation, including Robert M. Price in "Apocryphal Apparitions: 1 Corinthians 15.3-11 as a Post-Pauline Interpolation." Indeed, its differences are striking when compared to the gospels and even to Paul's conception of resurrection that he later describes in chapter 15. It seems strange that Paul would first mention that Jesus actually appeared to him if he then later seems to argue for a spiritual, rather than a bodily, resurrection. Further, as Price argues, "That Paul should have delivered the following tradition poses little problem; but that he had first been the recipient of it from earlier tradents creates, I judge, a problem insurmountable for Pauline authorship...If the historical Paul is speaking in either passage [Galatians 1 and 1 Corinthians 15], he is not speaking in both" ("Apocryphal Apparitions"). Moreover, Paul's receiving the news from someone, some group, or some tradition is in sharp contrast to his claims in Gal. 1.11—in which he says he "did not receive it from a human source, nor was [he] taught it, but [he] received it through a revelation of Jesus Christ." Paul either believes in a spiritual or a bodily resurrection and he either had this news given to him by God or by man, but it cannot be both; the evidence seems in favor that 1 Cor. 15.3-11 is a later interpolation.

21. While the dating of the Synoptic Gospels is still under dispute, most scholars put Matthew as composed between 80 and 90 CE, although some argue anywhere in a range from 70-110 CE. At any rate, Matthew holds the first resurrection account in the New Testament with a physical post-resurrection appearance, so I choose 80 CE here as the earliest possibility on that basis.

22. Contra Goulder. Cf. *St. Paul* 177 in which Goulder argues that the Pauline followers hold to a physically risen Jesus and the Petrine followers hold to a spiritually risen Jesus, a view which is the opposite of my own.

23. See also 1 Thess. in which Paul says that "the Lord himself, with a cry of command, with the archangel's call and with the sound of God's trumpet, will descend from heaven, and the dead in Christ will rise first" (4.16).

24. For the Stoics, a dominant philosophical school during Paul's time, the πνεῦμα or πνευματικόν is an airy, but still material, substance. It appears that Paul follows this same line of materialism when he appropriates this word for his resurrection conception as he makes the soul still embodied, albeit in a different type of body, in the afterlife. See Davies and Finkelstein who argue in *The Cambridge History of Judaism* that "the Iranian term *mainyu*... is commonly translated 'spirit'. It basically denotes a non-material entity... A similar analysis could be made of the corresponding notion in the Jewish writings of the period under consideration, whether it is expressed by the Hebrew term *ruah* or by the Greek *pneuma*" (317). *Pneuma* may have been immaterial at the time of Persian influence on Judaism, but by Paul's time under the domination of Stoic philosophy, *pneuma* quite possibly was understood, even by Paul, to be a material substance.

25. Cf. 1 Cor. 1.22-23 and 15.12-19 among other passages in which Paul argues that the resurrection is the most important aspect of faith, and that without the resurrection of Jesus, there is nothing.

26. For example, Paul discusses ideas and gives advice about food sacrificed to idols in chapter 8 and spiritual gifts in chapter 12 of 1 Corinthians, among other doctrinal concerns of the Corinthians present in this letter.

27. There is nearly unanimous agreement among scholars that Mark 16.9-20 is a later addition. Bruce Metzger argues that "it is unlikely that the long ending was composed *ad hoc* to fill up an obvious gap; it is more likely that the section was excerpted from another document, dating perhaps from the first half of the second century." For more detail on this discussion, see *A Textual Commentary on the Greek New Testament* by Bruce M. Metzger, esp. pp. 122-28.

28. See end note 34 in the discussion of Luke's resurrection narrative in which Luke appears to have altered Mark's figure who speaks at the empty tomb from a youth to a man, offering, at least arguably, more credibility to his own account.

29. Contra Adela Yarbro Collins, who contends that Mark's "understanding of resurrection, unlike Paul's, involved the revival and transformation of Jesus' earthly body, as well as the exaltation of his inner self" (Mark 781). While this view seems plausible as the body is not present and the young man contends that the body was raised, I am not convinced that this makes for a transformed earthly body. At the most basic level, there is no body to be seen, so transformation seems like a questionable word choice. Further, surely if the concern were on the revival of the physical body itself, the author would have included an appearance narrative as the author of Matthew does. Lastly, as will be discussed further in the analysis of Matthew and Luke's account, Mark must not consider the idea of a bodily resurrection important if he makes the characters who know about it a youth and several women, people who were not deemed credible during this time period, which the authors of Matthew and Luke recognize and attempt to account for by altering the people present at the empty tomb.

30. Whereas Mark includes three women, Matthew only includes two. Matthew has one less person now to validate the authenticity of his account.

31. For the included table and the discussion of the nuances in the *Koine*, I am indebted to Dr. Brad McAdon.

32. Galilee was the place Jesus allegedly told the disciples he would meet them after his resurrection, saying, “But after I am raised up, I will go ahead of you to Galilee” (Matthew 26.32). It is interesting to note that this verse aligns nearly word for word with Mark 14.28, which reads, “But after I am raised up, I will go before you to Galilee.” This nearly identical wording again demonstrates that Matthew knew and used Mark as a source.

33. I say this as a result of the striking similarities between Luke’s and Matthew’s accounts regarding narratives that do not appear in Mark. This, like the brief discussion in “The Resurrection Narrative in Matthew,” is another clear use of mimesis where the author of Luke is now using his sources to craft a narrative not in defense of a Pauline or Petrine viewpoint, per se, but rather as a narrative to attempt to whitewash the controversy altogether. See Brad McAdon’s chapter “The Prevalence and Practice of Greco-Roman Mimesis” of his upcoming book *Mimesis and Conflict in the New Testament* and Burton H. Throckmorton, Jr.’s work *Gospel Parallels: A Comparison of the Synoptic Gospels* in which Throckmorton aligns the Synoptic Gospels in parallel columns to demonstrate similar passages, including some instances of sentences that are nearly identical, word for word.

34. The Greek for “men” here is ἀνὴρ. There is a human figure in Mark’s resurrection narrative, the νεανίσκος, of Mark 16.5. This is an interesting alteration by the author of Luke from Mark because Mark’s νεανίσκος denotes a youth, someone who is “mostly of youthful qualities” and “headstrong.” This youth who gives the news of a resurrected Jesus to women makes the event in Mark’s account seem unlikely, if not comical in some ways. Luke alters νεανίσκος to ἀνὴρ, denoting a “man as opposed to youth,” possibly offering more credibility to his own account.

35. The Greek here actually changes to ἄγγελος instead of ἀνὴρ.

36. Goulder argues that “the Jewish Christian belief [is that] Christ and Jesus [are] separate entities, which challenges the notion of Paul’s unity of Jesus and Christ as one” (*Competing Mission* 20). If this is the case, Luke’s presentation of Jesus and *Christós* as one, a Pauline idea, evidenced by “all the scriptures,” a Petrine defense, demonstrates a further whitewashing of the controversy.

37. It doesn’t seem clear who this Simon is, whether it is Peter or another man named Simon.

38. The Greek is πνεῦμα, sometimes translated as breath, but more accurately here refers to a noncorporeal entity or spirit. Cf. fn 21 regarding the Stoics and Paul’s possible conception of πνεῦμα.

Kendall Major is a junior Business Management major, with minors in Biology and Chemistry. She is a member of the Helen Hardin Honors Program, Business Honors Program, Alpha Lambda Delta, Alpha Epsilon Delta, and Phi Kappa Phi. Her interests include medicine, research, and business. Following graduation, Kendall hopes to attend medical school and become a doctor. In her free time, she loves to run, hike, autocross, and eat at local restaurants.

# **Kendall Major**

Genetic diversity and population structure in the clonal plant  
*Trillium recurvatum*

## **Faculty Sponsors**

Dr. Jennifer Mandel and Dr. James Moore



## **ABSTRACT**

*Trillium recurvatum*, a common understory herb in forests across the central and eastern United States, provides support for forest structure and is a source of nutrition for deer and ants. This species is not only clonal, but also self-incompatible, meaning that one genetic individual must be pollinated by another genetic individual. *Trillium* leaves were collected from the University of Memphis Meeman Biological Field Station, the DNA extracted, and specific loci amplified. Simple Sequence Repeat genetic markers were used in this study to measure the level of genetic diversity. Our results indicate that levels of genetic diversity are high, with clusters of individuals containing multiple genotypes. This study provides the first population genetics study for the Shelby County populations of *T. recurvatum*. This data will provide vital information to conservation managers in order to take the necessary action to preserve this species if indicated. Further research will include the amplification of more loci for this population and the collection of more individuals from other locations to test for levels of genetic diversity.

## Introduction

*Trillium recurvatum* Beck (common name: Prairie Trillium), Melanthiaceae family, is a long living perennial clonal plant found in the United States. It extends as far north as Michigan, while also extending down into Texas. The species is often found in shady woodland areas with rich, well-drained soil. Flowering typically occurs anywhere from late February to March in partial to full shade. Currently, *T. recurvatum* is listed by the U.S. federal government as a threatened species in Michigan (Fig. 1). It is also considered rare in Wisconsin, Alabama, North Carolina, Ohio, Texas, Louisiana, and Oklahoma (Fig. 1). In these states, *T. recurvatum*, as well as other forest understory species, is threatened by climate change, forest management practices, land-use conversion, and habitat fragmentation (Jules 1998). This species is an understory herb, which means that it is present on the bottom layer of the forest, under the main canopy. Understory herbs have some of the largest species diversity and thus are important in supporting the structure of forests (Gilliam 2007).

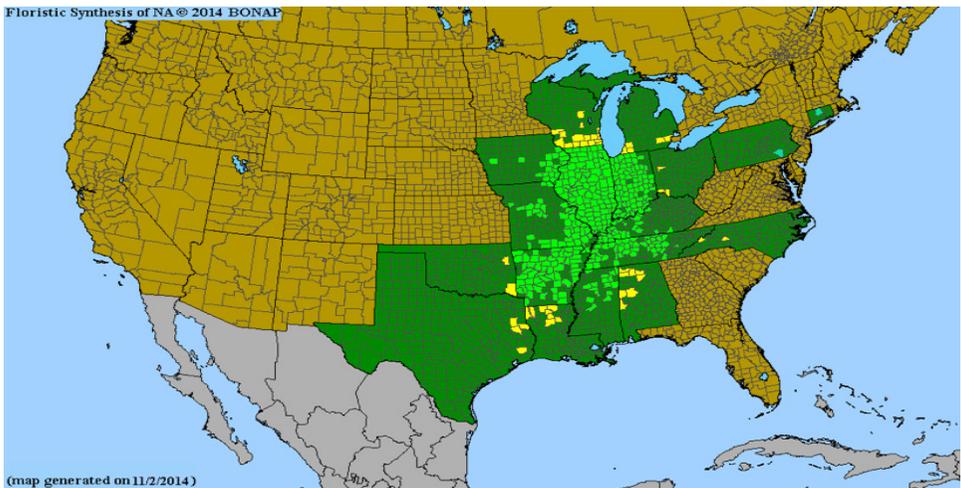


Figure 1: BONAP map of *Trillium recurvatum*. Brown indicates absence, dark green indicates the state in which it is found, light green indicates the specific county, yellow demonstrates rarity, and the light blue indicates that *T. recurvatum* is adventive in that specific county (Kartesz 2015).

Prairie Trillium is characterized by maroon flowers and mottled leaves. The flowers are pollinated by insects and produce a capsule-like berry. Ants feed on the eliasomes, which are fleshy structures attached to the seed. Once the seeds are discarded, it takes approximately two springs for a juvenile to appear and a minimum of four years for flowers to develop (O'Connor 2007). The stems originate from underground rhizomes that slowly spread through the soil. The underground rhizomes then connect multiple *T. recurvatum* individuals making it a clonal plant.

This species has three life history stages: juvenile, flowering, and non-flowering. The juvenile stage is characterized by a single leaf, the non-flowering has three mottled leaves, and the flowering has three mottled leaves with a maroon flower in the center (Fig. 2). Flowering plants can revert to non-flowering and vice versa; however, the mechanism by which this occurs is unknown.



Figure 2: Life stages of *Trillium recurvatum*. Red circle represents juvenile, blue circle represents non-flowering adult, and white circle represents flowering adult.

An ongoing population demography study has been carried out on a population of *T. recurvatum* at the University of Memphis Meeman Biological Field Station (referred to hereafter as the Meeman Trillium Population) since 1996. From this study, it was discovered that non-flowering ramets had the greatest population growth rate and flowering plants comprised 18% of the population on average (Moore et al. 2012). Although *T. recurvatum* is not rare in Tennessee, understanding patterns of

clonal genetic diversity in the Meeman Trillium Population coupled with the long-term demographic data offer the possibility of providing unique insight into population genetic dynamics in a clonal species. Moreover, populations of *T. recurvatum* may display pollen limitation; because the species is self-incompatible, one genetic individual must be pollinated by a different genetic individual (Sawyer 2009). If *T. recurvatum* demonstrates a high degree of clonality, insect pollinators flying from plant to plant might actually transfer pollen to the same genetic individual where fertilization would be unsuccessful. An understanding of pollen limitation and clonal genetic structuring is also important for extrapolating to populations/sites where the species is rare.

Clonal plants are abundant across the planet, often dominating in forest understory, aquatic environments, and extreme conditions (Cook 1983). Without the need for sexual reproduction, which can be a risky strategy in some environments, clonal plants can propagate by rhizomes, tillers, surface runners, etc. (Cook 1983). Each group of genetically identical individuals is called a genet; whereas, an individual stem is known as a ramet. Traditionally, “stem counts” were used to measure population numbers; however, those can overestimate the level of diversity of clonal plants (Mandel 2010). Genetic markers, which are non-invasive, can be used to better estimate the number of genetic individuals and calculate levels of genetic diversity.

Clonality can, sometimes, be associated with a low level of genetic diversity -- an entire plot could be one genetic individual, connected underground by rhizomes. The ramets possess identical phenotypic and genotypic characteristics; this could be problematic if the specific genotype were to be adversely affected by a predator or by the environment. The focus of this research is on the genetic diversity of *T. recurvatum* at the University of Memphis Meeman Biological Field Station. Population genetic markers were used to differentiate genetic individuals, determine the number of genotypes in populations, and measure population levels of genetic diversity. We hypothesized that there would be low levels of genetic diversity in the *T. recurvatum* populations and that the population would consist of just a few distinct genetic individuals i.e., high clonality.

In this research, simple sequence repeats (SSR) were used as genetic markers to identify genetic diversity and clonal structure (Mandel 2010). The SSRs, also known as microsatellites, are repeated segments of

DNA where each repeat unit is usually 2-5 base pairs long (for example AT, GCC, or CAGT). The microsatellite markers used in this study are the first microsatellites to be developed for this species. Because of the high mutation rate of microsatellites, individuals will vary by the number of repeat units they contain (Brooker 1999). One can isolate and amplify these repeated regions of the genome via the polymerase chain reaction (PCR) and subject the resulting product to gel electrophoresis. When different individuals differ by one or more repeat units, the PCR products of different sizes will migrate at different rates and be distinguishable from one another.

The microsatellite markers that were used in the study were developed using a microsatellite enrichment method and subsequent next-generation sequencing provided by the microsatellite discovery services at the Evolutionary Genetics Core Facility (EGCF) at Cornell University. The Core digested two pooled samples of whole genomic *T. recurvatum* DNA with several restriction enzymes and ligated appropriate adaptors for next-generation sequencing on the Illumina platform. Following this, they performed microsatellite enrichment by hybridization to 3'-biotinylated oligonucleotide repeat probes (for example, ATATATAT). These hybridized fragments were captured by streptavidin-coated magnetic beads and a magnet was used to wash away the unwanted portion of the *T. recurvatum* genome. After this, the capture fragments were sequenced, and the EGCF used a bioinformatic pipeline to search the sequences for repeats. The EGCF then designed primers for PCR amplification of the microsatellites, and ten of these regions, or loci, were chosen for this project.

## Materials and Methods

Leaf samples of *T. recurvatum* were collected from a population at the University of Memphis Meeman Biological Field Station in March 2014 (Fig. 3). Individuals were sampled in a five-by-five array of 2x2 meter quadrats. Plants were sampled to ensure the greatest spatial variation, i.e., from as many spatially distinct clusters as possible within the 2x2m quadrat. The leaves were stored in a refrigerator prior to DNA extraction. To extract the DNA, the leaf was placed in a 2.0 ml tube along with three metal beads. The tube was placed in the SPEX Geno grinder 2000 at 500 rpm until the leaf was ground. An OMEGA bio-tek E.N.Z.A. SQ Plant DNA kit was used to extract the DNA. The DNA was then stored at -80 degrees Celsius until ready for use.



Figure 3: Collection site for *T. recurvatum* at University of Memphis Meeman Biological Field Station. White box indicates one 2x2 meter quadrat.<sup>1</sup>

Each individual was assessed for purity and measured for nucleic acid concentration by testing it on a NanoDrop Spectrophotometer. One  $\mu$ l of DNA was used in this process. Following the results of the Spectrophotometer, the DNA was diluted by a factor of 10 based on the concentration of nucleic acids. The individuals were split up into 3 master plates. Master Plates 1 and 2 contain 95 individuals, each with a water control. Master Plate 3 contains 26 individuals and a water control.

Polymerase Chain Reaction (PCR) was used to amplify the extracted DNA. Loci 1-10 were run on sample E11 and T4, from Master Plate 3. A master mix composed of 9.55  $\mu$ l deionized water, 1.5  $\mu$ l buffer, 0.35  $\mu$ l  $MgCl_2$ , 0.2  $\mu$ l dNTPs, 0.35  $\mu$ l forward primer at 5  $\mu$ M, 0.35  $\mu$ l of reverse primer at 20  $\mu$ M, 0.70  $\mu$ l M13 (FAM, NED, or VIC), and 1.0  $\mu$ l *Taq* polymerase in a micro-centrifuge tube. Primers with and without extra base pairs were used in this experiment (Table 1). The reverse primer had extra base pairs (GTTTCTT) so that it would further stabilize the primer annealing; however, the primer annealing was unsuccessful so the primers without extra base pairs were used. Each value was multiplied by 11 in order to provide enough solution for 10 individuals. 1.0  $\mu$ l of DNA from each individual was mixed with 14  $\mu$ l of the master mixer and run on the thermocycler using the program Td\_50\_1min. The temperature cycles for the program were as follows: 95° C for 3 min, [94° C for 30 sec, 60° C for

30 sec, 72°C for 1 min] x 9, [94°C for 30 sec, 50°C for 30 sec, 72°C for 1 min] x 29, 72°C for 10 min, and 4°C for 15 min. This process was repeated with samples A9 and T3, from Master Plates 1 and 3 respectively.

Following the results of that trial, Loci 2, 3, 4, 7, and 9 were selected to be amplified on all of the *T. recurvatum* samples. Loci 2 and 3 were amplified using the same protocol and thermocycler program as used when testing Loci 1-10. Locus 9 was slightly modified by using .27 µl MgCl<sub>2</sub> in order to decrease double banding. Additionally, .20 µl of forward primer, reverse primer, and M13 were used instead of the .35 µl used previously. The primers used in Locus 9 also contained extra base pairs. The decrease in solution yielded a 13 µl reaction. Program Td\_55\_1min was used to amplify Locus 9 on the thermocycler. Individuals from Master Plates 2 and 3 were amplified at Loci 2, 3, and 9 using the same protocol and thermocycler program used for Master Plate 1.

Locus 4 was amplified using a master mix of 9.80 µl of deionized water, 1.5 µl of buffer, .30 µl of MgCl<sub>2</sub>, .20 µl dNTPs, .20 µl of forward primer at 5 µM, .20 µl of reverse primers with extra base pairs at 20 µM, .20 M13 (NED) at 10 µM, and .60 µl of *Taq* polymerase. 1 µl of DNA was added to 13 µl of the master mix. Individuals were run on the program Td\_57\_45sec. Instead of lasting 1 minute, the 94 ° C, 67-57 ° C, and 72 ° C cycle lasted 45 seconds. This protocol and program was used for all individuals from Master Plates 1, 2, and 3. Locus 7 was amplified using a master mix of 9.35 µl of deionized water, 1.5 µl of buffer, .35 µl of MgCl<sub>2</sub>, .20 µl of dNTPs, .20 µl of forward primer at 5 µM, .20 µl of reverse primer with extra bases at 20 µM, .20 µl of M13 (VIC) at 10 µM, and 1.0 µl of *Taq* polymerase. One µl of DNA was added to 13 µl of the master mix. Individuals were on the thermocycler program Td\_50\_1min. This protocol and program was used for all individuals from Master Plates 1, 2, and 3.

Locus 6 was amplified using a master mix of 9.85 µl of deionized water, 1.5 µl of buffer, .35 µl of MgCl<sub>2</sub>, .20 µl dNTPs, .20 µl of forward primer at 5 µM, .20 µl of reverse primers at 20 µM, .20 µl M13 (NED), and .50 µl of *Taq* polymerase. 1.0 µl of DNA was added to 13 µl of the master mix. Individuals were run on the program Td\_57\_45sec. This protocol was used for Master Plates 1, 2, and 3. Table 2 indicates the fluorophore (M13) used with each locus.

	<b>Forward Primer Sequence</b>	<b>Reverse Primer Sequence</b>
Locus 2	CACGACGTTGTAAAACGACTAAA- CAAACATCGCCAGGCC	TCATTCTGACTGAGGGCGAG
Locus 3	CACGACGTTGTAAAACGACAAGG- GTTGTGAGAGGGAAGG	GTCGCCCGCATCAAATAGAG
Locus 4	CACGACGTTGTAAAACGACAAGG- CAAAGGTTTCCGC	AGCGATCAAATTCAGGAACC
Locus 6	CACGACGTTGTAAAACGACTTCGCT- GCTTCCCTCGTATC	AAGGACATGAGCGTTTGTGG
Locus 7	CACGACGTTGTAAAACGACCCT- TACCTCGAGAAGCTTTGG	ATCGCTCGAACCCATACTCC
Locus 9	CACGACGTTGTAAAACGACTAATGC- CAAGCCCTCAGAAG	TCGCCGTTGTTTCGAGTTC

Table 1: Forward and Reverse Primer Sequences for each amplified locus.

<b>Locus</b>	<b>Fluorophore</b>
Locus 2	VIC
Locus 3	FAM
Locus 4	NED
Locus 6	NED
Locus 7	VIC
Locus 9	NED

Table 2: Fluorophore used with each locus.

Gel electrophoresis was used to ensure that the PCR was successful and to estimate fragment length. The PCR products were mixed with loading dye and loaded into a 1% agarose gel along with TAE buffer. The first well of each gel contained a ladder, which is a standard by which fragment lengths are measured. The last well of the gel contained a water control, unless otherwise specified. The gel electrophoresis was run at 80 volts and the results were visualized by placing the gel in a UV light box (Fig. 4). A dilution plate was created by adding 3  $\mu$ l from each plate (Loci 2, 3, and 9) and then 21  $\mu$ l of water. One  $\mu$ l of the dilution plate and 12  $\mu$ l

of formamide ladder were combined to make a run plate. It was heated at 95°C for 5 minutes on the thermocycler in order to denature the DNA so that they could be sequenced. The purpose of the formamide was to keep the strands of DNA separated after being heated. The run plate was then taken to the University of Tennessee Molecular Research Core for fragment analysis using an ABI 3130XL Capillary Sequencer. GeneMarker 2.6.3 was used to score the fragments on the computer.

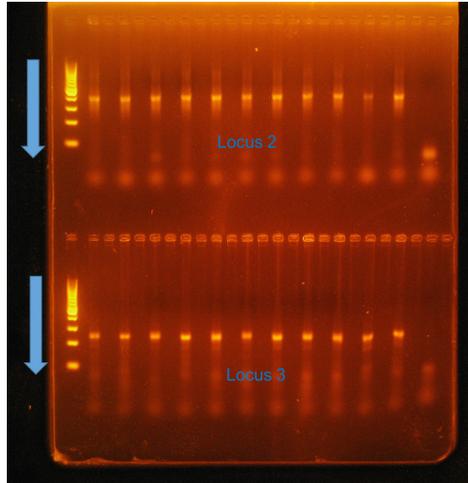


Figure 4: Gel electrophoresis for Locus 2 and 3. Individuals H1-H12 from Master Plate 1. Blue arrows indicate downward movement of ladder. Fragment size decreases with downward movement.

A dilution plate was made for Locus 6 by mixing 3  $\mu\text{l}$  of PCR product with 27  $\mu\text{l}$  of water. One  $\mu\text{l}$  of the dilution plate was mixed with 9  $\mu\text{l}$  of formamide ladder, heated at 95 °C for five minutes and then sent to the University of Tennessee Molecular Research Core for fragment analysis using an ABI 3130XL Capillary Sequencer. Due to the faintness of the bands, 6  $\mu\text{l}$  of Locus 4 and 9  $\mu\text{l}$  of Locus 7 were added to the dilution plate. One  $\mu\text{l}$  of this dilution plate was mixed with 12  $\mu\text{l}$  of formamide ladder before being sent off. GeneMarker 2.6.3 was used to score the fragments on the computer. Each allele was manually recorded based on fragment length (Figs. 5-7). Once the fragments were scored, patterns were identified and labeled for each individual. Labels were recorded as A-Z, and then AA, BB, etc. These patterns were recorded in an Excel spreadsheet and used to name the genotype of each individual (loci were concatenated to record a multi-locus genotype). For example, individuals

A1-6NF and A1-8J both have the genotype FCAT (Table 3).

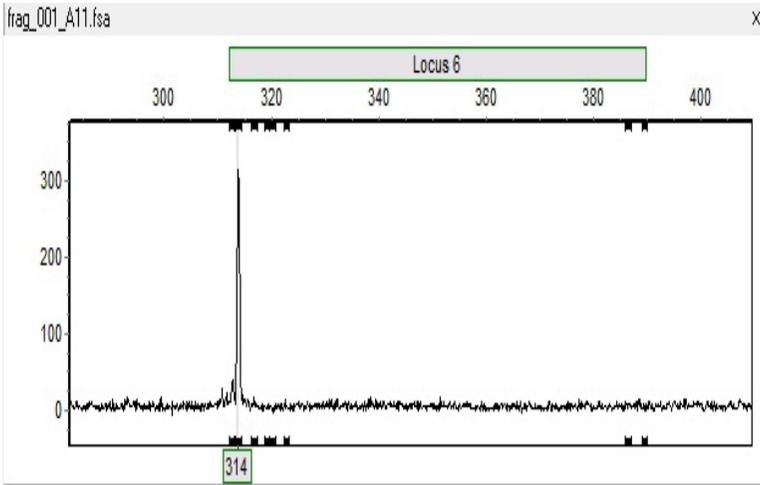


Figure 5: Homozygous 314 for Locus 6. 314 indicates number of base pairs.

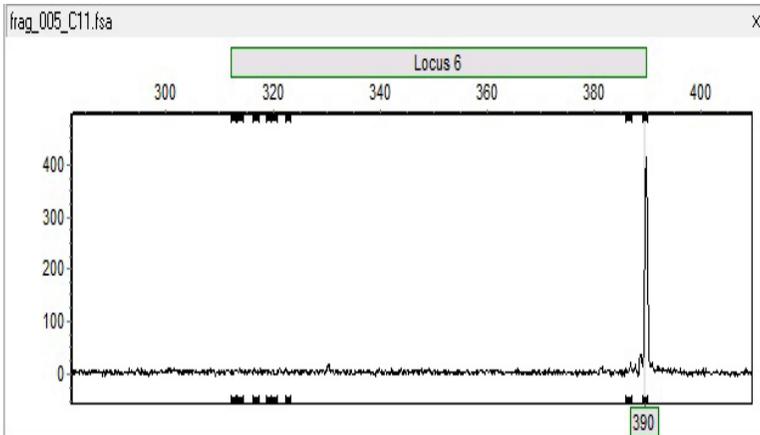


Figure 6: Homozygous 390 for Locus 6. 390 indicates number of base pairs.

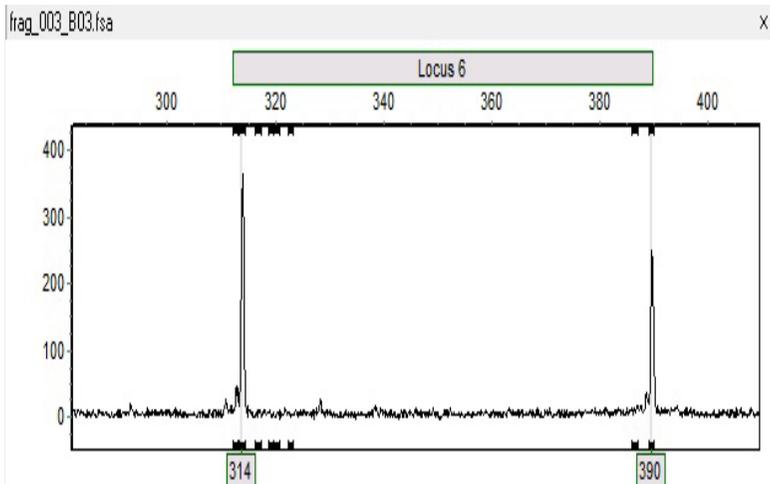


Figure 7: Heterozygous 314, 390 for Locus 6.

Plot and Sample ID	Locus 4	Locus 6	Locus 7	Locus 3	Genotype
A1-14NF	AA	B	J	B	AABJB
A1-12J	--	--	B	B	---BB
A1-13NF	D	N	C	B	DNCB
A1-6NF	F	C	A	T	FCAT
A1-8J	F	C	A	T	FCAT
A1-9NF	F	C	D	T	FCDT
A1-7J	F	C	--	N	FC--N
A1-10F	F	F	D	A	FFDA
A1-4NF	G	A	F	B	GAFB
A1-5F	G	A	F	B	GAFB
A1-11F	G	A	F	B	GAFB
A1-1F	P	C	C	B	PCCB
A1-2F	Q	D	A	F	QDAF
A1-3NF	Q	D	A	F	QDAF
A2-4F	AA	C	B	--	AACB--
A2-13J	BB	C	F	G	BBCFG
A2-6NF	F	C	C	--	FCC--
A2-8J	F	C	C	G	FCCG

A2-10F	F	C	C	L	FCCL
A2-11F	F	C	D	L	FCDL
A2-7J	F	--	C	G	F--CG
A2-12NF	F	C	--	L	FC--L
A2-3J	F	F	F	G	FFFG
A2-14J	GG	C	G	G	GGCGG
A2-1NF	H	--	D	G	H--DG
A2-5NF	--	--	--	T	-----T
A2-2NF	Y	C	B	--	YCB--
A3-1F	BB	--	D	--	BB--D--
A3-2NF	BB	--	D	G	BB--DG
A3-3NF	CC	--	D	G	CC--DG
A3-4F	CC	--	D	G	CC--DG
A3-7NF	CC	--	D	G	CC--DG
A3-10J	--	D	B	K	--DBK
A3-8NF	F	C	A	G	FCAG
A3-9J	F	C	A	G	FCAG
A3-6F	F	C	D	G	FCDG
A3-5NF	--	L	A	M	--LAM
A4-1J	EE	B	G	D	EEBGD
A4-6NF	F	--	i	E	F--iE
A4-3NF	F	O	--	E	FO--E
A4-4NF	F	O	--	E	FO--E
A4-5F	F	O	--	E	FO--E
A4-7NF	F	P	--	E	FP--E
A4-2F	J	F	D	B	JFDB
A5-5F	--	B	i	N	--BiN
A5-1F	D	--	C	Q	D--CQ
A5-8NF	F	C	A	R	FCAR
A5-3F	F	F	F	N	FFFN
A5-4F	F	F	F	N	FFFN
A5-1F	Q	C	C	Q	QCCQ
A5-7NF	Q	D	B	--	QDB--
A5-6NF	Q	D	B	K	QDBK
B1-8J	AA	C	F	--	AACF--
B1-3J	E	C	C	H	ECCH
B1-4F	E	C	C	H	ECCH
B1-7F	E	C	C	H	ECCH
B1-1NF	Q	C	C	F	QCCF

B1-5F	Q	D	B	F	QDBF
B1-6F	Q	D	B	F	QDBF
B1-2J	W	K	B	H	WKBH
B2 4F	D	C	B	--	DCB--
B2-1NF	D	C	B	G	DCBG
B2-3NF	D	C	--	G	DC--G
B2-2NF	W	C	--	G	WC--G
B3-8J	AA	B	B	i	AABBi
B3-4F	J	A	--	B	JA--B
B3-5F	J	A	i	B	JAiB
B3-6NF	J	A	i	B	JAiB
B3-7NF	J	A	i	B	JAiB
B3-1F	J	A	i	B	JAiB
B3-3J	J	--	i	B	J--iB
B3-2F	O	C	B	J	OCBJ
B4-12NF	--	C	G	E	--CGE
B4-14NF	F	C	G	D	FCGD
B4-13NF	F	C	G	D	FCGD
B4-1NF	O	F	F	G	OFFG
B4-2NF	U	C	G	D	UCGD
B4-3F	U	C	G	D	UCGD
B4-4F	U	C	G	D	UCGD
B4-5J	U	C	G	D	UCGD
B4-6J	U	--	--	D	U---D
B4-1NF	U	--	G	G	U--GG
B4-8J	V	D	B	B	VDBB
B4-9F	V	D	B	B	VDBB
B4-10F	V	D	B	B	VDBB
B4-11NF	V	D	B	B	VDBB
B5-8F	O	P	B	B	OPBB
B5-2F	Q	B	D	E	QBDE
B5-3NF	Q	B	D	E	QBDE
B5-4NF	Q	B	D	E	QBDE
B5-5J	Q	B	D	E	QBDE
B5-6J	U	C	i	E	UCiE
B5-7F	U	C	i	E	UCiE
B5-9NF	U	C	i	E	UCiE
B5-10NF	U	O	--	E	UO--E
B5-1F	V	--	D	A	V--DA

C1-1F	BB	C	C	D	BBCCD
C1-4J	Z	F	D	--	ZFD--
C1-2NF	Z	F	D	D	ZFDD
C1-3NF	Z	F	D	D	ZFDD
C1-5J	Z	F	D	D	ZFDD
C2-9NF	--	--	A	--	---A--
C2-1F	--	--	--	B	-----B
C2-7NF	E	C	G	E	ECGE
C2-8J	Q	C	G	E	QCGE
C2-10J	Q	C	G	E	QCGE
C2-6NF	Q	C	G	T	QCGT
C2-2F	U	--	B	E	U--BE
C2-3NF	U	--	B	E	U--BE
C2-4NF	U	--	B	E	U--BE
C2-5J	U	C	i	E	UCiE
C3-1J	H	--	D	Q	H--DQ
C4-1J	B	A	A	--	BAA--
C4-2NF	i	C	--	--	iC----
C4-4J	O	F	F	--	OFF--
C4-3NF	P	D	B	G	PDBG
C4-5J	U	C	G	G	UCGG
C5-11J	--	C	C	F	--CCF
C5-1F	D	C	B	K	DCBK
C5-2F	D	C	B	K	DCBK
C5-6J	D	C	B	K	DCBK
C5-13F	F	F	F	E	FFFE
C5-14F	F	F	F	E	FFFE
C5-15NF	F	F	F	E	FFFE
C5-16NF	F	F	F	E	FFFE
C5-12J	K	C	C	F	KCCF
C5-7F	K	C	C	F	KCCF
C5-8F	K	C	C	F	KCCF
C5-9NF	K	C	C	F	KCCF
C5-10NF	K	C	C	F	KCCF
C5-3F	Z	C	B	E	ZCBE
C5-5J	Z	C	B	E	ZCBE
C5-4NF	Z	C	--	E	ZC--E
D1-1F	--	--	G	B	---GB
D2-1NF	E	A	B	J	EABJ

D2-3F	E	C	B	K	ECBK
D2-2F	E	C	--	K	EC--K
D3-6F	FF	C	B	F	FFCBF
D3-1NF	F	M	C	B	FMCB
D3-5F	K	C	A	E	KCAE
D3-7J	Q	D	G	S	QDGS
D3-2J	Z	F	D	D	ZFDD
D3-3J	Z	F	D	D	ZFDD
D3-4J	Z	F	D	D	ZFDD
D4-2F	AA	C	A	B	AACAB
D4-5J	AA	C	A	B	AACAB
D4-6J	--	--	--	B	-----B
D4-4NF	--	C	--	B	--C--B
D4-11J	G	--	B	--	G--B--
D4-12NF	M	--	B	--	M--B--
D4-1F	Q	F	A	E	QFAE
D4-3NF	Q	F	A	E	QFAE
D4-7F	Q	F	D	J	QFDJ
D4-13NF	R	--	A	U	R--AU
D4-9NF	X	C	C	U	XCCU
D4-10J	X	C	H	--	XCH--
D4-8NF	Y	C	B	--	YCB--
D5-12J	AA	C	D	K	AACDK
D5-14F	AA	C	F	B	AACFB
D5-16NF	AA	C	F	B	AACFB
D5-3NF	--	B	--	B	--B--B
D5-15NF	--	--	B	B	----BB
D5-13F	--	C	B	B	--CBB
D5-2F	D	B	B	i	DBBi
D5-4NF	D	B	B	i	DBBi
D5-5J	D	B	B	i	DBBi
D5-7F	D	B	B	i	DBBi
D5-1F	J	A	i	Q	JAiQ
D5-10J	Q	F	D	i	QFDi
D5-8NF	Q	F	D	i	QFDi
D5-9NF	Q	F	F	B	QFFB
D5-11J	Q	F	F	i	QFFi
D5-6J	Q	F	F	i	QFFi
E1-6NF	AA	C	H	K	AACHK

E1-7NF	AA	C	H	K	AACHK
E1-9J	B	C	B	E	BCBE
E1-5F	AA	C	H	K	AACHK
E1-8J	--	C	H	L	--CHL
E1-1NF	O	C	C	K	OCCK
E1-2NF	O	C	C	K	OCCK
E1-3J	O	C	C	K	OCCK
E1-4J	O	C	C	K	OCCK

Table 3. Multilocus genotypes for all sampled individuals.

GS+, a comprehensive geostatistics program manufactured by gam-madesign, was used to create the heat map of genetic diversity (Fig. 8). The data were placed into X, Y, Z form with X being the transect position running up the hill parallel to the road and Y being the transect position moving away from the road and Z being the number of unique genotypes counted in each quadrat. A semivariogram was used to determine spatial autocorrelation of the samples and then point kriging was used to interpolate the map. Power Point was used to created the figures featuring Plot A2, D4, and D5 (Figs. 9-11). Each life stage was assigned a shape: square for non-flowering, circle for flowering, and triangle for juvenile. Clusters were created to mimic the position of the samples within the plots. Each genotype was assigned a different color in order to showcase the diversity found in the plot.

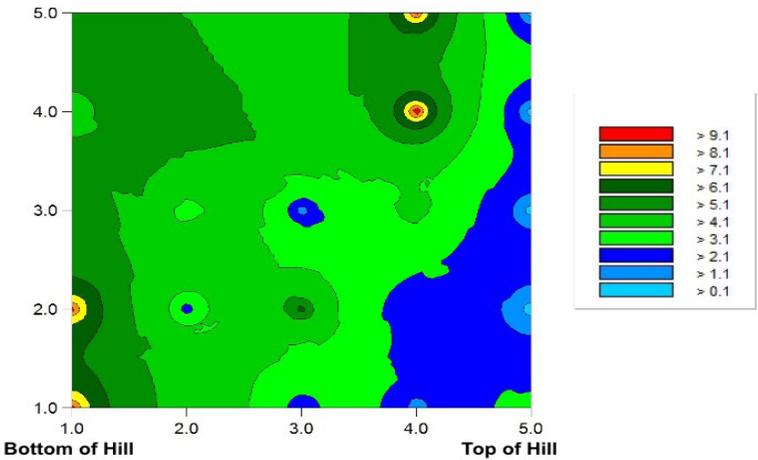


Figure 8: Heat map of genetic diversity for all sampled individuals.

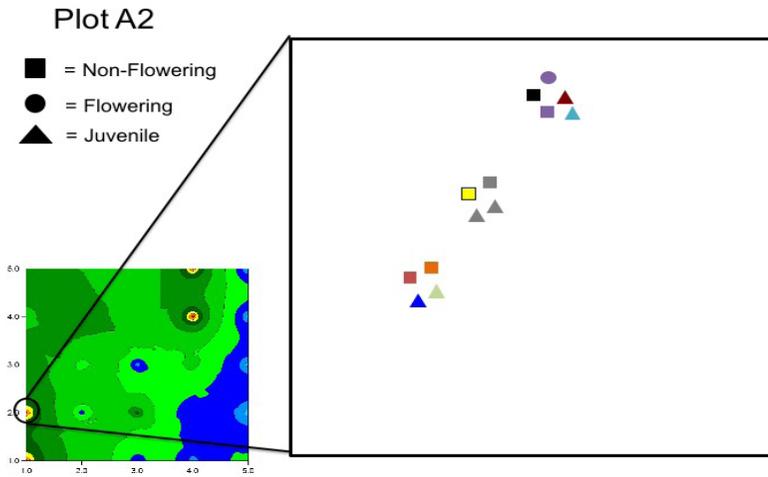


Figure 9: Genetic diversity of Plot A2.  
Colors indicate different genotypes.

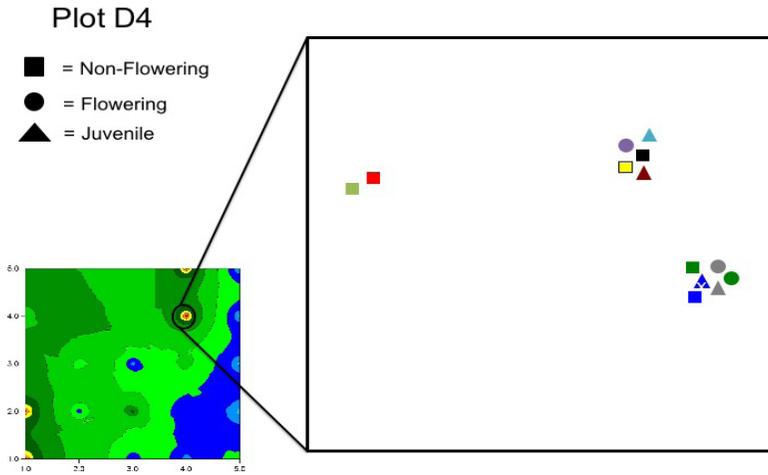


Figure 10: Genetic diversity of Plot D4.  
Colors indicate different genotypes.

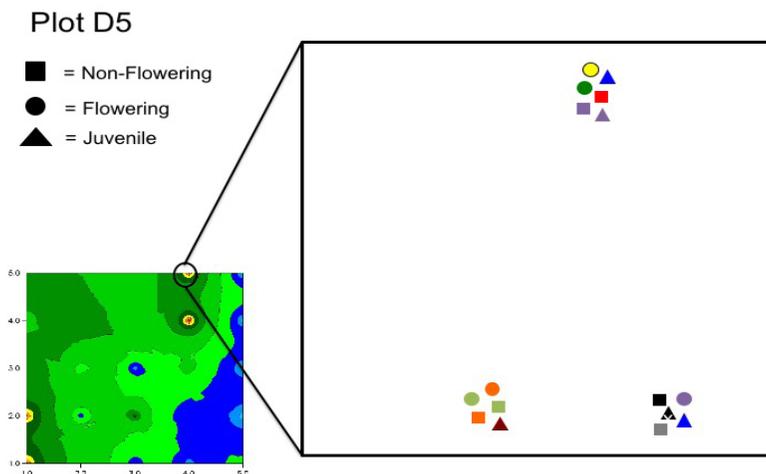


Figure 11: Genetic diversity of Plot D5.  
Colors indicate different genotypes.

## Results and Discussion

Locus 2 was determined to be a monomorphic locus following analysis by GeneMarker 2.6.3. A monomorphic locus is common to all individuals in the population and thus, does not provide pertinent information as to levels of genetic diversity. Locus 3 amplified well in the majority of individuals and showed considerable diversity. In order to determine the number of genotypes, allele patterns were recorded and assigned an arbitrary letter code. This was done for each locus, with the exception of Loci 2 and 9. Locus 2 was excluded due to its monomorphic properties and Locus 9 was excluded due to indiscernible banding patterns. From this, 108 unique genotypes were found in 182 individuals, which corresponds to roughly 59% genotypic diversity in the population. Most clusters of individuals were found to have multiple genotypes. These results were somewhat surprising and suggest a substantial amount of sexual reproduction as compared to vegetative propagation occurring in the Meeman *Trillium* Population. The findings here also suggest that pollination within clusters has a high likelihood of generating a successful fertilization since many individuals within clusters were actually different genets.

With regard to the spatial structure of genetic diversity in the Meeman *Trillium* population, this study provided evidence of a more random genetic spatial structuring as opposed to a clumped distribution which

is often observed in clonal plants (Mandel 2010). The bottom of the hill appears to have more genotypic diversity than the top, which could be due to soil erosion pushing individuals towards the bottom of the hill. The soils in this area are a loess silt and demonstrate high erodability (McCarthy 1990).

Future plans include amplifying more loci for the existing samples and then collecting more samples in the spring from the University of Memphis Meeman Biological Field Station and the Botanic Garden. Additionally, obtaining permits to collect from states in which *T. recurvatum* is rare could provide vital insight on genetic differences between the rare populations and the Meeman population. Greenhouse studies could also be done to see how *T. recurvatum* responds to changes in temperature, humidity, light, etc. The results from these future studies can be extrapolated to rare *Trillium* species as well as other rare, clonal species. As climate change, deforestation, and habitat fragmentation progress, it will be important to know how this species will respond to these significant changes.

## Author Contributions

The author NanoDropped the DNA to assess purity and determine nucleic acid concentration. Any samples that contained impurities were purified using Omega E.Z.N.A. Cycle Pure Kit. Following that, the samples were diluted by a factor of ten and separated into three master plates. Ten loci were amplified on a few individuals using Polymerase Chain Reaction. After numerous trial and error, five loci were selected to be amplified on all individuals. Gel electrophoresis was run for each locus on all three master plates to ensure that the reaction was successful. Then, a dilution plate was created and one  $\mu\text{l}$  of that dilution plate was mixed with formamide ladder and heated at  $95^{\circ}\text{C}$  for five minutes to separate the strands. This was done for each plate for each locus. The plates were taken to University of Tennessee Molecular Research Core where Dr. Tom Cunningham ran the plates on an ABI 3130XL Capillary Sequencer for fragment analysis. Once fragment analysis was complete, GeneMarker 2.6.3 was used to score the fragments on the computer. Each allele was manually called and assigned an arbitrary letter. This was done for all five loci and a letter code was developed for each sample to distinguish different genotypes (Table 3). Figures 9-11 were created by the author using PowerPoint.

## Endnotes

1. Two quadrats are missing at the bottom due to picture angle. Inclusion of those yields a 5x5 array of 2x2 meter quadrats.

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Sara Brauningner graduated from the University of Memphis in 2015 with a major in Biology and minors in Chemistry and Pre-Health Studies. She was a Helen Hardin Honors student and graduated University Honors with Thesis. Currently, her plans for the future include taking the MCAT and applying to medical school in 2016. She is also the recipient of a *Quaesitum* outstanding paper award.

# **Sara Brauning**

Measuring Clonal Diversity in Stands of Bamboo

**Faculty Sponsor**

Dr. Jennifer Mandel



## **ABSTRACT**

Bamboo is an important food source for wildlife all over the world and has a wide variety of medicinal and economic uses. We studied the genetic variation present in two bamboo species at Shelby Farms, *Phyllostachys bissetii* and *Pseudosasa japonica*, using Simple Sequence Repeat genetic markers. This study provides valuable information for the Memphis Zoo and establishes a methodology for identifying clonal diversity and genetic variation within other species of bamboo. Understanding the genetic variation of a species is essential for conservation, especially if it is susceptible to disease, overuse or, in this case, gregarious flowering. Based on our results, we have concluded that *Pseudosasa japonica* is one genetic individual. *Phyllostachys bissetii* contains more variation within each locus indicating that it is not a clone. Our goal is to study the genetic diversity of all seven species at Shelby Farms.

## INTRODUCTION

Over 1400 species of bamboo exist worldwide, and these species are found on every continent with the exception of Europe and Antarctica. Bamboo is a member of the grass family, Poaceae, and is a staple food source for wildlife. China has the largest reserve of bamboo (Tang et al. 2009). In Memphis, TN there is a small field containing seven different species of bamboo, three of which are fed to our own Giant Pandas (*Ailuropoda melanoleuca*) in the Memphis Zoo. One of the seven species is *Phyllostachys bissetii*, which can flower every 60 to 120 years; moreover, often the flowering pattern of this species is gregarious (Tang et al. 2009). Gregarious flowering occurs when an entire stand of bamboo simultaneously flowers and then dies shortly thereafter. Bamboo can reproduce both sexually and asexually. Flowering is a form of sexual reproduction; asexual reproduction occurs through growth from underground rhizomes. This indicates that bamboo is clonal; it can produce genetically identical offspring in the form of stalks.

Gregarious flowering has become a major concern within the past few decades. Very little is known about why bamboo flowers the way it does or what triggers the flowering cycle. There are a few hypotheses that attempt to explain flowering patterns. The first states that gregarious flowering occurs as a predator satiation method (Ananthakrishnan 2012). As a result of mass flowering, large quantities of seeds are dispersed at one time. The wildlife in that area eat their fill of the seeds and then move on to another area. Therefore, producing mass quantities of seeds will ensure the survival of that species. Producing large numbers of seeds requires a lot of energy, however, which may account for why the entire stand dies after flowering.

The second hypothesis is that bamboo gregariously flowers to maintain dominance over other plant species in an ideal area of growth (Ananthakrishnan 2012). If there are a large number of seeds taking over a plot of land, other species will not be able to acquire proper nutrition to survive. A third hypothesis also relates to competition with other plant species but involves fire. The fire cycle hypothesis proposes that environmental disturbances, such as fire or windstorms in areas where bamboo is prevalent promotes its survival and reduces the fitness of other species (Ananthakrishnan 2012). Fire, resulting from a lightning strike for example, would consume the dead stalks, and the seedlings would take over

the available space. There are studies of giant cane in Louisiana that have proven that clonal growth and ramet density increases after a large-scale disturbance such as fire (Gagnon and Platt 2008).

Clonal individuals are more likely to flower at the same time since they are genetically identical. Thus, entire stands composed of the same genetic individual will most likely flower and die at the same time, wiping out that entire bamboo population. Wildlife that rely on that stand for food or shelter will be forced to relocate until new stalks form. Developing a methodology to determine the amount of genetic variation within a species of bamboo could help identify stands that are at risk of gregariously flowering and dying out. Conservation efforts could then be made to plant more stands of bamboo and to monitor flowering cycles.

“Genetic markers provide information on levels of clonal diversity for individuals within a population” (Mandel 2010). Microsatellite markers, or Simple Sequence Repeat markers (SSR), are useful for identifying the genetic diversity of a bamboo species. These markers are short segments of DNA that repeat a variable number of times depending on the individual’s genome (Tang et al. 2009). Very few microsatellite markers have been developed for bamboo species; some markers have been created for *Bambusa arundinacea* (Tang et al. 2009). A few studies have shown that there is successful transferability (94.7%) of these markers to *Phyllostachys* species and these primers can be used to detect genetic differences at the same sites in related species (Tang et al. 2009). Ten previously developed primers, that displayed good transferability, were chosen to use in this study.

We hypothesized that the entire bamboo stand for each species, *Phyllostachys bissetii* and *Pseudosasa japonica*, was one genetic individual. Our first goal was to develop a methodology to determine if the ten primers would transfer successfully to our two different species of interest. Our second goal was to determine if there was a significant amount of variation, at ten loci, within a species.

## METHODS

### Tissue Extraction

Bamboo leaf samples, from Shelby Farms, were systematically obtained from each row within each stand of *Phyllostachys bissetii* and *Pseudosasa japonica* bamboo. For *P. bissetii*, a leaf was collected from one

stalk every 11 feet (3.35 meters) on both sides of a row. A leaf was collected every 13.78 feet (4.2 meters) for *P. japonica*. Each leaf was labeled with a number and letter corresponding to the stalk location (see Figures 1 and 2). The letter “I” was skipped on each row for each species. The culm from which the leaf sample was collected was marked with field tape to keep track of each sample location. The tissue was stored in a refrigerator until the DNA extraction took place. To extract the DNA, the plant tissue was cut into fine strips using a razor blade and the strips were placed in a labeled 2.0 ml tube containing three metal pellets. Ninety percent ethanol was used to clean the blade after cutting each leaf. The tissue was ground in a SPEX Geno grinder 2000 for two minutes at 500 rpm. An OMEGA bio-tek E.N.Z.A. SQ Plant DNA kit and specified protocol was used to extract the DNA from the leaf.

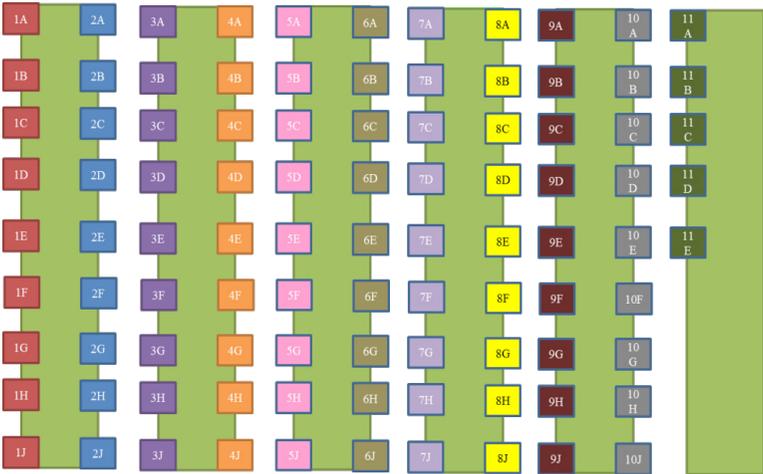


Figure 1: *Phyllostachys bissetii* bamboo stand with sample label

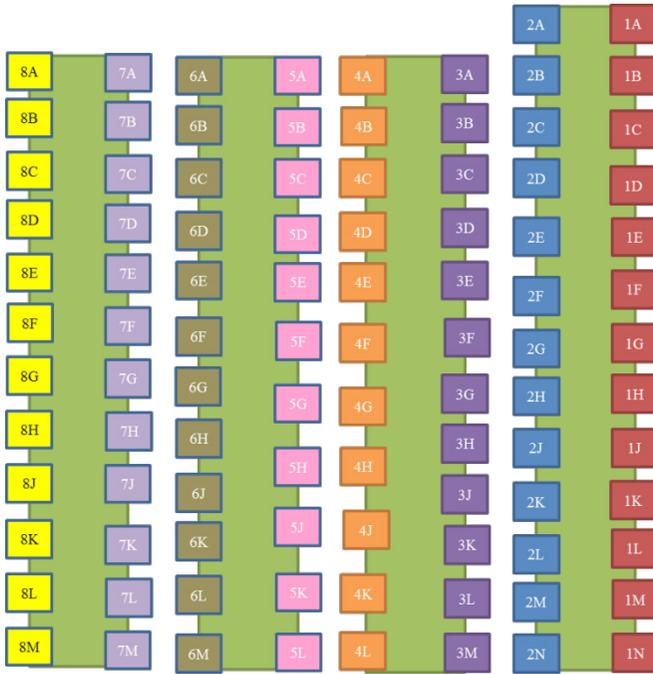


Figure 2: *Pseudosasa japonica* bamboo stand with sample label

### DNA Amplification

To amplify the extracted DNA, a master mix comprising of 11.9  $\mu\text{l}$  deionized water, 0.35  $\mu\text{l}$   $\text{MgCl}_2$ , 1.5  $\mu\text{l}$  buffer, 0.2  $\mu\text{l}$  dNTP, 0.2  $\mu\text{l}$  M13 (VIC, FAM or NED), 0.2  $\mu\text{l}$  forward and reverse primer, and 0.5  $\mu\text{l}$  Taq polymerase was mixed in a micro-centrifuge tube. Each volume was multiplied by 100 to produce enough master mix for 96 individuals. 15  $\mu\text{l}$  of the master mix was dispensed into each well of a 96-individual well plate. 1  $\mu\text{l}$  of DNA, from only one individual, was added to a well to produce a total of 96 different individuals on each plate. A polymerase chain reaction (PCR) was performed using a thermocycler, program TD55\_1min. The TD55\_1min PCR program consists of the following temperature cycles:

- 95° C for 3 min
- [94°C for 30 sec, 65°C for 30 sec, 72°C for 1 min] x 9
- [94°C for 30 sec, 55°C for 30 sec, 72°C for 1 min] x 29

- 72°C for 10 min
- 4°C for 15 min

The *P. bissetii* PCR products were visualized on 2 % agarose gels using electrophoresis. The gel was run using TAE buffer at 80 volts. The *P. japonica* PCR products were visualized on a 1% agarose gel with Sodium Borate buffer at 200 volts.

### Fragment Analysis and Scoring

The PCR products for five of the ten loci, one loci per plate, were diluted with deionized water (15µl per well) and combined in a single plate, depending on the size of the fragment or M13 tag. Tables 1-4 display contents of each dilution plate for both species. The contents of the dilution plates were transferred (1µl from each well) to a run plate containing 12µl of ladder. The ladder contains formamide, which helps keep the DNA denatured. In order to anneal the DNA fragments, the run plates were placed in the thermocycler and the “95 for 5” program was selected. This heats the plates at 95°C for 5 minutes. The plates were then sent to the University of Tennessee’s Molecular Research Center (UTMRC) the same day.

Locus Name	M13 Tag	PCR Product (µl)
PHE 37	FAM	3
PHE 141	FAM	3
PHE 010	VIC	3
PHE 185	NED	3
PBM014	NED	3

Table 1: *P. bissetii* Plate 1 Loci

Locus	M13 Tag	PCR Product (µl)
PBM027	FAM	3
PHE100	VIC	3
PBM028	VIC	3
PBM022	NED	3
PBM 004	NED	3

Table 2: *P. bissetii* Plate 2 Loci

Locus	M13 Tag	PCR Product (μl)
PHE 100	NED	3
PHE185	VIC	3
PHE 37	VIC	3
PHE027	FAM	3
PBM028	FAM	3

Table 3: *P. japonica* Plate 1 Loci

Locus	M13 Tag	PCR Product (μl)
PHE141	FAM	3
PBM022	VIC	3
PBM004	FAM	3
PBM014	NED	3
PHE010 (omitted)	VIC	0

Table 4: *P. japonica* Plate 2 Loci

The amplified DNA products were sent to UTMRC for fragment analysis using an ABI 3130XL Capillary Sequencer. The fragments were scored by eye using the 2.6.3 version of Gene Marker computer software. Once Gene Marker was open and the data from UTMRC was added, the data was run according to the following settings:

#### Template Selection

- Panel: NONE
- Size Standard: GS500
- Standard Color: Red
- Analysis Type: Fragment (Animal)

#### Data Process

- Min Intensity: 100
- Max Intensity: 30000

The template selection and data process settings were set to common default settings. The “animal” fragment analysis type was chosen to ensure that the software recognized the samples as diploid. The “min and max intensities” are common settings for peak intensities when scoring data using Gene Marker.

## RESULTS

Gel electrophoresis was used to visualize the fragment length at each locus. The first well of each gel image contains a ladder, which acts as a standard to compare fragment lengths. The same individuals were tested for each locus within a species. Different individuals were tested for each species. Gel Images were captured using the MultiDoc-it Digital Imaging System.

*P. bissetii* individual G12 is a water control for each locus. However, a water control was not used for *P. japonica*. The last individual of each locus contains DNA.

### Gel Images: *P. bissetii*

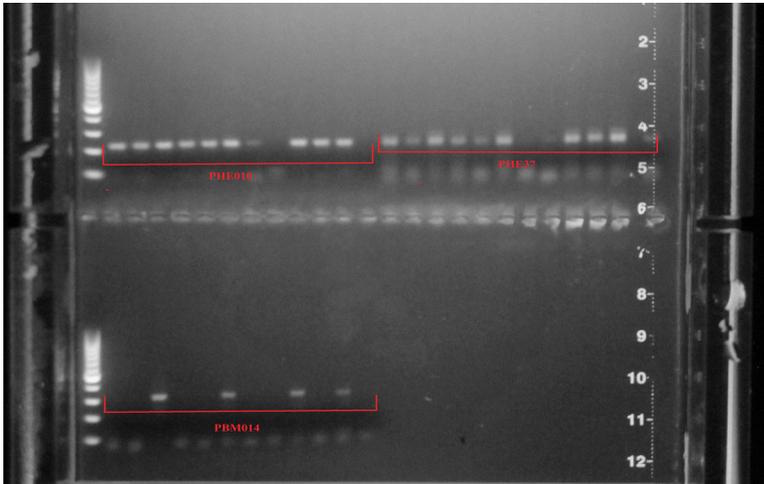


Figure 3: Loci PHE010, PHE37, and PBM014. Individuals G1, F2, E3, D4, C5, B6, A7, J7, H8, G9, F10 and G12 (from wells G1-G12 on a 96 individual well plate). PHE010 fragments were around 220 bp in size, PHE37 fragments were around 230 bp in size, and PBM014 fragments were around 320 bp in size.

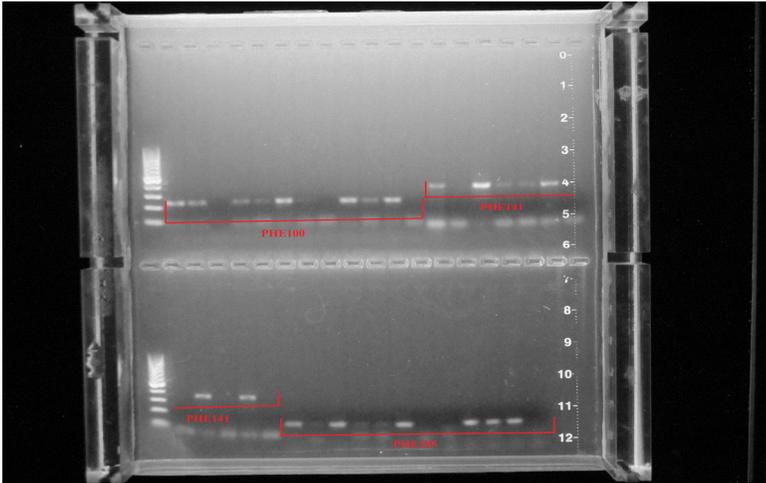


Figure 4: Loci PHE100, PHE141, and PHE185. Individuals G1, F2, E3, D4, C5, B6, A7, J7, H8, G9, F10 and G12 (from wells G1-G12 on a 96 individual well plate). Locus PHE100 was about 220 bp in size, PHE141 was about 330 bp in size, and PHE185 appears to be around 130 bp in size.

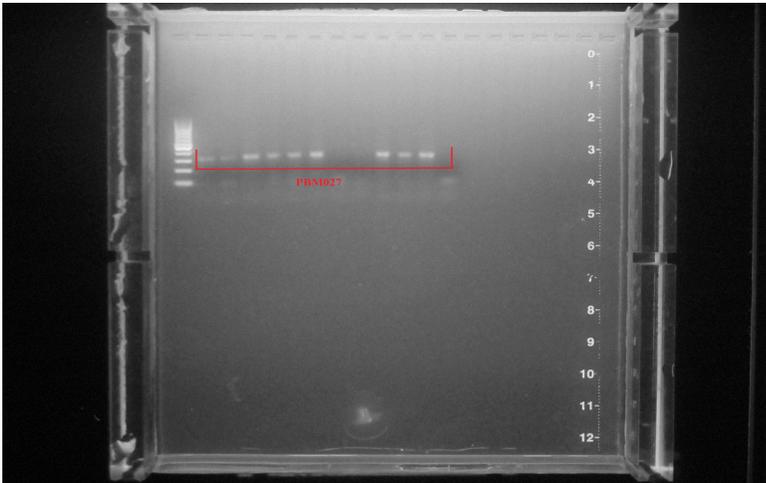


Figure 5: Locus PBM027. Individuals G1, F2, E3, D4, C5, B6, A7, J7, H8, G9, F10 and G12 (from wells G1-G12 on a 96 individual well plate). Fragment length appears to be between 140 and 150 bp in size.

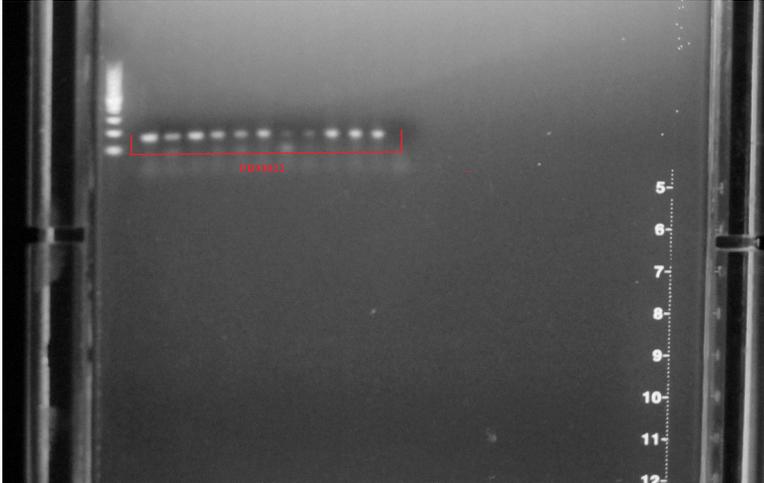


Figure 6: Locus PBM022. Individuals G1, F2, E3, D4, C5, B6, A7, J7, H8, G9, F10 and G12 (from wells G1-G12 on a 96 individual well plate). Fragment length is between 180 and 200 bp in size.

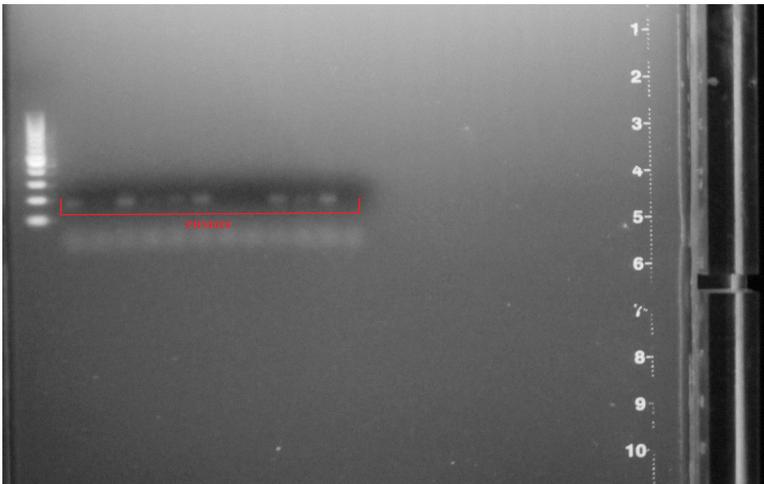


Figure 7: Locus PBM028. Individuals G1, F2, E3, D4, C5, B6, A7, J7, H8, G9, F10 and G12 (from wells G1-G12 on a 96 individual well plate). Bands are faint but are close to 220 bp in size.

Gel Images: *P. japonica*

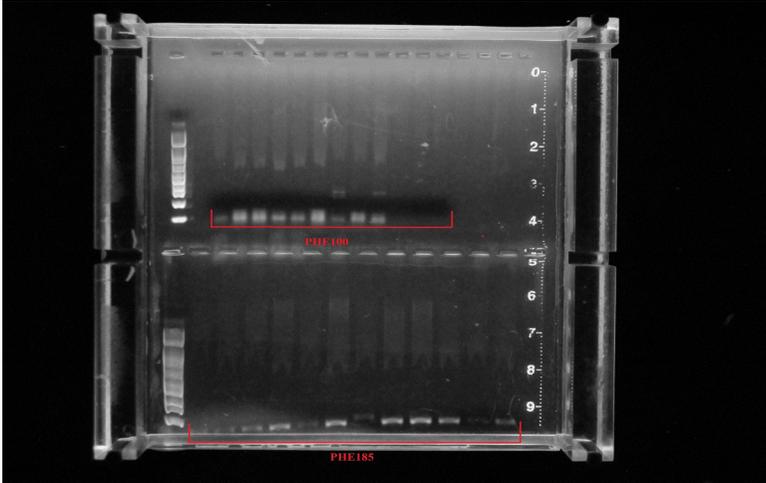


Figure 8: Loci PHE100 and PHE185. Individuals H1, C2, L2, F3, B4, K4, G5, D6, M6, H7, D8, M8 (from wells H1-H12 on plate). PHE 100 fragments seem to be between 400 and 500 bp in size. A few individuals for PHE 185 ran off the gel. However, most seem to be around 120 bp in size.

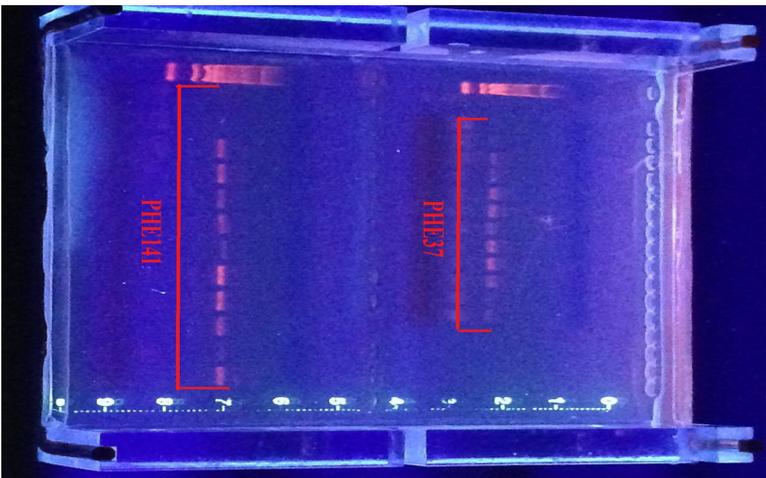


Figure 9: Loci PHE37 and PHE141. Individuals H1, C2, L2, F3, B4, K4, G5, D6, M6, H7, D8, M8 (from wells H1-H12 on plate). PHE37 is between 300 and 400 bp in size. PHE 141 is between 400 and 500 bp in size.

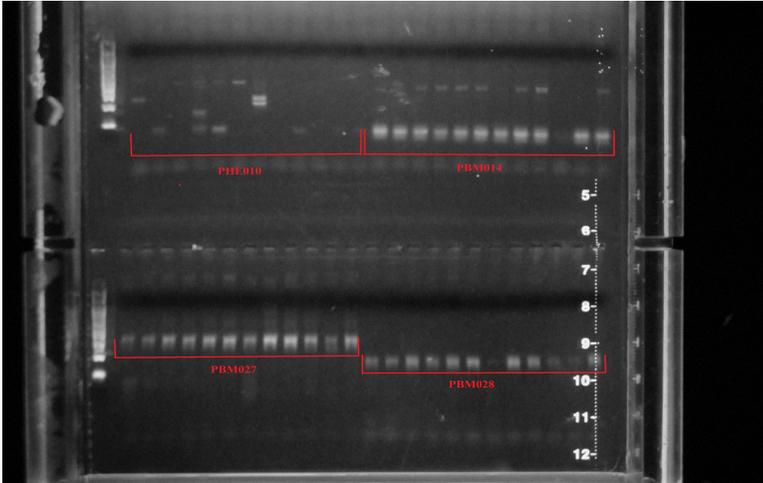


Figure 10: Loci PHE010, PBM014, PBM027, and PBM028. Individuals H1, C2, L2, F3, B4, K4, G5, D6, M6, H7, D8, M8 (from wells H1-H12 on plate). PHE010 was omitted. PBM014 is between 400 and 500 bp in size. PBM027 is around 350 bp in size and PBM028 is about 180 bp in size.

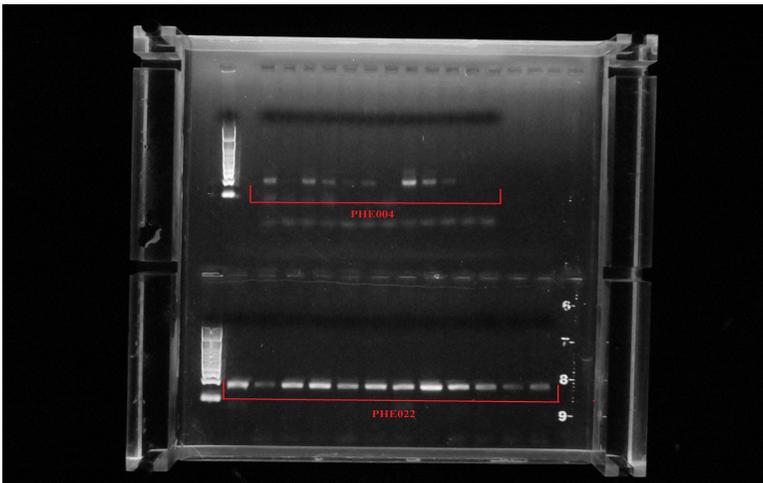


Figure 11: Loci PHE004 and PHE022. Individuals H1, C2, L2, F3, B4, K4, G5, D6, M6, H7, D8, M8 (from wells H1-H12 on plate). PHE004 is about 220 bp in size and PHE022 is around 190 bp in size.

### Scored Loci:

The fragments were scored by eye using Gene Marker. Seven loci were successfully visualized for both *P. bissetii* and *P. japonica*. Two loci, PHE100 and PBM014, were large, based off of the gel images, and possibly ran off of the gel when sequencing. PHE010 was omitted from *P. japonica* plates due to its poor quality on the gel (see Figure 10). A “\*\*\*” symbol on boxes indicates a failure for that individual at that specific locus. Some individuals were not present in the data received from UTMCR; the boxes for those individuals are marked “Missing”. Below is an example of the gel image we receive from UTMCR along with the data to be scored.

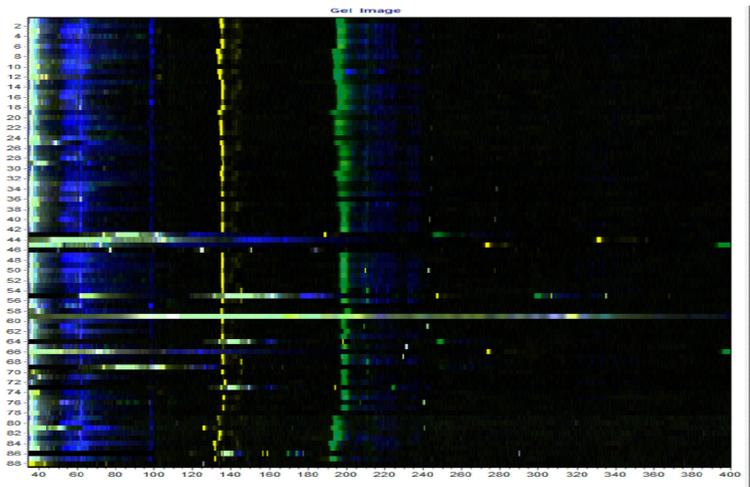


Figure 12: *P. bissetii* Plate 1. Loci PHE010 (yellow) and PHE185 (green) were scored. PHE037 and PHE141 (blue) were too broad to score. PBM014 ran off of the gel (yellow).

## Scored Loci: *P. bissetii*

Individual	Well Position	PBM027	PHE028	PHE100	PBM022	PBM004	PHE010	PHE185
A1	A1	309	**	**	174	**	197	134
B1	B1	**	**	**	174	**	197	135
C1	C1	**	**	**	**	**	197	135
D1	D1	**	191	**	**	**	199	135
E1	E1	**	191	**	**	258	199	135
F1	F1	**	191	**	**	258	200	135
G1	G1	**	**	**	172	**	199	135
H1	H1	300	**	**	**	**	197	**
J1	A2	300	**	**	174	**	197	134
A2	B2	**	OL	**	**	258,260	197	134
B2	C2	**	195	**	**	260	197	135
C2	D2	**	191	**	**	258	**	**
D2	E2	**	**	**	**	**	199	135
E2	F2	309	**	**	**	**	199	135
F2	G2	300	**	**	**	**	199	135
G2	H2	**	**	**	**	258	197	**
H2	A3	**	**	**	**	258	197	134
J2	B3	**	**	**	**	258	197	135
A3	C3	309	**	**	**	**	199	135
B3	D3	**	**	**	**	**	199	135
C3	E3	300	**	**	**	**	199	135
D3	F3	**	**	**	**	**	199	**
E3	G3	**	**	**	**	258	Missing	Missing
F3	H3	**	**	**	**	258,260	Missing	Missing
G3	A4	**	**	**	**	**	197	134
H3	B4	300	**	**	172	**	197	135
J3	C4	300	**	**	172	**	197	135
A4	D4	**	195	226	**	258	197	135
B4	E4	**	191	**	**	258,260	199	135
C4	F4	**	191	**	**	258	199	135
D4	G4	309	**	**	**	**	Missing	Missing
E4	H4	**	**	**	172	**	Missing	Missing
F4	A5	**	**	**	172	**	197	134
G4	B5	**	191	**	**	**	197	135
H4	C5	**	191	**	**	260	199	135
J4	D5	**	191	**	**	258	199	135

A5	E5	**	**	**	**	**	199	135
B5	F5	**	**	**	**	**	199	135
C5	G5	**	**	**	**	**	199	135
D5	H5	**	195	**	**	258,260	197	134
E5	A6	**	191	**	**	258	197	134
F5	B6	**	191	**	**	258	197	134
G5	C6	**	**	**	**	**	197	135
H5	D6	**	**	**	172	**	**	**
J5	E6	**	**	**	**	**	Missing	Missing
A6	F6	**	**	226	**	258	**	**
B6	G6	**	191	**	**	**	199	135
C6	H6	**	191	**	**	**	197	**
D6	A7	309	**	**	174	**	197	134
E6	B7	300	**	**	**	**	197	135
F6	C7	**	**	**	174	**	199	135
G6	D7	**	191	**	**	258	199	135
H6	E7	**	191	**	**	258	199	135
J6	F7	**	191	**	**	258	199	135
A7	G7	**	**	**	**	**	Missing	Missing
B7	H7	300	**	**	174	**	197	**
C7	A8	**	**	**	**	**	197	**
D7	B8	**	**	**	**	**	197	134
E7	C8	**	191	**	**	258	199	135
F7	D8	**	191	**	**	**	**	**
G7	E8	**	**	**	**	**	**	**
H7	F8	**	**	**	174	**	199	135
J7	G8	300	**	**	174	**	**	135
A8	H8	**	191	226	**	258	**	**
B8	A9	**	191	**	**	260	197	134
C8	B9	**	191	**	**	258	197	135
D8	C9	309	**	**	**	**	199	135
E8	D9	300	**	**	172	**	199	135
F8	E9	300	**	**	172	**	199	135
G8	F9	**	195	**	**	**	199	135
H8	G9	**	191	**	**	258	199	137
J8	H9	**	OL	**	**	258	197	134
A9	A10	**	**	**	**	**	197	134
B9	B10	300	**	**	174	**	197	135
C9	C10	**	**	**	174	**	197	135

D9	D10	**	**	226	**	258,260	Missing	Missing
E9	E10	**	191	**	**	258	199	135
F9	F10	**	191	**	**	258	199	135
G9	G10	**	**	**	**	**	199	135
H9	H10	**	**	**	174	**	197	**
J9	A11	300	**	**	**	**	197	134
A10	B11	**	191	226	**	258,260	197	135
B10	C11	**	191	**	**	258,260	199	135
C10	D11	**	191	**	**	258	199	135
D10	E11	309	**	**	172	**	199	135
E10	F11	**	**	**	172	**	199	135
F10	G11	300	**	**	172	**	**	**
G10	H11	**	191	226	**	**	197	134
H10	A12	**	191	**	**	**	197	134
J10	B12	**	191	**	**	258	197	135
A11	C12	**	**	**	**	**	199	135
B11	D12	**	**	**	174	**	Missing	Missing
C11	E12	**	**	**	**	**	**	**
D11	F12	**	**	226	**	258,260	**	**

**WATER** G12

### Scored Loci: *P. japonica*

(PBM014 and PHE100 Ran off gel)

Individual	Well Position	Scored Loci						
		PHE 141	PHE 185	PBM027	PBM028	PBM022	PBM004	PHE037
A1	A1	331	126	290	172	160	346	**
B1	B1	**	126	290	172	160	**	223,234
C1	C1	331	126	290	172	**	346	223,234
D1	D1	**	126	290	172	160	**	223,234
E1	E1	331	126	**	172	160	346	223,234
F1	F1	**	126	290	172	160	**	223,234
G1	G1	331	126	290	172	160	346	223,234
H1	H1	**	126	**	172	160	**	**
J1	A2	331	126	290	172	160	346	223,234
K1	B2	331	126	290	172	160	346	223,234
L1	C2	331	126	290	172	160	346	223,234
M1	D2	331	126	290	172	160	346	223,234
N1	E2	331	126	290	172	160	346	223,234

A2	F2	331	126	290	172	160	346	223,234
B2	G2	331	126	290	172	160	346	223,234
C2	H2	331	126	290	172	**	346	223,234
D2	A3	331	126	290	172	160	346	**
E2	B3	331	126	290	172	160	346	223,234
F2	C3	331	126	290	172	160	346	223,234
G2	D3	331	126	290	172	160	346	223,234
H2	E3	331	126	290	172	160	346	223,234
J2	F3	331	126	290	172	160	346	223,234
K2	G3	331	126	290	172	160	346	223,234
L2	H3	331	126	290	172	160	346	223,234
M2	A4	331	126	290	172	160	346	223,234
N2	B4	331	126	290	172	160	346	223,234
A3	C4	331	126	290	172	160	346	223,234
B3	D4	331	126	290	172	160	346	223,234
C3	E4	331	126	290	172	160	346	223,234
D3	F4	331	126	290	172	160	346	223,234
E3	G4	331	126	290	172	160	346	223,234
F3	H4	331	126	290	172	160	346	223,234
G3	A5	331	126	290	172	160	346	223,234
H3	B5	331	126	290	172	160	346	223,234
J3	C5	331	126	290	172	160	346	223,234
K3	D5	331	126	290	**	160	346	223,234
L3	E5	331	126	290	172	160	346	223,234
M3	F5	331	126	290	172	160	346	223,234
A4	G5	331	126	290	172	160	346	223,234
B4	H5	331	126	290	172	160	346	223,234
C4	A6	331	126	290	172	160	346	223,234
D4	B6	331	126	290	172	160	346	223,234
E4	C6	331	126	290	172	160	346	223,234
F4	D6	331	126	290	**	160	346	223,234
G4	E6	331	126	290	172	160	346	223,234
H4	F6	331	126	290	172	160	346	223,234
J4	G6	331	126	290	172	160	346	223,234
K4	H6	331	126	290	172	160	346	223,234
L4	A7	331	126	290	172	160	346	223,234
A5	B7	331	126	290	172	160	346	223,234
B5	C7	331	126	290	172	160	346	223,234
C5	D7	331	126	290	172	160	346	223,234

D5	E7	331	126	290	172	160	346	223,234
E5	F7	331	126	290	172	160	346	223,234
F5	G7	331	126	290	172	160	346	223,234
G5	H7	331	**	290	**	160	346	223,234
H5	A8	331	126	290	172	160	346	223,234
J5	B8	331	126	290	172	160	346	223,234
K5	C8	331	126	290	172	160	346	223,234
L5	D8	331	126	290	172	160	346	223,234
A6	E8	331	126	290	172	160	346	223,234
B6	F8	331	126	290	172	160	346	223,234
C6	G8	331	126	290	172	160	346	223,234
D6	H8	331	126	290	172	160	346	223,234
E6	A9	331	126	290	172	160	346	223,234
F6	B9	331	126	290	172	160	346	223,234
G6	C9	331	**	290	172	160	346	223,234
H6	D9	331	126	290	172	160	346	223,234
J6	E9	331	126	290	172	160	346	223,234
K6	F9	331	126	290	172	160	346	223,234
L6	G9	331	126	290	172	160	346	223,234
M6	H9	331	126	290	172	160	346	223,234
A7	A10	331	126	290	172	160	346	223,234
B7	B10	331	126	290	172	160	346	223,234
C7	C10	331	126	290	172	160	346	223,234
D7	D10	331	126	290	172	160	346	223,234
E7	E10	331	126	290	172	160	346	223,234
F7	F10	331	126	290	172	160	346	223,234
G7	G10	331	126	290	172	160	346	223,234
H7	H10	331	126	290	172	160	346	223,234
J7	A11	331	126	290	172	160	346	223,234
K7	B11	331	126	290	172	160	346	223,234
L7	C11	331	126	290	172	160	346	223,234
M7	D11	331	126	290	172	160	346	223,234
A8	E11	331	126	290	172	160	346	223,234
B8	F11	331	126	290	172	160	346	223,234
C8	G11	331	126	290	172	160	346	223,234
D8	H11	331	126	**	172	160	346	**
E8	A12	331	126	290	172	160	346	223,234
F8	B12	331	126	290	172	160	346	223,234
G8	C12	331	126	290	172	160	346	223,234

H8	D12	**	126	290	172	160	**	223,234
J8	E12	**	126	290	172	160	**	223,234
K8	F12	331	126	290	172	160	346	223,234
L8	G12	331	126	290	172	160	346	223,234
M8	H12	331	126	290	172	160	346	**

## DISCUSSION

Based on our scored data, we can conclude that *P. japonica* is most likely one clone. There was virtually no variation when comparing individuals (see *P. japonica* scores). For example, all individuals at PHE037 were heterozygous 223,234 bp in size while all were homozygous 126 bp at locus PHE185. Loci PBM014 and PHE100 were not scored because they most likely ran off of the gel during sequencing due to their large size. Both loci showed fragment lengths between 400 and 500 bp in size (Figure 10 and 11). On the other hand, *P. bissetii* contained more variation within each successful locus. For example, some individuals at locus PBM004 were heterozygotes with a 258,260 allele. Others were homozygous with either an allele of 258 bp or 260 bp in size for that same locus. PHE010 and PHE185 were the only two loci for *P. bissetii* plate 1 that were successful and contained only a few failures. However, all ten loci for *P. bissetii* had minimal water contamination for plates 1 and 2. There were a few small peaks visible when scoring the data for the water control wells. This indicates that some DNA may have been transferred or leaked into the wells during plate preparation or transport. Even though the contamination was minimal, we would like to re-test *P. bissetii* plates 1 and 2 to ensure that there was no contamination in the remaining wells.

It is our goal to provide the Memphis Zoo with information concerning all seven of their bamboo species. The next step that can be taken with this study is to genotype the remaining five species at Shelby Farms in this same manner. Very little is known about the biology or genetics of bamboo due to its unusual life cycle (Loh et al. 2000). Therefore, any data that is obtained from this experiment or any future studies will provide the Memphis Zoo with valuable information, as well as other organizations interested in the conservation of bamboo. If the remaining stands at Shelby Farms show little variation, like *Pseudosasa japonica*, conservation efforts must be made. Planting more stands would ensure that bamboo would be available should a mass flowering event occur.

This experiment is manageable for small, well-kept stands of bamboo. However, large natural stands, such as those found in China, are much more difficult to test in this manner. The stands are not well kept in rows, like those we tested from, and the terrain might make sampling by hand dangerous and difficult. Remote sensing technologies, such as imaging spectroscopy, may be useful with genotyping large populations. There have been studies performed on trembling aspen in which remote sensing technology is used to distinguish between genotypes through variation in canopy spectral signature (Madritch et al. 2014). This could distinguish different species that may be mixed together over a large area or located in a dense ramet.

Determining the genetic variation of a clonal species is critical not only for the preservation of that species but also for the protection of surrounding wildlife. “Animals, such as the Red Panda (*Ailurus fulgens*) and the Himalayan Black Bear (*Selenarotos thibetanus*), depend on bamboo stands for food and shelter, and 15 Asian bird species exclusively reside in bamboo” (Sertse et al., 2011). A mass flowering event, followed by death of the stand, would threaten the livelihood of those that rely on bamboo for survival. Therefore, it is necessary to study the clonal diversity and genetic variation of bamboo to conserve existing stands as a food source and habitat for wildlife.

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# **Landon Boone**

Power and Acculturation

**Faculty Sponsor**

Dr. Ruthbeth Finnerman



## **Abstract**

In the 21<sup>st</sup> century, many ideological movements that seek to break down social barriers have emerged as promising engines with positive social outcomes. However, it may be difficult to understand how these philosophies evolve and incorporate themselves into contemporary religious practices. Organized religious systems have a unique responsibility to uphold the integrity and truthfulness of their traditional views without compromising their ability to adapt to changing social contexts and conditions. The Magnolia Grove Monastery in Batesville, Mississippi publicly aligns itself with egalitarianism, environmental activism, and gender equality. It is a community of monastic disciples to Zen Master Thich Nhat Hanh. Nhat Hanh has been a prominent figure in activism and progressive Buddhist thought in the 21<sup>st</sup> century. To understand how these residents, most of whom are Vietnamese immigrants, synthesize their traditional beliefs with progressive political movements can reveal the mechanisms behind cultural diffusions in societies heavily influenced by acculturation. Two key questions guided my research: (a) How is the social hierarchy manifested in a religious community dedicated to social equality and (b) How do acculturative pressures shape beliefs and practices in a transplanted religious community. Using a mixed methods approach, ethnographic data was gathered to illuminate the dynamics of acculturation and social hierarchy. Interviews, ethnographic mapping, and participant observation have been used to collect the data necessary for answering the research questions. Living at the monastery for four weeks, friendships were made and informants were utilized to better disseminate the information gathered.

## Research Questions

The 21<sup>st</sup> century and the handful of precedent decades leading up to it have changed the way humanity relates to itself. This is undoubtedly due to the technological advances that have facilitated and expedited our ability to travel, our methods of collaboration, and most importantly, our means of sharing information. Globalization (the spread and integration of ideas, items, and behaviors across international boundaries) has intensely changed the way that human beings acquire their worldviews. Acculturation (the adoption of cultural aspects outside one's own) is no longer solely found between the physical encounter of different and distinct cultural representations, but rather can manifest through various, different mediums (e.g. the Internet, literature, and television).

However, it may be difficult to understand how transplanted ideologies and worldviews incorporate themselves into foreign social dimensions. This is due to the fact that all societies, regardless of the impact of globalization upon them, are in a state of constant flux. Thus, social institutions, like organized religion, can be of particular interest when attempting to dissect how acculturative pressures modify, support, or antagonize traditional views within a belief system. Organized religions have a unique responsibility to uphold the integrity and truthfulness of their long-established views without compromising their ability to adapt to changing social contexts and conditions. Ethnographic research can illuminate these processes in religious communities that attempt to adopt emergent social reflections yet strive to retain their traditional religious views and practices.

The Magnolia Grove Monastery in Batesville, Mississippi publically aligns itself with egalitarianism, environmental activism, and gender equality. According to Dr. Mark Miller, who frequents the monastery, the denomination of Zen to which the monastery belongs, the Order of Interbeing, emphasizes “engagement with real-world problems, both personal and social” (Miller, 2014). Adhering to the Plum Village Tradition founded by Zen Master Thich Nhat Hanh, Magnolia Grove draws retreatants and lay visitors to the center usually through the founder's popularity in the West. The monastery is noted for its acceptance of people regardless of nationality, gender, sexual orientation, age, or religious background.

Yet, the monastic community also endeavors to salvage and maintain their traditional identity as clerical adherents of the Buddhist religion,

which has existed for over 2,500 years. While inclusivity and cooperation are highly valued virtues to the community, it is still of utmost importance to be the embodiment and continuance of the Buddha's doctrines. Understanding how these residents, most of whom are Vietnamese immigrants, incorporate their traditional belief systems and cultural practices into foreign social contexts can reveal the mechanisms behind cultural diffusions in societies heavily influenced by acculturative pressures. Two key questions guided my research: (a) How is the social hierarchy manifested in a religious community dedicated to social equality, and (b) how do acculturative pressures shape beliefs and practices in a transplanted religious community?

## Setting

Batesville, Mississippi is approximately an hour south of Memphis, Tennessee and has a population of around 7,500 residents (U.S. Census Bureau, 2014). Most of the town's residents with whom I interacted could tell me the location of the monastery in the town but nothing more than that. Although the locals did not know much about the monastery or the monastics living there, they spoke with a subliminal sense of pride about having such an anomaly within their borders. There are thousands of small towns in Mississippi, but how many have an exquisite Buddhist monastery that people visit from all over the world just a couple of miles up the road? The majority of the Batesville population includes Protestant Christians with conservative ideologies. So, the most obvious question that proceeds from the Batesville setting is "How did a Buddhist monastery end up in this part of the world?"

Magnolia Grove Monastery is situated in the countryside of Batesville. It takes about 10 minutes of driving alongside crop fields and untamed land before one reaches the premises. There are no street lights, public buildings, or heavy traffic within the surrounding area. No cellular service has decent signal in the area (some have none), and if people wish to use the Internet, they must receive permission from the monastery's administrative office. The monastery is surrounded by forest from all angles except one: a small road, which is itself flanked by trees 200 yards on the other side.

There are five buildings on the premises where most social interaction occurs. The male dormitory, the female visitor dormitory, the

female monastic dormitory, the kitchen and dining hall, and the meditation hall are places where residents interact on a daily basis. Conjoined in one building, the kitchen, dining area, administrative office, and tea room mimic the structure of a soup kitchen. A large kitchen with a walk-in freezer and multiple cooking stations is connected to a dining area with enough tables to seat around 150 people. Located in the center of the premises, it is seen as a place of functionality for the people who reside there. Various chores might be completed within the building such as cooking, cleaning, or administrative work. With low-hanging ceilings, rugged white walls, and furniture reminiscent of what would be found in a department-store breakroom, the atmosphere of the facility communicates utility. With the exception of the tea room, the message that the structure conveys to its inhabitants is “You are here because you have something to do, now get on with it.” The fading smell of steamed rice and seasoned vegetables lingers in the dining hall. The kitchen contains humidity and heat from the sinks and restaurant-sized dishwashers that outweigh the weather on any given day. The administrative office is positioned between the dining and cooking area and is used to collect retreatant applications, pay bills, and for other administrative tasks. The office is typically manned by monastics of the community who are fluent in English. Monks and nuns who possess the skills necessary to haggle with bill collectors represent the community to outsiders over the phone, computer, and other means of communication.

It is important to note that while the tea room is seen as a place of quiet conversation and relaxation, the tea room is connected to the administrative office through a door and sliding window. Moreover, walking through the tea room is the only way to access the dining hall. The dining hall has its own doors, but they are kept locked most of the time. The community’s protocol seems to encourage traffic through the tea room to possibly prevent superfluous interaction or privacy.

The female guest dormitory is separate from the nuns’ living quarters, unlike the male residence. The male residence is used by both monks and male retreatants. The male retreatants’ rooms are located on the opposite end of the building from the monastics, and the areas are separated by a wall, essentially splitting the house for both parties.

The most impressive feature on the land is the meditation hall. It is a giant, wooden structure that covers over 10,000 square feet of land. The ceiling, walls, and floors are all made of the same natural and unpainted

wood, which radiates the reverence for nature. The smell of freshly sawed wood and incense fills the air from the tops of the high-vaulted ceilings to the silence that hangs in the open space below. Every long wall contains a glut of glass door openings and glass windows, showing off the dark forest setting in the background. The building is nestled in the back of the monastery grounds, and behind the hall is a walking trail through the woods. At the top of the hall is a circular, stained-glass mural. It depicts the Buddha placing his hand empathetically over the earth. Another mural of equal size, is at the opposite end of the meditation hall and depicts an Asian lamp surrounded by the words “mindfulness,” “concentration,” and “insight”.

With an altar located on the opposite end of the entrance, most visitors are shocked to see that instead of a Buddha statue being raised and centered, there is a unique arrangement of orchids, flowers, and aesthetic stones. This is to symbolize that meditation and contemplation are not just Buddhist practices. The space is meant for holiness, silent reflection, scheduled morning and evening meditation sessions, and contemplation. The hours of the day that fall in between the monastic and retreatant’s scheduled activities can be enjoyed in the meditation hall.

Most foot traffic occurs on stone walkways that connect all the buildings. The sidewalk-like paths keep mud and grass off the shoes of the inhabitants, since buildings are on average 100 yards apart from each other. Crepe myrtles and magnolia trees line the paths leading from one edifice to another, with random boulders or stones placed sporadically along the way. The rock structures have Zen phrases or quotes from Nhat Hanh etched into them in the distinct calligraphic handwriting that serves as a trademark for his ideology. Toward the center of the site is a large, hanging bell raised upon a shrine-like structure near the edge of a lotus pond. This is a common feature among Zen temples and is used for liturgical and time keeping purposes (Kuzunishi, 1972, p. 99). The lotus pond is covered with lilies, lotus flowers, and wild grasses. Hovering over the edge of the pond is a huge statue of Avalokitesvara, the androgynous and symbolic personification of compassion. The rest of the property is made up of dense patches of trees with undergrowth, healthy and well-kept lawns, wooden cabins for visiting couples and families, a couple of tool sheds, and a small bookstore for visitors. The bookstore is filled with books (almost entirely) written by Thich Nhat Hanh, Buddha statues, incense holders, and framed

calligraphy for those who wish to take a material piece of the monastery home with them.

While Magnolia Grove is the home monastery for many monks and nuns, monastics frequently travel to different monasteries for various reasons. The Order of Interbeing frequently schedules tours and pilgrimages in various parts of the world, promoting the practice of mindfulness and gaining experience through their own spiritual paths. Therefore, it is difficult for outsiders to know how many monastics consider Magnolia Grove their home monastery. A significant portion are from Vietnam and have to return to their homeland after a certain period of time. Others have relocated to Magnolia Grove from other monasteries within the denomination. Similar to the movements of military personnel, monastics may ask permission to relocate or be selected by the Order of Interbeing to change monasteries due to the needs of the organization.

During my stay, there were six monks and 12 nuns present who were considered true residents of the center. As mentioned earlier, the monks shared a building with the male retreatants, as their living quarters were separated by a wall that split the building in half. I was not allowed to see the inside of their rooms, except by looking through the large windows that I passed on the way to my room. They resembled college dorms in size, layout, and amenities (with the exception that they were organized, clean, and uncluttered, unlike the collegiate stereotype). Understandably, I was not allowed to observe or go near any of the female living spaces. However, unlike the males, the nuns' living space was a separate building from the female retreatants' quarters. As it was explained to me, the nuns' dormitory had its own meditation hall (also open to female retreatants) in the downstairs portion. At first glance, this could be perceived as if the nuns had more gender-claimed space than their male counterparts. However, one must consider that when meditation sessions, dharma talks (sermons), or other activities are segregated by gender (which occurs about twice a week), the monks use the large meditation hall while the nuns use the dormitory meditation hall (which is an eighth the size of the main meditation hall).

## **Background**

To understand the mechanisms behind how the Buddhist religion evolves and navigates anomalous social settings in its present mode, it is

necessary to understand the historic and cultural contexts from which it first took shape. At its most basic identity, Buddhism is a dharmic religion. Dharmic religions (Hinduism, Jainism, etc.) are a category of belief systems that share a common ideological ancestry and spiritual goal, which is *enlightenment*. To fully grasp dharma (truth) is to overcome the ego and free oneself from the impediments of ontological ignorance.

Traditionally, Buddhism is believed to have been founded by an ascetic renunciate named Siddhartha Gautama. Born into the warrior caste of ancient Vedic society nestled in the foothills of the Himalayas around 563 B.C., Gautama was said to be born into a noble family and raised in lavish settings (Sangharakshita, 1970, p. 3). Not much can be said about his life outside the Buddhist narrative with historical certainty. However, legend has it that Siddhartha, at some point in his early adulthood, disavowed his luxurious status and became a wandering mendicant. After many years of ascetic disciplinary practice and studying under different gurus, Siddhartha achieved enlightenment and came to embody and know the answers to life's existential secrets and more importantly, the nature of suffering. From that point on, he was considered the Buddha (the Awakened One) and decided to share what he had learned with his previous ascetic contemporaries (Sangharakshita, 1970, p. 15).

According to Buddhist orthodoxy, the basis for the Buddha's enlightenment was the realization of *dependent origination*: the idea that all phenomena, both conscious and non-conscious, arise in conjunction and interdependence with all other phenomena (Johansson, 1969, p. 63). Because everything is contingent to everything else, all objects of perception are void of an intrinsic identity and therefore reflect the mark of *sunyata* (emptiness). This realization deduces three fundamental teachings of all Buddhist philosophy and practice: *anatta* (the absence of a self or soul), *anicca* (the transient nature of conditioned phenomena), and *dukkha* (the suffering innate in unenlightened experience). According to the Buddha, suffering is the result of clinging to objects of perception. All unenlightened sentient beings attach to and identify with objects, ideas, and circumstances which, due to the nature of reality, are always in a constant state of change. Our inability to cope with the impermanence of the universe results in our dissatisfaction with it. Therefore, to achieve enlightenment, we must let go of our desires for consistency and enter into an embodied expiration of all ignorance. This state of being is referred to as *nirvana* in dharmic terminology (Robinson, 1970, p. 25).

Enlightenment, however, could only be achieved through renunciation, meditation, and adherence to the Buddha's dharma. Therefore, the Buddha established the first monastic congregation, under his instruction, to follow his path towards salvation. His first disciples were five ascetics with whom he had practiced before his enlightenment (Humphreys, 1951, p. 34).

After the establishment of the first *sangha* (Buddhist community of practice), his following grew to thousands; he became well known, and his reputation as a spiritual leader spread throughout all the land. He preached and debated with other spiritual leaders, gave instruction to lay people in the villages he passed through, and even counseled local rulers and kings. Yet, one of the most revolutionary aspects of his ministry was the ordination of women into his monastic following. Nonetheless, monks and nuns were segregated in both practice and physical location, they were forbidden to interact with each other, and nuns were given more monastic rules than their male counterparts (Humphreys, 1951, p. 38).

According to the Pali Canon (the oldest Buddhist scriptures), the Buddha died at the age of 80 after eating food that made him ill. After informing his followers of his upcoming death, his adherents begged him to tell them how they should continue after his passing and to reveal to them who should be their new leader. The Buddha told them that his doctrines would be the authority and that all followers must be a refuge to their selves (Thomas, 1975, p. 146). According to the scriptures, his last words were, "Now then, monks, I address you; subject to decay are compound things: strive with earnestness" (Thomas, 1975, p.153).

The sangha he had founded continued to grow and flourish in a nonsectarian manner. However, shortly after the Buddha's death, the sangha began to hold a series of councils in which the parties would discuss, deliberate, and authenticate the Buddha's dharma to firmly establish apodictic Buddhist practice due to various degrees of doctrinal interpretation emerging within the tradition (Gard, 1961, p. 21). While the exact reasons and circumstances are still unknown and debated, one of these schools of thought began to produce a set of *sutras* (Buddhist scriptures) that were quite distinguishable from the beliefs of their contemporaries around the first century B.C. (B. Suzuki, 1959, p. 10). These writings reflect the earliest emanations in what is now called Mahayana Buddhism.

Unlike the modern form of their conservative counterparts, the

Theravadins, Mahayana Buddhists emphasized an intuitive and mystical approach to enlightenment rather than analytical speculation and orthodoxy (B. Suzuki, 1964 p. 11). To further facilitate their move away from strict adherence to scriptural and sectarian authority, the Mahayanists developed a different way to understand the Three Jewels (Buddha, Dharma, and Sangha). Gautama was not merely a man of great wisdom in their eyes. He was the incarnation of an omniscient and supernatural Buddha that dwelled in different realms of existence before his decision to spread the true dharma in our world (Hopkins, 1921, p. 320). To others, he was an embodiment of a *dharmakaya* (body of truth) that transcended his life and death, and the spirit of enlightenment from which he operated could not be compartmentalized and contained within an institutional belief system. Its joy and insight could emerge in the lives of all beings, even in the present (D. Suzuki, 1963, p. 255).

Because of its progressive ideology, Mahayana Buddhism was easily spread, and its teachings and practices traveled on the backs of its adherents to many parts of Asia. Mahayana Buddhism became a dominant religious practice in lands such as Nepal, Tibet, China, Korea, and Japan. The more orthodox school of Buddhism, Theravada, took hold in the lands that are now Sri Lanka, Burma, Laos, Cambodia, and Thailand. (D. Suzuki, 1963, p. 3). Piggybacking off the great influence that China had in the East, Buddhism also became widely practiced in countries heavily influenced by Chinese culture such as Vietnam.

In 130 A.D., letters from a poet–official mentioned Buddhist monks in a manner that indicated that they were an accepted part of the social landscape in China (Wright, 1959, p. 21). As sects of Mahayana Buddhism multiplied amongst the Chinese, some of them became heavily influenced by many domestic Chinese belief systems. Zen Buddhism (or Chan Buddhism in its proper Chinese context) emerged out of a synthesis of Buddhist monasticism and Taoist thought. While some philosophical antagonisms existed between the two overlaid religions, the similarities between many basic ideas of Mahayana Buddhism and Taoism allowed for a great deal of syncretism in the primordial forms of Zen Buddhism (Dumoulin, 1963, p. 55). As Alan Watts wrote in his bestseller *The Way of Zen*, “The origins of Zen are as much Taoist as they are Buddhist” (Watts, 1957, p. 3).

Zen Buddhism is very unique in the spectrum of Buddhist tradi-

tions. It could be considered the most mystical wing of Buddhism because of its emphatic focus on non-duality and enlightenment being an intuitive experience. Zen (in its monastic form) has absolutely no established doctrines on deities, ceremonial rituals, beliefs about life after death, or the presence of a soul (D. Suzuki, 1964, p. 39). This does not mean that Zen Buddhists do not participate in or cherish religious rituals, study Buddhist scriptures, or hold many personal views in regard to the after-life, but rather it is understood that all of these personal preferences and organized practices do not facilitate achieving enlightenment any more than eating an apple or using the bathroom. In the spirit of Zen, a person who has never heard of the Buddha or his teachings can stumble upon enlightenment while having his or her morning cup of coffee just as easily as devout Buddhist monastics who have studied the dharma every day of their lives. To the Zen Buddhist, emptiness penetrates everything, including Zen Buddhism. As the famous Zen Master D.T. Suzuki (1964) wrote in *An Introduction to Zen*,

“If I am asked then, what Zen teaches, I would answer Zen teaches nothing. Whatever teachings there are in Zen, they come out of one’s own mind. We teach ourselves; Zen merely points the way. Unless this pointing is teaching, there certainly nothing in Zen set up as its cardinal doctrines or as its fundamental philosophy” (p. 38)

Thus, we have a form of Buddhism that is centralized upon practice, not abstraction, as the means of achieving understanding. In Zen, we are not lacking in enlightenment; we already have it. The Buddha did not become something more than we are in our present form. There was no ontological transformation between who he was as Siddhartha and who he became as the Buddha. Therefore, we already are the Buddha; the practice is to experience this truth and epitomize this intuition. As Sohaku Ogata (1959) wrote,

“If you want to seek the Buddha, you ought to see into your own Nature, which is the Buddha himself . . . If, instead of seeing into your own Nature, you turn away and seek the Buddha in external things, you will never meet him” (p. 62)

Because of this, the path of Zen was considered a “special transmission outside the scriptures” and a “transmission of mind by mind” (Sasaki, 2009, p. 79). This necessitates the student/master relationship that is central to Zen monastic practice. Thus, a Zen monk sees the Zen master as the ultimate symbol of authority (Watts, 1957, p. 163).

By the 20<sup>th</sup> century, Zen Buddhism had become a popular alternative religious practice and philosophy for Westerners who had become disenchanted with their Abrahamic religious upbringing. In the 1950s, influential writers and beatniks, like Alan Watts, Jack Kerouac, and Allen Ginsberg, injected Eastern philosophy and Zen into counterculture circles by writing novels, poetry, and philosophical works with explicit Buddhist underpinnings. Ever since its introduction in the Western world, practice centers have multiplied and attracted more followers.

One of Buddhism's most prevalent realms of application in the modern world is in psychological and behavioral therapy. *Mindfulness practice* (paying non-judgmental attention to present-moment experiences) is a meditative technique that has been used by Buddhist devotees since the beginning of the religion. The technique is elaborated upon by the Buddha in a discourse recorded in the Pali Canon called the *Satipatthana Sutra*. It is a fundamental practice of Buddhist monasticism and recently has grown in popularity among lay followers and non-Buddhists alike. As psychiatrist and scientist Dr. Daniel Siegel (2007) noted in his work, *The Mindful Brain*, "Studies have shown that specific applications of mindful awareness improve the capacity to regulate emotions, to combat emotional dysfunction, to improve patterns of thinking, and to reduce negative mind-sets" (p. 6).

Mindfulness techniques are designed to deconstruct our inner dialogues and conceptualizations by paying attention to raw experience and "accepting whatever is there" (Gunaratana, 2011, p. 149). According to Dr. Ellen Langer (1989), we cease to be mindful when we form mind-sets upon encountering something and then cling to those ideas when we reencounter the same thing later (p. 22). As a testament to the movement's increasing public validation, members of the Armed Forces have recently begun implementing mindfulness-based exercises into their training regimes to build resilience to stress (Mind Fitness Training Institute, 2014).

However, the implementation of mindfulness has not been a movement solely contained in clinical settings. Mindfulness has also been viewed by many as a way for society to combat the adoption of increasingly fast-paced and stressful lifestyles. One of the most well-known figures of the mindfulness movement is Thich Nhat Hanh. Nhat Hanh has been a prominent figure in peace activism, mindfulness practice, and progressive Buddhist thought in the 21<sup>st</sup> century. He has been called the father of

engaged Buddhism, a form of Buddhist practice that emphasizes participation in social justice and peace activism (Sieber, 2015).

In 1967, Nhat Hanh was nominated by Dr. Martin Luther King, Jr. for a Nobel Peace Prize for his continued efforts to find a peaceful resolution to the war in Vietnam. Yet, his outspoken opposition to the war and all its belligerents led to his exile from the country. After being banished, he relocated to France, where he taught Buddhism at the University of Sorbonne, Paris ([plumvillage.org](http://plumvillage.org)). In 1982, he founded Plum Village, a large and active monastery located near Bordeaux, France ([magnoliagrovetemple.org](http://magnoliagrovetemple.org)). Plum Village served as his base of operations and continues to be the headquarters of his monastic organization, the Order of Interbeing. As the popularity of his writings and teachings gained momentum in the West, the Order of Interbeing spread to other parts of the world. In the United States, there are three monasteries that practice in the Plum Village tradition under Thich Nhat Hanh.

In September of 2002, Thich Nhat Hanh and a group of his disciples visited Memphis, Tennessee during a tour they had scheduled for the United States. The “Peace Walk” demonstration attracted many visitors and practitioners. The group conducted a mass walking meditation to demonstrate an aspect of the practice of mindfulness. The presentation in Memphis had such an effect on some participants that a small group of Vietnamese Buddhist practitioners in the Mississippi area decided to pool their resources in an attempt to establish a nearby center for mindfulness practice. In 2003, Ben Ho, his wife Hai Le, and five other Vietnamese families purchased 120 acres of land in the countryside of Batesville, Mississippi. It began as a practice center for lay people until improved development of the land led a group of nuns from Nhat Hanh’s monastic organization, the Order of Interbeing, to come and establish it as an official monastery in 2010 (Goetz, 2012, p. M5).

## **Methods**

To gather my data, I designed a research model that took a mixed-methods approach. The mixed-methods approach has been described as “an intellectual and practical synthesis based on qualitative and quantitative research; it is the third methodological or research paradigm (along with qualitative and quantitative research)” (Johnson et al., 2007, p. 129). Depending on the type of data one wishes to gather, the mixed-meth-

ods approach is viewed as a more holistic, responsible, and productive research paradigm in many fields of the social sciences. I used participant observation, unstructured and informal interviews, ethnographic mapping, and literature reviews composed of different forms of secondary data (information gathered by other researchers for their own purposes; Schensul, 1999, p. 51).

I resided at the monastery for a little over four weeks in an attempt to subvert my status as an outsider as much as possible. I wanted to become a regular face for the time that I was gathering my data. I endeavored to limit the amount of influence my presence made so as not to interfere with the authenticity of my primary method of data collection: participant-observation. As defined by Johnson and Sackett (1998), “Participant-observation places the ethnographer at the scene, where a combination of direct observation and interview provide the evidence from which rich ethnographic accounts may be constructed” (p. 301). However, the practice of participant observation is not without its dilemmas. The presence of the ethnographer will always have an impact upon the social space that he or she is studying. However, obtaining objective points of view is not the sole purpose of the method. According to anthropologist Dr. Julian Murchison (2010),

“Some ethnographers have found that their most important insights have emerged when they have chosen or circumstances have forced them to abandon their practiced, objective stances. The element of personal experience and social or cultural empathy can be very powerful to the ethnographer.” (p. 85)

During my time at the monastery, I took on a secondary status as a retreatant, and I participated in the daily schedule assigned to lay guests. I ate with the community, worked and helped prepare meals, did various chores when asked (sweeping, replacing light bulbs, etc.), meditated during sitting or walking meditation sessions, and participated in communal conversations about practicing Buddhism. Also, I joined in during sporadic periods of play. If the daily schedule for monastics and retreatants was lax for a period, the community might have decided to play a game of volleyball or soccer, in which I would gladly take part. During these experiences, I asked questions, took field notes (both written and on a voice recorder), and recorded others’ perspectives as well as my own. This allowed me to preserve the impressions and potential insights that emerged during my experiences.

The second most important tool in my data collection was interviewing. The two kinds of interviews that I used were *informal* and *unstructured*. Dr. Bernard Shaw (2011) defined informal interviewing as being “characterized by a total lack of structure or control. The researcher just tries to remember conversations heard during the course of a day in the field” (p. 156). When I was in a position in which taking field notes was either impossible or impractical (such as having wet, soapy hands while washing dishes), I made mental notes of conversations that took place between monastics or retreatants and myself. I might have asked, “Are some places on the rack where dishes are set to dry labeled in English to help the non-English speaking monastics learn English or for English-speaking guests to know where their washed utensils properly go?” While this method of interviewing gave me a great deal of information on its own, I also used it as a catalyst for the questions that I would ask during the second kind of interviewing technique I used: unstructured interviewing. Unstructured interviewing is a type of interviewing in which one sits down and hold an interview about a specific topic or focus. As explained by Shaw, “Both of you know what you’re doing, and there is no shared feeling that you’re just engaged in pleasant chitchat” (p. 157). Unstructured interviews are not characterized by having a set of predetermined questions, established by interviewer, in which the interviewee’s responses focus on a specific question to which the ethnographer wishes to have a specific answer. While this may appear to have no sense of orientation in data gathering on the surface, Mark Vagle noted (2014),

“I think it is a myth that the unstructured interview technique is “wide open” and without boundaries or parameters. To the contrary, this technique starts with a clear sense of the phenomenon under investigation and the interviewer needs to be responsive to the participant and the phenomenon throughout” (p. 79).

I conducted eight unstructured interviews during my time of data collection at the monastery. I interviewed monks, nuns, male retreatants, and female retreatants. The major focus of my interviews included monastic life, influences from Western culture, and power. The interviews typically ranged from half an hour to an hour. I scheduled times and days to sit down and talk with each participant so as not to interfere with possible pre-existing plans. I also employed the use of a translator outside the monastery in case some recruited monks and nuns did not speak English well enough to participate. I recorded six out of the eight interviews with a

voice recorder on my mobile phone and took written notes for the remaining two. Lastly, I informed all participants that if I asked a question or went into an area that the participant did not feel comfortable answering, they did not have to respond.

During the first week of my stay at the monastery, I created a map of the premises by hand that included rich descriptions of sensory experiences as one moved through the site and documented the foot traffic that occurred on a daily basis. This technique, called *ethnographic mapping*, serves as a way to “record and confirm identified spatial-social patterns” (Schensul & LeCompte, 2013, p. 113). Dr. Julian Murchison (2010) defended this technique: “The scope of human movements can be highly variable, but most human beings move through space in ways that are culturally influenced and, as a result, important to the ethnographer” (p. 131). After making a hand-drawn map and recording notes about movement and sensory input, I synthesized it with an overhead view of the premises from Google Maps. This allowed me to get a correct scale and more realistic spatial depiction of the property without drowning qualitative descriptions of the space.

Finally, I reviewed and gathered literature pertaining to the discipline of anthropology, historical and contemporary Buddhism, Magnolia Grove Monastery, Thich Nhat Hanh, and the Order of Interbeing. I searched for peer-reviewed articles written about Magnolia Grove Monastery so that I could understand others’ experiences at the site. This was supplemented by a small amount of archival data that featured articles about the monastery from the town of Batesville. The monastery kept copies of magazine articles and newspaper exposés that local reporters and journalists had published about the site and were more than willing to allow me to make copies. I also researched the history of Buddhism and how it has evolved and split into different schools of thought so that I could better grasp the religion and worldview of the people I was studying. More importantly, I wanted to understand how Thich Nhat Hanh’s brand of Buddhism differed from others and how a place of practice in his tradition landed in a small town in rural Mississippi. Lastly, I searched online databases for academic publications on the anthropology of power, social hierarchy, communal living, monasticism, and research methods for ethnographic work.

After I finished gathering all forms of data, I took field notes

collected on-site, transcripts from interviews, selected passages from the collection of literature, and ethnographic maps and began to analyze them. I searched for relevance to my research questions. I coded each piece of data as either being RQ1, RQ2, or RQS. RQ1 and RQ2 corresponded to the primary research questions I formulated prior to the research. RQS was a code designated for information that could have pertained to both RQ1 and RQ2. I then used other codes to organize my data into subgroups under phrases like “power” or “harmony.” Due to the qualitative nature of my research methods, I coded the material as explained by Saldaña (2009) in his work, *The Coding Manual for Qualitative Researchers*, “a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (p. 3). After all data had been categorized according to their relevance, I looked for patterns in the data that allowed possible explanatory models to emerge. After coding the data and categorizing them according to the method I used to obtain them, I related the information from one set of data to another in hopes that both would substantiate each other and allow me to make reasonable propositions. This method of corroborating results from one kind of data by results obtained from a different kind of data is called *triangulation* (Schensul & LeCompte, 2013, p. 113).

## **Power Relations**

In keeping with the traditional Buddhist monastic form of communal decision making, Magnolia Grove practices procedures that were scripturally founded in early Buddhist history. The *sanghakarman procedure*, as it is called, is outlined in the Pratimoksa. The *Pratimoksa* is the set of rules and vows that guide Buddhist monastic behavior. While there are many versions of the Pratimoksa depending on different schools and traditions, all have a form of the sanghakarman procedure to help facilitate the governmental aspects of a monastic community. Sanghakarman is a Sanskrit word meaning “the action of the community” and dictates how sanghas should hold meetings and make decisions as a unit (Nhat Hanh, 2003, p. 53). While the rules and regulations of how to correctly conduct a sanghakarman meeting can be tedious and irrelevant to the purpose of my research, one feature is strikingly important: All ordained members of the sangha must have an outlet for their opinions to be acknowledged. When a sanghakarman meeting is held, members must sit in a circular formation and not be out of one arm’s distance from each other. This is

to ensure that the physical structure of meeting reflects equality and that no present members are positioned in a way that their voice is out of the hearing range of others. In some ways, the sanghakarman is a democratic procedure, and in other ways, it is not. It is democratic in the sense that it formalizes and solemnizes all members' opinions and votes. It constitutionally protects their right to express themselves through certain outlets. However, it is not democratic in the sense that it requires unanimous agreement on matters of concern for the community to go forth with action.

For example, let's say the majority of the community favored the idea of renovating a facility on the premises although they had a very constrained budget due to other projects. A sanghakarman procedure might be called for the monastery to decide whether they should go through with the project. One member may strongly disagree with the way the community is handling the purse and oppose the renovation. While every other member of the community may vote to renovate the building, if one single monastic does not agree, the sanghakarman is at a standstill and further action cannot be taken. Before a subsequent sanghakarman takes place on the same matter, members of the monastic community will talk in group and individual settings to try to convince the opposing parties and hear their point of view. However, if the member will not budge and no common ground can be made, the opposing member risks expulsion from the community. This is done to ensure ideological harmony amongst the community. To practice and grow spiritually as a sangha, the community must not be at odds with each other. This principle of harmony has been perceived as the foundation for a Buddhist monastic community to properly function. During my interviews and interactions with the monks and nuns at Magnolia Grove, I always asked "What is the most important thing to a sangha". Without hesitation, the answer I received was always the same: harmony.

As an actualized example of this form of constitutional decision making, I spoke with a member of the sangha who had recently left Magnolia Grove because of opposing views regarding the community's public services. Brother Strength had been a monastic in the Order of Interbeing for 12 years. He spent the last two of those years at Magnolia Grove. Being a veteran who served in the War in Iraq in 2003, he decided to become a monk after suffering from PTSD from his combat experiences. He is an

American citizen who was brought up in a Buddhist family in California. I met Brother Strength during my first couple of visits to the monastery in May 2015. When I returned to the monastery in late June 2015 to conduct my research, he was not there, and I asked the others where he had gone. They told me that he was pursuing other interests in helping people and gave me his contact information so that we could talk. When I spoke to Brother Strength about why he left the monastery, he told me that his plans for working with veterans was at odds with the goals of Magnolia Grove. He told me that the statistics regarding suicide among veterans was alarming and had motivated him to try and share the practice of mindful meditation and dharma in hopes that it would help them as it had helped him. He told me that while the monastic community seeks to help all who are suffering, they are extremely cautious about getting involved with government organizations because they do not want their concern for veterans' health to be perceived as supporting military causes. The following is a part of a discussion we had:

**Brother Strength:** I wanted to work with veterans and the sangha didn't agree with my future plans. But we are supposed to be practicing engaged Buddhism. I didn't feel that me staying there was an engaged calling. People needed me.

**Me:** Do your brothers and sisters at Magnolia Grove consider you disrobed?

**Brother Strength:** Some don't. Some feel that I betrayed the sangha.

**Me:** Is there any tension between you and Magnolia Grove?

**Brother Strength:** As I am told, they don't condone my actions, but they support me on a personal level. They want the best for me.

I asked one of the middle-aged nuns who spoke English well, Sister Light, if the community really would expel a monastic over such a dilemma.

**Me:** What if a community member will not relent and insists upon voting in opposition to other members of the gathering. Will they really be expelled?

**Sister Light:** Harmony is the most important thing to our community. If someone can't agree then... (she shrugged her shoulders slowly and spoke in a tone as if to confirm what I had presupposed).

Another way that leadership arises at Magnolia Grove is through seniority. All monks and nuns are required to show respect to those monastics that have been ordained for a longer period of time. As stated in Nhat Hanh's (1997) manual on monastic training and living, *Stepping into Freedom*,

“When a senior monk or nun walks past, stand to one side, join your palms, and bow your head. If you overhear elder monks or nuns arguing, silently withdraw. When someone who has been ordained longer than you is being reprimanded by your teacher, silently withdraw” (p. 40)

While I did not observe this specific practice of bowing to senior monastics or moving out of the way when one walks by, novices did ask for advice and guidance from the elder monks and nuns on a regular basis. If there was a question they could not answer, or a situation they did not know how to resolve, they sought the counsel of the elders.

Two elder nuns were of specific utility in these areas. Sister Patience and Sister Clarity both had been ordained for well over 15 years. Sister Patience had been a medical doctor in the United States before her ordination, and was accustomed with the English language and American culture. Sister Clarity did not speak English well and preferred to communicate through her novice nuns and monks to outsiders. Because of this, the mandates from Sister Clarity that I encountered were always through third parties. However, Sister Patience seemed to have more sway during my stay at the site. She seemed more outgoing, involved, and approachable than many of the monastics residing there. She had written and published books about her life as a doctor and nun. Because of her familiarity with the cultural contexts of the West, I felt the presence of Sister Patience’s leadership more than Sister Clarity. I knew that Sister Clarity did hold sway in matters because of her seniority, but Sister Patience seemed to be the resource that the majority of monastics and visitors used.

Yet, the principle of seniority seemed more like a rule of thumb than an unwavering law. There was a deviation from the formal and established ways that monks and nuns maintained influence at the monastery. The monks and nuns who were most accustomed with the English language and American culture seemed to be put into positions of authority more than those who were not acclimated to Western society. This was due to the fact that one of the missions of the monastery is to be a meditation practice center for visitors and lay people. Being located in the United States, the majority of the retreatants are Americans. In keeping with the goal of trying spread the mindfulness practice to Western communities around them, Magnolia Grove offers a daily program of practice for its visitors that require English and an understanding of American culture to effectively conduct.

For example, *dharma sharings* are scheduled meetings in which one monastic sits with the retreatants at a designated time to discuss meditation, Buddhist philosophy, and individual struggles in a group-therapy format. During my stay at the monastery, I participated in around six dharma sharings. Every single session was held by a monastic who spoke fluent English. Sister Breathe, Sister Light, and Brother Wisdom always conducted the sessions. All three of these monastics spoke excellent English and had lived in the United States for many years prior to their ordination. None of these monastics were elders, yet they were consistently put into positions of authority with the retreatants. Additionally, because their skills were needed for the community to achieve its mission of being a practice center for outsiders, the more their abilities were in demand, the more often they would be allotted power. As the adage goes, “The one who holds the key is closest to the door.” As an example of how the ability to speak English is valued among some of the monastics, and others feel it is impractical, interviews with different monastics concurred with my findings.

**Me:** Do you think the monks and nuns who don’t speak English are at a disadvantage to the ones that do at Magnolia Grove?

**Brother Strength:** Yeah, absolutely. Plus, take into consideration that some of the monks and nuns who don’t speak English have recently relocated here from Vietnam. They are uneducated and many of them have the mentality that they don’t want to learn English because that requires classes. They may not have the confidence to do it. Others have the mentality that it is a waste of time because they cannot stay in the United States that long before they have to go back.

What Brother Strength felt was somewhat different from what Sister Flower had told me in an interview with a translator while we were sitting in the meditation hall. She was in her late 20’s and seemed to be more congenial toward me than many of the other monastics who did not speak English fluently.

**Me:** Do you think the monastics here want to learn English, even if they are leaving soon?

**Sister Flower:** It depends. The monks and nuns around my age, of course! You can use English anywhere in the world. It is very useful. But the older monks and nuns are more interested in spiritual practice. As they get older, they go more inwards.

## Acculturative Pressures

The Order of Interbeing has a desire to spread the practice of mindfulness and meditation to outsiders in broader cultural contexts. Therefore, Magnolia Grove strives, to a certain extent, to mold its environment and its practices to be palatable to both Western and Eastern frames of mind. The practice of Buddhism, as taught by Zen Master Thich Nhat Hanh, should be void of nationalistic tendencies, cultural identities, or dogmatic ideologies. Nhat Hanh sought to establish a spiritual practice that any person could appreciate and engage in, regardless of their cultural, religious, or political alignments. As a nun told me while we were carrying vegetable scraps to a compost pile after dinner, “Something is not true because it is Buddhist, it is Buddhist because it is true”. The practice of Buddhism that is envisioned by the community is one that frees the practitioner from ideas altogether, rather than replacing them with more radical and novel propositions.

Many things that would be commonplace features in most other Buddhist places of worship are absent and/or presented in a different way at Magnolia Grove. For instance, it is typically customary for Buddhist temples and monasteries to have a shrine room with a large and impressive Buddha statue centered against the wall in the back of the room. This space can be shared with the meditation hall (also quintessential) or be in a separate room altogether. Nonetheless, this feature is standard for most Buddhist places of practice. In Magnolia Grove, this is not the case. There are miniature Buddha statues for sale in the bookstore and some medium-sized statues placed around the edges of the forest surrounding the monastery, but the large meditation hall is without it. Being the largest and most elaborate site on the premises, the meditation hall serves as the focal point of religious practice for the site. In the hall, there is a shrine adorned with a floral arrangement of bonsai trees and beautiful orchids but no statue of the Buddha. I asked a monk named Brother Wisdom about this unorthodox attribute of Magnolia Grove. He explained it by telling me,

“If you look deeply into a flower, you will see that Interbeing. The mother earth, rain, the sun. And we look at it...and it’s very fresh... And when we bow we are saying ‘That’s the Buddha nature’. Because you’re not suffering, you’re not thinking about past or the future. You’re in the present moment, so in that moment...You are the Buddha. You are enlightened”.

However, there is a large, stained-glass mural centered at the top of the

wall above the shrine depicting the Buddha holding his hand over an image of Earth. Thus, there is some Buddhist imagery in the meditation hall, but the lack of a statue could reflect an acknowledgement of the Western hesitation to prostrate to foreign religious icons.

Another set of unorthodox amenities of the monastery are the availability of couples' cabins for people to share with their significant others on retreats. Unlike the regular dormitories for retreatants, these cabins are some distance away from the rest of the facilities. They are quaint, unfurnished, one-room structures around the size of a tool shed with two twin beds on opposite walls. It should be noted that the space did not encourage romantic contact between the residents. However, in trying to adapt to Western cultural normativity, the monastery did not want to scare away potential visitors by forcing them to share their conjoined personal space with outsiders in the regular dormitories. Brother Strength told me that this is absolutely unheard of in other Buddhist traditions and denominations. Retreats are typically centered on letting go of ideas of personal space and attachment, as opposed to Magnolia Grove's practice of accommodation.

Visitors and retreatants are allowed to come to and stay at the monastery most times throughout the year, but the daily practice schedule and activities differ greatly when a scheduled retreat is taking place. The dates for scheduled retreats are advertised on the monastery's website and usually include activities that are not a part of the regular schedule. An example would be the singing of *mindfulness songs*. These are songs, very simple in content and structure, that are sung in unison much like worship music in contemporary church services. Each participant is given a hand out with the song lyrics. An example of one of these songs is "I Like the Roses":

"I Like the Roses"

I like the roses, I like the daffodils.

I like the mountains, I like the rolling hills.

I like the twinkling stars when the sun goes down.

Doo bi di doo bi di doo bi di...

I like the rabbit, I like squirrel too

I like bluebird, I like the roaming moose

I like all animals, all animals like me

Doo bi di doo bi di doo bi di... (plumvillage.org)

The tempo and feel of the music is similar to that of Christian hymnals. Even more, the songs are sung in between certain activities, akin to church services. While memorized Buddhist chants are typical for most other Buddhist traditions, singing as a religious practice is something unique to the Order of Interbeing and the Plum Village tradition. Western religious traditions usually incorporate music into their religious rituals and services. It appeared as if Magnolia Grove, and its denomination, sought to syncretize some of these customs with their presentation of Eastern spirituality.

As a sociopolitical reflection of Magnolia Grove's endeavor to appeal to Western prospects, environmental concern is a major point of interest and influence within the monastery and the Plum Village tradition as a whole. Nhat Hanh has consistently spoken about the need for humanity to understand the concepts of interconnectedness in order to reverse the process of global warming, soil erosion, and environmental degradation. In one of his books, *Love Letter to the Earth*, he stated,

“We can't wait any longer to restore our relationship with the Earth because right now the Earth and everyone on Earth is in real danger. When a society is overcome by greed and pride, there is violence and unnecessary devastation. When we perpetuate violence toward our own and other species, we're being violent toward ourselves at the same time. When we know how to protect all beings, we will be protecting ourselves. A spiritual revolution is needed if we're going to confront the environmental challenges that face us.” (Nhat Hanh, 2013, p. 28)

All meals at the monastery are vegan. They see the consumption of animal products as antithetical to their beliefs about compassion and their opposition to industries that harm the environment. Laminated leaves, flowers, and floral arrangements are common decorations in most of the facilities, and hanging wooden placards with statements such as “enjoy mother nature” can be seen painted in beautiful calligraphy around the premises. Before each meal is served, one of the monastics will recite an affirmation on a laminated sheet of yellow cardboard paper that encourages the participants to briefly reflect on how the Earth has brought forth the food about to be consumed. On the back of the stall doors of the bathrooms, a sign informs the user to not flush if one is solely urinating

because it is wasteful of energy and water. Sustainable living practices are ideal at Magnolia Grove, and many Westerners who seek a union between environmental justice and spirituality find Magnolia Grove to be place where their sociopolitical positions and spiritual practices can be merged.

The most significant way that the Plum Village tradition and Magnolia Grove Monastery create a bridge to outsiders, both locally and across the world, is through their unique use of spiritual parlance. Nhat Hanh has organized Plum Village's religious terminology in such a way that its tenets can better cross over onomastic and conceptual barriers rendered by external political, religious, and philosophical forums. As an example, Nhat Hanh realizes that the traditional Buddhist beliefs about reincarnation may come across as supernatural, kooky, or ignorant to outsiders interested in Buddhist practice. Nhat Hanh, in his writings and sermons, has expressed that reincarnation should be viewed as a continuance of our physical bodies from our biological ancestry, food consumption, and psychological influences. Therefore, we are reborn from the material of the cosmos, immaterially from our life experience and psychological conditioning. Some of the examples of the Plum Village tradition's rewording of traditional Buddhist terminology into more contemporary and relatable vocabulary are as follows:

- reincarnation = continuance
- dependent origination = interbeing
- nirvana = the ultimate
- enlightenment = insight

This use of language also played a part in their religious rituals. Before and after a period of sitting meditation in the meditation hall, monastics and retreatants would gently come to their knees and touch their head to the floor. This was not referred to as "bowing" at the monastery. Instead it was called "touching the earth." It was no longer seen as a form of prostration to the Buddhist religion, but rather an act of reverence for the planet.

Yet, this does not mean that traditional aspects of Buddhist thought are completely absent. Once, I was looking around the bookstore at the endless shelves of books written by Nhat Hanh, while one of the older nuns who spoke little English sat behind the cash register. We spoke as follows:

**Me:** Almost every single book in this store was written by Thich Nhat Hanh.

**Sister Smile:** Yes... he writes a lot for many people

**Me:** So, when are you going to write a book?

**Sister Smile:** (laughing) Many lifetimes from now. Hopefully, I'll still be a nun then.

Her answers caught me by surprise, and I began to wonder whether she meant “lifetimes” as an expression or in literal lifetimes that would infer beliefs about reincarnation. At first, I dismissed the idea that one of Nhat Hanh’s monastic followers would be deviating from his ideas of Buddhist practice and belief when considering the strict adherence that Zen students are supposed to pay to their Zen Master. Yet, another incident arose that challenged my presuppositions about Magnolia Grove’s residents. Sister Light wanted the other nuns and monks who were not fluent in English to learn the language. Twice a week, any of the monastics who were interested, or junior to her, would come to the dining hall to practice English with her and some of the retreatants as tutors. I volunteered, and most of the time that meant simply talking to the monastics so that they could practice conversation. One of the nuns, Sister Oneness, told me a story about when she first went to a monastery in Vietnam to ordain. She said that she drove through a dense forest late at night in a taxi and that the driver made her feel uncomfortable. She then told me that she began to pray to Avalokitesvara (the deity of compassion in Mahayana Buddhism). The story that Sister Oneness told me further validated that not all of Nhat Hanh’s disciples strictly adhere to his philosophies.

## Conclusions

Power is conditional at Magnolia Grove. It arises as it is needed and is dissolved when it is no longer required. As stated by Moisés Naím (2013) in his work, *The End of Power*, “Power is hard to measure. In fact, strictly speaking, it is impossible to measure. You cannot tally it up and rank it. You can rank only what appears to be its agents, sources, and manifestations” (p. 21). For the purposes of my research, power was useful in describing the relationships among people, places, and things rather than being something possessed by people, places, or things. Therefore, if a monastic were put into situations where power relations manifest more frequently, they can be described as being empowered more often rather than being powerful in a comprehensive sense. While the monastic con-

stitution of the Order of Interbeing establishes protocol for making communal decisions and seniority acts as badge for some monastics to have influence, the monks and nuns who speak English and have experience in Western settings use these skills as tools for earning sway and respect in many ways that, otherwise, may not have been possible. Thus, Magnolia Grove participates in a social hierarchy that allows individuals to be empowered when it is necessary without them becoming empowered in a comprehensive and consistent manner. Who is in charge greatly depends upon the conditions of the situation requiring governance.

Furthermore, it would be misleading to portray Magnolia Grove as a retreat center that seeks to Westernize. It is more appropriate to depict it as a monastery belonging to a tradition of Buddhism that seeks to blur the lines between Western and Eastern thought. As noted, some of the practitioners at Magnolia Grove did not adhere to the ideological renovations that Nhat Hanh advocated. However, Nhat Hanh does not demand that they conform to his ideologies like one would expect of the students to their Zen master. The Plum Village tradition seeks to develop a spiritual practice that is accessible to everyone. Retreatants can absorb what they see as useful and gently abstain from the beliefs or practices that they do not find convincing. Monks and nuns may develop their own areas of emphasis and are encouraged to be creative, as long as their beliefs or practices do not create discord within the monastic community. During my stay, I encountered Hindus, Christians, practitioners from other Buddhist traditions, and people who claimed no religious affiliation. I never felt that the rituals, activities, or practices were pushed upon me or any of my fellow retreatants. If we wanted to participate, then we could; if we did not, then we were asked not to disturb the others who did. Thus, Magnolia Grove is responding to acculturative pressures as needed, and it is very problematic to calculate due to the fact that every member of the community is responding to acculturative pressures in different ways and at different rates. For the monastics, such as Sister Patience and Sister Light, the process was a smooth one. For others, such as Sister Clarity, it could be difficult. As a whole, the community is acclimating to the macro-cultural contexts of West in a way that is pragmatic and productive for spreading its message of mindfulness, meditation, and morality. The most impressive way that this acclimation is fostered is through the use of a language that creates philosophical and cultural bridges, rather than barriers.

## Discussion

When I observed that certain monks and nuns were put into positions of control more often than others due to their ability to speak English and understand American culture, Pierre Bourdieu's theories of symbolic capital and fields were practical in providing a theoretical language that better explained the processes of power dynamics at Magnolia Grove. In summary, Bourdieu theorized that a person's access to resources and power are dependent upon different species of capital that the individual possesses and uses. The different species of capital could be money, craft, body language, social networks, ethnicity, gender, and so on. The amalgamation and embodiment of these various forms of capital are referred to as one's *habitus*. When one enters a field (social landscape or forum) and interacts with others, the individual's *habitus* determines his or her mobility and status within that field. Magnolia Grove consists of many different, overlapping fields that the residents (both monastic and lay) must navigate every day. If a monastic speaks fluent English, then his or her ability to navigate the field of English-speaking retreatants is facilitated. If their mannerisms are familiar to Westerners and the way they communicate is comfortable, then they may have access to resources and power more easily than those who do not possess the capital to socially traverse that field. According to my findings, the rate at which one can be empowered is dependent on the situation that necessitates that empowerment. Sister Light was not an elder nun, but when she entered the fields in which seniority was not a required or relevant form of social capital, the resources that she could bring to the situation created a demand for her expertise and gave her a measure of independence and clout. The connection between utility and capital was elaborated upon by Bourdieu when he wrote, "As a fundamental operation of social alchemy, the transformation of any species of capital into symbolic capital, as legitimate possession founded upon the nature of its possessor, always presupposes a form of labor, a visible expenditure..." (Bourdieu, 2013, p. 299).

Sister Patience and Sister Clarity had both been ordained for over 15 years and were considered elder nuns at the monastery. Both had served at many different monasteries belonging to the Order of Interbeing, and both were used as mentors to the junior nuns and novices. Yet, Sister Patience was the one who always dealt with outsiders, such as me, and special projects that the monastery undertook. Because of her struggles

with speaking English, Sister Clarity could not hold dharma sharings, dharma talks, introduce herself to many newcomers, or extend her advice to retreatants. Sister Patience was a practicing physician in the United States before she was ordained. She gave anatomy lessons once a week to the monastics who were interested and used the dining hall as a classroom. She was the central pundit for a hired sculptor at the site who was building concrete statues of Thich Nhat Hanh and Martin Luther King, Jr. Sister Patience had published two books in English about her life that were found on every bookshelf on the premises. Of course, other factors that are outside my knowledge could explain Sister Clarity's lack of popularity. However, what is known from the data is that Sister Patience had certain forms of social capital that allowed her to rise in prestige among many of her contemporary elders. It appeared as if Sister Patience were able to provide resources to more dimensions of the monastery than those in her age group and of her status. This allowed her to be empowered more often.

Although Magnolia Grove has a certain set of power dynamics that can disadvantage some members of the monastic community more frequently than others, I never observed a monk or nun allowing social hierarchy to develop in a solidified way. I hypothesized that if individuals were placed in charge more frequently, then residues of that positionality would float into other social dimensions of the site. What if residents became so used to Sister Patience being the go-to person that when someone else should be consulted, she would be approached out of habit?

I propose that this state of balance is kept through the monastery's emphasis on practicing mindfulness. "Mindfulness means paying attention in a particular way; on purpose, in the present moment, and non-judgmentally" (Kabat-Zinn, 2012). On the premises, there are electronic bells scheduled to ring at 15 minute intervals. Also, large bells are rung before, during, and after communal activities such as eating. When the bells sound, all who hear them will stop what they are doing completely and deliberately pay attention to the physical sensations of their breath and body. The goal of the exercise is to put a pause on the thinking mind. As the vibrations of the bell's sound dissipate, the community will gently go back to its task at hand. They attempt to let go of their inner dialogues and return to the present moment. It is important to remember that the goal of this exercise is not to enter into a trance of any kind. According to Buddhist philosophy, our endless cycle of thinking, judging, planning,

and worrying is the trance. When one releases these mental formations, reality emerges as a nameless, empty, and liberating experience. This practice allows participants to briefly enter into a space that anthropologist Victor Turner called *liminal states*: “Liminal entities are neither here nor there; they are betwixt and between the positions assigned and arrayed by law, custom, convention, and ceremonial” (Turner, 1969, p. 95). Since the community enters into this empty space several times a day, the psychological forces that give rise to egocentrism, suspicion, pride, and strife are mitigated at a collective level. As an illustration of how many times a day a resident will be exposed to this stopping and returning to the present moment, a schedule of times the bell would be rung is listed below.

- Morning Bell 5:00 a.m.
- Sitting Meditation Bell 5:30 a.m.
- Walking Meditation Bell 6:45 a.m.
- Breakfast Bell 7:30 a.m.
- “You may begin eating” Bell 7:35 a.m.
- Working Meditation Bell 9:45 a.m.
- Lunch Bell 12:00 p.m.
- “You may begin eating” Bell 12:15 p.m.
- Dharma Sharing Bell 3:00 p.m.
- Dinner Bell 6:00 p.m.
- Evening Meditation bell 7:45 p.m.

According to Turner, liminality fosters a sense of *communitas*, a sense of comradery and fellowship founded outside of social structure and hierarchy. This sense of togetherness is fostered by the practice of mindfulness at Magnolia Grove. As Turner emphasized, “Communitas is of the now; structure is rooted in the past and extends into the future through language, law, and custom” (p. 113). Brother Strength’s decision to leave the community is an example of how conflicts of interest can cause certain individuals to take a different path than the one of their ordination. Like any community, the sense of harmony or *communitas* is not consistent across all members of the community at all times. However, in the case of Broth-

er Strength, it was not due to a sense of feeling unwanted, unloved, or out of communion with their monastic brothers or sisters. Instead, it may be due to having a different vision of what should be of importance in the monastery's mission and purpose.

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Lacy E. Jamison received her Bachelor of Arts with a major in Psychology and minor in Child Development from the University of Memphis in August 2015. She graduated *summa cum laude* with a 4.0 GPA and designations in both Psychology Honors and University Honors with Thesis, and she received the Chi Beta Phi Science Award upon graduation. Lacy has continued as a post-baccalaureate research assistant in the Department of Psychology and currently works as a patient care liaison at Daybreak Treatment Center where she teaches Dialectical Behavioral Therapy skills and assists in milieu therapy for adolescents struggling with a variety of mental health issues. She will be applying for clinical psychology doctoral programs this fall, where she hopes to research coping strategies and resilience in the aftermath of potentially traumatic events among adolescents and young adults.

**Lacy Jamison**

Depression and Resilience among Young Adult College Students  
with Varying Victimization Experiences

**Faculty Sponsor**  
Dr. Kathryn Howell



## **Abstract**

Childhood poly-victimization and intimate partner violence (IPV) victimization in young adulthood are pervasive problems across the United States that have been associated with numerous, enduring adverse effects on mental health and global functioning. The current study assessed differences in college students' levels of depression and resilience based on their varying victimization experiences to understand how frequency and severity of violence victimization affects mental health and well-being. Results revealed that college students who experienced both forms of victimization face substantial challenges with depression and have the lowest resilience scores. Students with low or no victimization displayed significantly higher resilience compared to victims of both adversities as well as students with high amounts of IPV victimization. These results indicate the importance of assessing adaptive (i.e. resilience) and maladaptive (i.e. depression) factors when investigating the impact of violence on young adults' global functioning.

## Introduction

### Childhood Poly-victimization

Previous research has examined the experiences of childhood poly-victimization and adulthood intimate partner violence (IPV) victimization as both independent and linked events. Childhood poly-victimization, defined as two or more types of victimization experiences during childhood, has been revealed as a prevalent public health concern in recent research (Chan, 2013; Elliott, et al., 2009; McDonald, et al., 2006), with an estimated 71% of children enduring at least one form of victimization and 69% enduring poly-victimization (Finkelhor, Ormrod, & Turner, 2007). These multiple victimizations encompass a spectrum of events, including but not limited to, neglect, physical abuse, emotional abuse, family abduction, bullying, teasing, sexual assault, property victimization, and witnessing violence in the home (Cyr, Clément, & Chamberland, 2014; Edleson, et al., 2007; Finkelhor, et al., 2005).

This broad amount of exposure to violence leaves many children vulnerable to a number of immediate and long-term adverse consequences. Victimized children are prone to adjustment difficulties, internalizing and externalizing behavior problems (Evans, Davies, & DiLillo, 2008; Miller, et al., 2012), and emotion dysregulation (Maughan & Cicchetti, 2002). Poly-victimized children specifically are prone to exhibit internalizing and externalizing behaviors, posttraumatic stress symptomatology (Graham-Bermann, et al., 2012), and aggression (Sternberg, et al., 2006). These problems arising from childhood poly-victimization continue to cause difficulty in young adulthood (Elliott, et al., 2009; Horwitz, et al., 2001; Leadbeater, Thompson, & Sukhawathanakul, 2014; Ornduff, Kelsey, & O'Leary, 2001; Richmond, et al., 2009; Russell, Springer, & Greenfield, 2010). Internalizing problems resulting from childhood poly-victimization have been shown to continue, and sometimes worsen, through adolescence and into young adulthood (Leadbeater, et al., 2014). Additionally, childhood poly-victimization leads to difficulty adjusting to college and social relationships, anxiety, depression, suicidal ideation, substance abuse, low self-esteem (Elliott, et al., 2009), psychological distress, dysthymia, and antisocial personality disorder (Horwitz, et al., 2001; Richmond, et al., 2009) in young adulthood.

## **Intimate Partner Violence Victimization in Young Adulthood**

A number of young adults are subject to IPV victimization in their romantic relationships during college, with many of these victims having undergone childhood poly-victimization as well (Amar & Gennaro, 2005; Halpern, et al., 2009). IPV includes physical, psychological, or sexual harm by a past or present intimate partner, usually intended to manipulate or control the relationship (Carpenter & Stacks, 2009; Family Violence Prevention Fund, 2008), and it can vary in degree of frequency and severity of harm. Examples of IPV include stalking, physical assault, rape, isolation, public humiliation, and threats (Amar & Gennaro 2005; Carpenter & Stacks, 2009). In general, an estimated 40% of young adults experience multiple forms of IPV in their dating relationships (Amar & Gennaro, 2005). Within dating relationships during the previous year, 22% of college students report being physically victimized, 52% report being psychologically victimized (Gover, Kaukinen, & Fox, 2008), and 41% report being sexually victimized (Renner & Whitney, 2012).

Similar to the consequences of childhood poly-victimization, young adult IPV victims experience a number of short-term and long-term consequences across several domains of functioning. Such outcomes include eating disorders (Ackard & Neumark-Sztainer, 2002), physical injury (Amar & Gennaro, 2005), recurring illness and headaches (Koss, Koss, & Woodruff, 1991), substance use, suicidality, hopelessness (Coker, et al., 2000; Silverman, et al., 2001; Stepakoff, 1998), posttraumatic stress (Becker, et al., 2010; Humphreys, 2003), depression (Watkins et al., 2014; Yalch, et al., 2013), and anxiety (Shnaider, et al., 2014). The severity, form, and continuity of IPV, along with socioeconomic status, have also been documented to influence the number and types of adverse outcomes (Amar & Gennaro, 2005; Thompson, et al., 2006).

### **Cyclical Violence**

Independently, childhood poly-victimization and IPV victimization during young adulthood are pervasive public health burdens, and much research has been carried out to investigate the prevalence and health-related repercussions of each form of victimization. Though limited, research has revealed a cyclical pattern of violence that occurs throughout many victims' lives, suggesting that the two adversities should be studied in conjunction (Ehrensaft, et al., 2003; Franklin & Kercher, 2012; Gómez, 2011; Gover, et al., 2008; Smith, White, & Holland, 2003). The high prev-

alence of cyclical violence has been noted in previous research, with 77% of childhood poly-victims experiencing IPV in young adulthood (Alexander, 2009). Previous research has found that witnessing IPV (Ehrensaft, et al., 2003; Franklin & Kercher, 2012) and experiencing physical and sexual abuse during childhood (Gómez, 2011; Gover, et al., 2008; Messman-Moore & Long, 2000; Ornduff, et al., 2001; Smith, White, & Holland, 2003) significantly predict to IPV victimization in young adulthood.

Young adult victims of both forms of violence face a high risk for maladaptive mental and physical health outcomes, including posttraumatic stress (Becker, et al., 2010). These victims are also more prone than non-victims to experience substance abuse, suicidal ideation, attempted suicide, revenge-seeking, and unhealthy eating habits (Popescu, Drumm, & Dewan, 2010). The current study seeks to expand the limited research on victims of both childhood poly-victimization and young adult IPV by developing a clearer understanding of the differences in depression and resilience among these multiply victimized individuals.

### **Depression and Violence Victimization**

Depression is a deleterious outcome following child poly-victimization and intimate partner violence victimization (Elliott, et al., 2009; Finkelhor, et al., 2007; Russell, et al., 2010), and it is diagnosed through symptoms of sadness, emptiness, hopelessness, irritability, anxiety, guilt, loss of interest in favorite activities, feeling exhausted, failure to concentrate or remember details, not being able to sleep or sleeping too much, overeating or not eating at all, physical pain (aches, headaches, cramps, digestive problems), and/or suicidality (National Institute of Mental Health (NIMH), 2013).

Prevalence rates of depression among poly-victimized children are high, with 17% showing depressive symptomatology and 38% deliberately self-harming or having suicidal ideations (Chan, 2013). Childhood poly-victimization has also been shown to result in a five to thirty times higher likelihood of developing major depressive disorder in adulthood (Ford, Elhai, & Frueh, 2010).

Young adults who endorse being psychologically or physically victimized through IPV in the previous year report significantly higher depressive symptoms compared to non-victims, with frequency and severity of psychological IPV leading to increased depression (Watkins, et al.,

2014). Depression in relation to cyclical violence is also common, with 22% of victims reporting minor depressive symptoms and 12% reporting severe depressive symptoms (Bonomi, et al., 2006).

### **Resilience and Violence Victimization**

Resilience in relation to child poly-victimization and intimate partner violence has garnered increasing attention in recent years. There are different routes researchers take in exploring the construct of resilience, with some examining resilience as a personality trait (Anderson, et al., 2012), and others evaluating it as a process of positive, adaptive coping (Howell, et al., 2010; Humphreys, 2003). Specifically, Humphreys (2003) defines resilience as an individual's ability to restore equilibrium and concurrently avoid negative outcomes associated with stress. While early investigations of resilience used a pathology-focused model, recent research has moved to a more positive, strengths-based approach (Roditti, et al., 2010).

The investigation of resilience in victims of cyclical violence, especially young adult victims, is limited. Among victimized children, 21% displayed at least one form of resiliency adaption, compared to 11% of non-victimized children, with higher resiliency relating to greater child competency (Cicchetti, et al., 1993). These results indicate the importance of the development of resiliency during childhood in response to trauma. Through resiliency, children may display healthier development and cope with their trauma experiences into young adulthood and beyond. Resiliency among adult victims exposed to IPV as children has been shown through the victims' meaning-making of their traumatic experiences, which led to evolved attitudes and behaviors (Suzuki, Geffner, & Bucky, 2008). Among adult victims of IPV, psychological distress was significantly related to the frequency and severity of IPV; however, a large number of victims exhibited high resilience, which is in turn significantly related to reductions in physical and psychological distress (Humphreys, 2003). With the role of resilience as primary topic of focus within research on childhood poly-victimization and IPV during young adulthood, further exploration is needed to understand the relation of resilience to these types of victimizations.

### **Current Study**

The current study sought to investigate how college students differ

in their levels of depression and resilience based on their frequency of victimization experiences in childhood and/or young adulthood. Specifically, participants were separated into four groups based on their childhood and adulthood experiences with violence. The four groups are as follows: college students who experienced both young adulthood IPV and childhood poly-victimization, college students who experienced little to no young adulthood IPV or childhood poly-victimization, college students who experienced high amounts of young adulthood IPV, and college students who experienced high amounts of childhood poly-victimization. The current study investigates the relation of adaptive and maladaptive variables in connection to victimization experiences during the unique developmental periods of childhood and young adulthood with the goal of obtaining a clearer picture of how cyclical violence and isolated victimization experiences affect mental health. Previous findings suggest that victims of childhood adversity experience depressive symptoms long after the trauma has ended (Chapman, et al., 2004). Additionally, previous research links IPV victimization during young adulthood with depressive symptomatology (Watkins, et al., 2014). Therefore, **hypothesis 1** predicts that college students who experienced child poly-victimization and are currently experiencing IPV will have the highest depressive scores. Students who experienced high IPV will have the second highest depressive scores, followed by students who experienced high child poly-victimization, with low/non-victimized students endorsing the fewest depressive symptoms. Because young adults exposed to childhood victimization show high levels of resilience (Suzuki, et al., 2008), **hypothesis 2** predicts that child poly-victims will have the highest resilience scores. Due to the limited literature regarding resilience and non-victims, IPV victims, and victims of both childhood poly-victimization and IPV, further a priori hypotheses related to resilience are not warranted.

This study aims to address a number of limitations in previous research. This is done by examining multiple forms of victimization rather than focusing only on one type of victimization or on one developmental period. Previous limitations are also addressed through assessing adaptive behaviors, such as resilience, among individuals exposed to adversity, rather than focusing solely on psychopathology. This study also evaluates severe psychological IPV along with physical and sexual violence, while most of the previous literature has focused primarily on physical and/or sexual violence when examining the effects of intimate partner violence

(Golding, 1999; Campbell, 2002; Koss, et al., 2003). By utilizing a large, diverse group of students from two geographic regions, the current study offers a unique paradigm to explore the differences between high and low experiences of childhood poly-victimization and intimate partner violence during young adulthood.

## **Methods**

### **Participants**

Participants included 180 young adult college students aged 18 to 24 ( $M = 19.27$ ) with varying childhood and adulthood victimization experiences attending either a Midwestern or Southeastern university. Students' age and gender did not vary between the two universities; however, participants attending the Southeastern university were more ethnically diverse. Overall, the sample was predominantly female (70.6%). Of the sample, 69.4% were White, 14.5% were Black, 9.4% were Multiracial, 3.4% were Asian, 2.8% were Hispanic/Latino, and 0.6% indicated Other as their ethnicity. See Table 1 for additional demographic information.

Young adults in particular were selected for analysis due to the uniquely challenging transition from late adolescence into adulthood. The success of this transition is significantly impacted by resilience (Fergus & Zimmerman, 2005). Mental health factors, such as depression, also play a role in the success of this developmental transition. There were no participation restrictions based on gender, race, ethnicity, physical or mental health status, or socioeconomic status; however, participants had to be able to read English fluently. All participants were currently in or had been in a romantic relationship within the past year. Participant data for the present study was drawn from a previously collected data set.

### **Procedure**

Undergraduate students from university in the Midwest and a university in the Southeast were recruited through each school's online psychology subject pool system during the fall 2013 semester. The psychology subject pool system allows undergraduates to self-select into psychology research as a way to enhance their educational experience. Prior to participation in the online study, participants were able to read a brief description of the project goals and inclusion/exclusion criteria. After reading this brief description, participants chose to take part in the

study for course credit and followed a link to a website which presented the informed consent, study questionnaires, and debriefing. All tasks were completed online, and participants were able to complete the entire study on a computer of their choosing. Participant information was de-identified. After agreeing to the informed consent, participants completed a set of reliable and valid self-report questionnaires measuring their experiences with childhood violence, mental health, and current experiences of aggression within their dating relationships. A list of local and affordable mental health resources was provided to all participants as well as referrals to resources for support and counseling. Contact information for the principal investigator was provided at the beginning and end of the survey.

Four groups were created based on the participants' victimization experiences, they were: (1) **Child plus Young Adult Victimization**, which included participants who experienced both childhood poly-victimization and young adulthood IPV, (2) **High Young Adult IPV**, which included participants who experienced high amounts of young adulthood IPV, (3) **High Child Poly-Victimization**, which included participants who experienced high amounts of childhood poly-victimization, and (4) **Low/No Victimization**, which included participants who endorsed either low amounts of psychological violence through IPV or did not experience childhood poly-victimization or young adulthood IPV.

A number of factors went into the categorization of these groups. With regard to childhood poly-victimization, we were guided by previous research which states that poly-victimization is captured relative to the experiences of other study participants, with individuals in the top 10% of total childhood victimizations in a sample categorized as poly-victims (Andrews, et al., 2015; Cyr, et al., 2014; Finkelhor, Ormrod, & Turner, 2009; Le, Holton, Nguyen, Wolfe, & Fisher, 2015; Soler, Paretilla, Kirchner, & Forns, 2012; Turner, Finkelhor, & Ormrod, 2010). In the current study, individuals who had experienced 14 or more victimizations during childhood were in the highest 10% of total victimizations in this sample, and were therefore coded into the High Child Poly-Victimization group. The remaining portion of the sample included participants who experienced 13 or fewer victimizations during childhood and they were sorted into the Low/No Victimization group. With regard to IPV victimization, individuals who experienced physical, sexual, and severe psychological IPV were classified as experiencing high amounts of IPV. Severe psycho-

logical IPV was coded as any act of psychological violence that occurred chronically (i.e. six or more times in the past year).

## Measures

**Demographics** – Each participant filled out a basic demographics questionnaire to provide information on age, gender, income, ethnicity, and current relationship status.

**Juvenile Victimization Questionnaire – Adult Retrospective** – The JVQR2 (Finkelhor, et al., 2005) is a 34-item retrospective self-report measure that assesses childhood victimization experiences through questions regarding property crime (e.g., “When you were a child, did anyone use force to take something away from you that you were carrying or wearing?”), physical assault (e.g., “When you were a child, did anyone hit or attack you without using an object or weapon?”), child maltreatment (e.g., “When you were a child, did you get scared or feel really bad because grown-ups in your life called you names, said mean things to you, or said they didn’t want you?”), peer/sibling victimization (e.g., “When you were a child, did any kid, even a brother or sister, hit you? Somewhere like: at home, at school, out playing, in a store, or anywhere else?”), witnessed/indirect victimization (e.g., “When you were a child, did you SEE a parent hit, beat, kick, or physically hurt your brothers or sisters, not including a spanking on the bottom?”), and sexual victimization (e.g., “When you were a child, did anyone try to force you to have sex; that is, sexual intercourse of any kind, even if it didn’t happen?”). Adult responders to the JVQR2 are asked to recall these experiences from the first 17 years of life and indicate “Yes” or “No” for each item. Items are then summed to create a total victimization score.

**Conflict Tactics Scale – Revised** – The CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, 1979) is a 39-item self-report measure that assesses the severity and frequency of IPV through five subscales: physical assault, psychological aggression, negotiation, injury, and sexual coercion. Example questions include “My partner pushed or shoved me” regarding physical assault, “My partner insulted or swore at me” regarding psychological aggression, “My partner showed respect for my feelings about an issue” regarding negotiation, “You had a broken bone from a fight with your partner” regarding injury, and “My partner used threats to make me have sex” regarding sexual coercion. Participants indi-

cated responses on a seven-point Likert scale ranging from never occurred to occurred more than 20 times. Items from the physical assault, psychological aggression, injury, and sexual coercion subscales are summed to create a total IPV victimization score. For the current study, participants reported on their experiences of violence within their current or past dating relationship over the previous year.

**Center for Epidemiological Studies Depression Scale** – The CES-D (Radloff, 1977) is a 20-item self-report measure that assesses six dimensions of depression. These dimensions include depressed mood (e.g. “I felt depressed”) feelings of guilt and worthlessness (e.g., “I thought my life had been a failure”), feelings of helplessness and hopelessness (e.g., “I felt that I could not shake off the blues even with help from my family and friends”), psychomotor retardation (e.g., “I felt that everything I did was an effort”), loss of appetite (e.g., “My appetite was poor”), and sleep disturbance (e.g., “My sleep was restless”). Participants responded on a four-point Likert scale in regard to the frequency of feelings over the past week, with “0” representing “rarely or none of the time (less than 1 day),” “1” representing “some or a little of the time (1-2 days),” “3” representing “occasionally or a moderate amount of time (3-4 days), and “4” representing “most or all of the time (5-7 days).” Items are reverse scored as necessary and then summed to create a total score, with higher scores indicating greater depressive symptomatology.

**Connor-Davidson Resilience Scale** – The CD-RISC (Connor & Davidson, 2003) is a 25-item self-report measure that assesses the ability to cope with stress and adversity through five major domains of resilience: 1) personal competence, high standards, and tenacity, 2) trust in one’s instincts, 3) positive acceptance of change and secure relationships, 4) control, and 5) spiritual influences. A sample item for personal competence, high standards, and tenacity is “I am not easily discouraged by failure.” A sample item for trust in one’s instincts is “In dealing with life’s problems, sometimes you have to act on a hunch without knowing why.” A sample item for positive acceptance of change and secure relationships is “I am able to adapt when changes occur.” A sample item for control is “I feel in control of my life.” Finally, a sample item for spiritual influences is “Good or bad, I believe that most things happen for a reason.” Participants responded according to a five-point Likert scale, ranging from “not true at all” to “true nearly all of the time.” Items are summed to create a total

score, with higher scores indicating more resilience.

## Results

The purpose of this study was to investigate mean differences on depression and resilience in college students who had experienced high and low occurrences of childhood poly-victimization and/or intimate partner violence in young adulthood. All participants had been in a romantic relationship within the past year. There were no significant differences across the four groups of college students based on age or gender.

A MANOVA was selected to analyze group differences based on victimization experiences. A MANOVA takes into account intercorrelations among the study dependent variables, and using a MANOVA reduces the likelihood of making a Type I error. An alpha level of .05 was used for all analyses. A one-way MANOVA revealed a significant multivariate main effect for victimization group, Wilks'  $\lambda = .812$ ,  $F(12, 458.01) = 3.14$ ,  $p < .001$ ,  $h_p^2 = .067$ . Given the significance of the overall test, the univariate main effects were examined. Significant univariate main effects for victimization group were obtained for depression,  $F(3, 175) = 9.165$ ,  $p < .001$ ,  $h_p^2 = .135$  (a modest effect) and resilience,  $F(3, 175) = 2.891$ ,  $p = .037$ ,  $h_p^2 = .047$  (a weak effect).

As can be seen in Table 1 and Figure 1, significant mean differences in depression were identified between the Low/No Victimization and all three other groups. Specifically, the Low/No Victimization ( $M = 10.03$ ) group experienced significantly less depression compared to the Child plus Young Adult Victimization ( $M = 20.78$ ), High Young Adult IPV ( $M = 15.53$ ), and High Child Poly-Victimization ( $M = 15.33$ ) groups. Thus, hypothesis 1 was partially supported, as participants who experienced both child and adult victimization did have the highest levels of depression and low/non-victimized participants endorsed the fewest depressive symptoms, with their depression score significantly lower than all three of the other victimization groups. However, contrary to what was hypothesized, the Child plus Young Adult Victimization group's mean level of depression was not significantly higher than the High Young Adult IPV nor the High Child Poly-Victimization group. Further, the High Child Poly-Victimization group and the High Young Adult IPV group experienced nearly identical levels of depression.

	Total (N = 180)	Child plus Adult Victimization (n = 23)	High Young Adult IPV (n = 51)	High Child Poly-Victim- ization (n = 18)	Low/No Victimization (n = 88)
<b>Age</b>					
Mean (SD)	19.27 (1.42)	19.09 (1.47)	19.16 (1.49)	19.17 (1.47)	19.4 (1.37)
<b>Gender</b>					
Female	70.6%	69.6%	74.5%	66.7%	69.3%
Male	29.4%	30.4%	25.5%	33.3%	30.7%
<b>Race</b>					
White	69.4%	43.5%	64.7%	72.2%	78.4%
Black	14.5%	26%	17.7%	22.2%	7.9%
Asian	3.4%	4.3%	4.0%	0%	3.4%
Hispanic/Latino	2.8%	13%	2.0%	0%	1.1%
Multiracial	9.4%	13%	9.8%	5.6%	9.1%
Other	0.6%	0%	2.0%	0%	0%

Table 1. Demographics of Study Sample

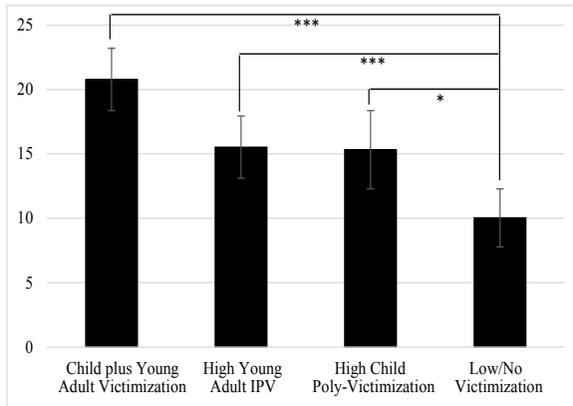


Figure 1. Total mean scores of depression and group differences according to the CES-D. \*  $p < .05$ , \*\*\*  $p < .001$

Table 2. Means, Standard Deviations and their Differences for Outcome Variables by Group

	<b>Child Plus Adult Vicimization</b> (n = 23)		<b>High Young Adult IPV</b> (n=51)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b>Depression</b>	20.78	13.39	15.53 b	9.29
<b>Resilience</b>	64.91 d	14.82	67.08 e	19.92

	<b>High Child Poly-Victimization</b> (n = 18)		<b>Low/No Victimization</b> (n = 88)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b>Depression</b>	15.33 c	11.18	10.03	8.25
<b>Resilience</b>	69.89	15.26	74.41	17.07

Note: Group 1 compared to Group 4 a =  $p < .001$ ; Group 2 compared to Group 4 b =  $p < .001$ ; Group 3 compared to Group 4 c =  $p < .05$ ; Group 1 compared to Group 4 d =  $p < .05$ ; Group 2 compared to Group 4 e =  $p < .05$

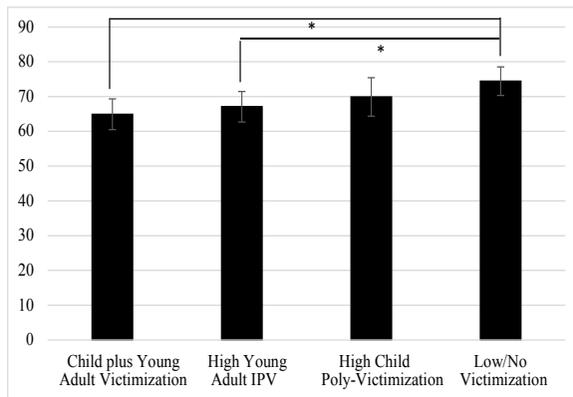


Figure 2. Total mean scores of resilience and group differences according to the CD-RISC. \*  $p < .05$

Displayed in Table 2 and Figure 2, significant mean differences in resilience were obtained between the Low/No Victimization ( $M = 74.41$ ) and Child plus Young Adult Victimization ( $M = 64.91$ ) groups as well as between the Low/No Victimization ( $M = 74.41$ ) and High Young Adult IPV ( $M = 67.08$ ) groups. Child poly-victims were predicted to have the highest resilience scores due to a past experience of trauma that required resilience to cope; however, contrary to hypothesis 2, the High Child Poly-Victimization and Low/No Victimization groups did not significantly differ on scores of resilience. Additionally, the Child plus Young Adult Victimization group did not significantly differ from the High Young Adult IPV group.

## Discussion

The present study investigated differences in adaptive and maladaptive outcomes among college students with varying victimization histories. Specifically, resilience and depression were assessed among college students who experienced both childhood poly-victimization and young adulthood IPV, high amounts of young adulthood IPV, high amounts of childhood poly-victimization, or low/no victimization.

Results indicated that experiencing high childhood poly-victimization, high young adulthood IPV, or a combination of the two led to significantly more depressive symptomatology when compared to experiencing low/no victimization. Largely, this finding indicates that experiencing victimization, whether chronically or only during a specific developmental period, is related to significant psychological distress. Being victimized at any age is a challenging experience that may make an individual vulnerable to psychological difficulties in the aftermath of the trauma.

It is also important to note that those who experienced both childhood poly-victimization along with young adulthood IPV victimization had the highest depression scores across all four victimization groups. While experiencing multiple forms of victimization during childhood or IPV in young adulthood is distressing in itself, it is possible that experiencing both produces a uniquely challenging situation that can lead to more depressive symptomatology. Finally, those who experienced high childhood poly-victimization had roughly the same amount of depression symptomatology as those who experienced high young adulthood IPV victimization. This finding provides evidence that childhood poly-victim-

ization can have lasting effects throughout development, and it can be just as psychologically harmful years after the experience ended. This finding is further supported by previous research in which young adult victims of childhood poly-victimization continued to have difficulty with depression as a result of the earlier trauma (Chapman, et al., 2004; Elliott, et al., 2009; Russell, Spring, & Greenfield, 2010). Furthermore, depression has been found to be a common experience among those who have recently been victimized through young adulthood IPV (Bonomi, et al., 2006; Watkins, et al., 2014).

With regard to resilience, participants who endured high childhood poly-victimization did not significantly differ from those who experienced low/no victimization, with both groups reporting resilience scores common for United States college students, in the range of 70.6 (Steinhardt & Dolbier, 2008) to 77.8 (Johnson, Dinsmore, & Hof, 2011). This finding highlights that child poly-victims are experiencing relatively normative amounts of resilience for their age group. A possible explanation for their normative resilience scores may be that life experiences and learned coping strategies are being employed in the aftermath of the trauma. It is also possible that these participants called on their own strength and determination, similar to victims in previous research (e.g., Humphreys, 2003), in order to cope with their difficult experiences. This is in contrast to participants in our sample who experienced both forms of childhood and young adulthood victimization, as well as those who experienced high amounts of IPV in young adulthood. Both of these groups displayed significantly lower resilience scores than those who experienced low/no victimization. These findings indicate that currently experiencing IPV is just as harmful to resilience as experiencing poly-victimization in the past as well as IPV victimization in the present.

## **Clinical Implications**

The current study addressed a number of gaps in the literature on college students and their past and present victimization experiences. Previous research on intimate partner violence has focused primarily on physical and sexual violence (Halpern, et al., 2009; Becker, et al., 2010; Renner & Whitney, 2012; Bonomi, et al., 2006; Smith, et al., 2003; Walsh, et al., 2012; Golding, 1999; Campbell, 2002; Koss, et al., 2003; Stepakoff, 1998), but the present study expanded this to also include severe psychological violence (6 or more occurrences of psychological violence in the

past year). Our findings demonstrate that clinicians should assess and treat all three forms of IPV, as physical, sexual, and psychological violence can contribute to distress and maladaptive outcomes (Amar & Gennaro, 2005; Carpenter & Stacks, 2009; Gover, et al., 2008; Basile, et al., 2004; Thompson, et al., 2006). Additionally, this study investigated how high poly-victimization during childhood differentiated from high victimization in young adulthood and low/no victimization. The highest scores on maladaptive factors and lowest scores on adaptive factors in this sample were among college students who experienced both forms of victimization. This speaks to the necessity of helping these young adults cope with their past and current traumatic experiences while also addressing the challenges they face when transitioning into adulthood. Interventions should target depressive symptomatology and emotion dysregulation for victims of child poly-victimization and/or adulthood IPV victimization while attempting to strengthen protective factors, such as social support and resilience.

## **Limitations and Future Directions**

Although this study adds valuable information to the literature about the unique challenges following victimization, there are relevant limitations to consider. One limitation is that we relied on self-report data regarding sensitive topics, such as victimization, that possibly induced distress, and may have affected responses on our outcomes of interest. In addition, the cross-sectional and retrospective nature of the study prevented identification of causal relationships. The report of current perceptions of emotional and social functioning may be different from feelings at the time of the childhood victimizations. The generalizability of the results may be limited because participants were attending college, indicating a high level of functioning. Generalizability is also limited by having a predominantly female sample, and females are more likely to be victimized and experience IPV (Breiding, Black, & Ryan, 2008). Generalizability is also limited by having a predominantly White sample.

Future studies should investigate how additional adaptive and maladaptive factors relate to young adults with varying victimization experiences in order to further understand how traumas occurring in the past and in the present impact functioning. Longitudinal studies following child poly-victims from childhood to young adulthood will help substantiate relationships between childhood victimization and adulthood IPV.

In addition, more diverse studies with a larger sample will improve the generalizability of findings.

## **Conclusion**

In conclusion, college students who have experienced both childhood poly-victimization and adulthood intimate partner violence face substantial challenges. The current study provided insight into differences among college students with varying victimization experiences in relation to depression and resilience. This study expanded the literature on the effects of cyclical violence and how differing experiences across childhood and adulthood impact adaptive and maladaptive functioning.

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Blake Mitchell graduated *summa cum laude* from the University of Memphis in May 2015, obtaining a Bachelor of Arts degree in Psychology. As a proud student at the UofM Lambuth campus, he was a member of the Psychology Club and provided tutoring in a variety of subjects. Throughout his academic discourse, he was absolutely fascinated with the science concerning the brain—neuroscience. His interests sit on the frontier of modern neuroscience: the mysteries surrounding the nature of consciousness and the mechanics that store and retrieve our memories. He also takes interest in quantum mechanics and how our brain functions at its smallest scale. Currently, he plans to attend Vanderbilt University, where he hopes to study cognitive neuroscience and earn his Ph.D. After this endeavor, he dreams of procuring a career of emphatic devotion to scientific investigation and becoming a renowned interrogator of nature and an artful communicator of its reluctant testimonies. He is also the recipient of a *Quaesitum* outstanding paper award.

## **Blake Mitchell**

Change Blindness and Eyewitness Testimony: The Effects of Instruction, Time Intermission, and Gender-matched Observers

**Faculty Sponsor**  
Dr. Cheryl Bowers



## **Abstract**

The purpose of this research was to further examine the parameters of change blindness and its relevance to eyewitness identification by investigating the effects of instruction, time intermission, and gender-matched observers. Participants were shown a short video depicting an opportunity theft in which the identity of the burglar, and that of his accomplice, changed throughout the film. Half of the participants were given instructions to pay close attention, while the other half were not. All were tested for awareness of change and content recall. As hypothesized, 82% of participants did not notice substitutions among the perpetrators. Awareness of change had some unexpected but interesting relationships with our other independent variables, the results of which are discussed in detail along with corrective measures for future research. Collectively, the findings of this study delve deeper into the mechanics of change blindness, thereby further illuminating the sophisticated interrelation between change blindness and eyewitness testimony.

Note from author: This study was a collaborative effort to fulfill requirements for a PSYCH Stats & Research class at the University of Memphis Lambuth Campus. While this paper is solely authored by me, the conception, preparation, and execution of its contents are credited to each contributor equally: Naomi Adams, Mary Church, Kathryn Cochran, Brittney Goode, Penny Hensley, Madison Kuykendall, Blake Mitchell, Brianna Morton, Dianna Moss, Andrew Rush, Christy Williams, with faculty sponsor Dr. Cheryl Bowers.

## Introduction

Change blindness is a psychological phenomenon that occurs when a change in a visual stimulus goes unnoticed by its observer. This phenomenon can be likened to continuity errors in movies, where an object might erroneously change location or position from one cut to another (e.g. a vase is knocked over in one frame but then is standing upright in the next). In most cases, this change in the background, or even foreground, is not often noticed by the audience until after it is pointed out to them; in psychology, this is known as change blindness. In recent years, research has been conducted on this phenomenon in efforts to better understand some of its qualities. In one of the earliest studies involving change blindness (Levin & Simons, 1997), participants watched a short video of a person getting up to answer a telephone call. Just before the actor reaches the phone, a change in camera positioning coupled with a film cut allows the actor to swap identities with a completely new actor. Even though these two actors differed dramatically in appearance, most of the viewers did not report noticing this rather substantial, but intentional, continuity error. The findings of this study raised awareness of change blindness and ignited a great interest within the scientific community, especially from groups who were particularly interested in selective attention and short term memory.

Researchers were eager to explore the boundaries of change blindness. Some posited that the awareness of change existed in the observer's subconscious but simply wasn't available for retrieval (Simons, et al., 2002). With regard to subconscious retention, "the observer must form a consciously accessible visual representation of the original stimulus that can be tracked over time and form a basis for later recognition" (Most, et al., 2005). Subsequent work began to address on the seeming interrelation between change blindness and eyewitness testimony. The idea was that this flaw in our attenuation system had some relevance to the clockwork behind faulty eyewitness testimony and the misidentification of perpetrators. Recent research has illustrated this interrelation between the eyewitness and change blindness literatures (Davies & Hine, 2007), identifying multiple risk factors of change blindness. In their study, Davies and Hine created a 2-min video clip depicting an opportunity theft from a student house. Midway through the film, the burglar's identity changed (aided by filming techniques). The participants in this study were split randomly into two groups: the intentional group and the incidental group. Participants in

the intentional group were told to pay close attention to the contents of the film because they would be tested later on. Participants in the incidental group were given an ominous description of the video along with a false pretense for its purpose. The paradigm was set up this way in order to test whether or not priming participants to focus and pay attention would have a significant effect on awareness of change rates and content recall scores. In total, only 39% of all the participants noticed the burglar's identity change during the film. Participants who noticed the change were, as described by Davies and Hine, "drawn disproportionately from the intentional condition, a highly significant effect" showing that the priming received by the intentional group was effective. Participants who were in the intentional group also received significantly higher content questionnaire scores than did those in the incidental group. Lastly, in an effort to explicitly demonstrate the interrelation between change blindness and eyewitness testimony, Davies and Hine also created a photo lineup from which participants were asked to identify the perpetrator. The results confirmed that participants in the intentional condition were significantly more likely to correctly select both actors than were participants in the incidental group. Davies & Hine report that "all the participants who recognized both actors detected the change, whereas none of participants who did not notice selected both burglars from the lineup." From this research, one can reasonably conclude that priming participants to pay attention does in fact have a positive effect on notice of change and content recall. Furthermore, Davies and Hine adequately demonstrated a significant relationship between change blindness and eyewitness testimony by incorporating a photo lineup in their paradigm. The current research wishes to build on these ideas—further testing their validity—and also incorporate new independent variables such as time intermission and gender-matched observers.

## **Method**

### **Hypotheses and Design**

The research detailed by this paper was modeled after the research done by Davies & Hine (2007), including the creation of a video that depicts an opportunity theft and a follow-up content questionnaire. In our study, there were two main dependent variables: (a) awareness of change and (b) memory score on the content questionnaire. In addition to Davies and Hine's burglar, we added another factor to the paradigm: a lookout

for the burglar. As Davies and Hine did, we hypothesized that those in the intentional group would be more likely to notice the changes and less prone to change blindness. Going beyond Davies and Hine's research, we also hypothesized that the interval between change, or the time intermission that occurred between the identity swaps, would have an impact on awareness of change. Specifically, participants were expected to identify the change in the burglar more often than the lookout because the burglar change happened within a few seconds. Alternatively, participants were expected to fail to notice the change in the lookouts since approximately two minutes elapsed between the switch. Also, beyond Davies and Hine's analysis, we intentionally selected male actors to play the burglar and female actresses to play the lookout. We hypothesized that male and female participants would perform differently on their notice of change based on the gender of the target. While expecting a difference, we did not predict whether males would do better at noticing the male burglar or female lookout identity change. Likewise, while expecting a difference, we did not predict whether females would do better at noticing the change in the male burglar or female lookout.

### **Participants**

A community college sample of 55 participants were pooled together from four separate General Psychology classes. We designated two of the classes to the intentional group, while the remaining two classes became the incidental group. The groups were not perfectly equal in volume, although they were relatively close, and they did not contain an equal ratio of male to female participants (40 males and 15 females).

### **Materials**

We filmed a 4-min video specifically for this experiment that depicted an opportunity theft from a vacant house. The film consists of four actors: two males (burglar) and two females (lookout). The first female actress who played the lookout in the first scene was of average build with brown hair and a rounded face; she wore a dark shirt with bold white letters on the front; she sat with casual posture and appeared tranquil. The second female actress who played the lookout in the final scene was of slim build with brown hair and a narrow face; she wore a black shirt with small letters on the front; she sat with poor posture and appeared worried. The first male actor who played the burglar on screen for the first half of the film had a heavier build with dark brown hair and a rounded face;

he wore a black hoodie with blue jeans, green shoes, and carried a black backpack; he moved at a slow pace and conducted himself calmly. The second male actor who played the burglar on screen for the second half of the film had an average-to-heavy build with light brown hair and a rounded face; he wore a black hoodie with black pants, blue shoes, and carried the exact same backpack; he moved with haste and was in much more of a hurry than the first actor.

The film opened with a long shot of a white SUV cruising up the street toward the camera. A cut is made to the driver's side of the parked vehicle, in which Lookout 1 is seen glancing down at her phone. The film then shows Burglar 1 walking down the street toward a house. The burglar uses a crowbar to enter the house and begins searching for valuables. He searches the living room and finds a camera, a laptop, and a gaming controller. Burglar 1 then walks into the kitchen and disappears around a corner. The camera then changes position to the inside of a bedroom where Burglar 2 is seen entering. He searches the room and finds an iPad, a stack of cash, jewelry, and headphones. He glances at his phone for a moment and then leaves the room and exits the house. The film cuts to an outside view of the burglar leaving and pans over to the driver's side of the white SUV, where Lookout 2 is seen watching the burglar approach her. The burglar proceeds to load the vehicle with the stolen items and drives off with the lookout. The female lookout actresses were on screen for approximately 20 seconds each and the male burglar actors were on screen for approximately 90 seconds each.

We created a content questionnaire that was prefaced by open-ended questions about what the participant saw. The first questions, (“Did you notice anything unusual about the burglar throughout the film? If so, describe.”) and (“Did you notice anything change about the burglar throughout the film?”) probed for evidence of awareness of changed identity with regard to the male burglar. This was followed with a set of mirrored questions related to the female lookout. The rest of questionnaire featured questions that tested content recall such as (“In the blanks below, please list 6 items that you remember being stolen in the film), which we converted into a memory score.

## **Procedure**

The participants were tested one class at a time by two experimenters: one to handle materials and one for presentation. When the intentional

condition was being tested, the participants were instructed to pay close attention to the film because there would be a content questionnaire to fill out afterwards. Participants in the incidental condition were simply given an ominous description of the film they were about to watch: "A short film depicting an opportunity theft that conveys the importance of increased campus security." After the film, all participants were given the same content questionnaire to complete. The experimenters stressed that everyone should work on their own and remain silent until everyone had completed the questionnaire. As a precaution, we made sure to delay debriefing until all of the participants had been tested to maintain internal validity.

## Results

### Notice of Change vs. No Notice of Change

A chi-square goodness-of-fit test was calculated comparing the frequency of occurrence of participants who *noticed* the male burglar change to those who *did not notice* the change. It was hypothesized that most participants would not notice the male burglar change. A significant difference was found ( $\chi^2 (1) = 22.273, p < .01$ ) between participants who did not notice a change ( $\underline{n} = 45$ ) and participants who did notice a change ( $\underline{n} = 10$ ). As hypothesized, most participants were affected by change blindness and did not notice the male burglar change.

A chi-square goodness-of-fit test was also calculated comparing the frequency of occurrence of participants who noticed the female driver change to those who did not notice a change. It was hypothesized that most participants would not notice the female driver change. A significant difference was found ( $\chi^2 (1) = 36.818, p < .01$ ) between participants who did not notice a change ( $\underline{n} = 50$ ) and participants who did notice a change ( $\underline{n} = 5$ ); as hypothesized, most participants were affected by change blindness and did not notice either change.

### The Effect of Instruction on Change Blindness

A chi-square test of independence was calculated comparing the frequency of participants who noticed the male burglar change and female driver changes in the intentional condition to that of the incidental condition. It was hypothesized that significantly more participants in the intentional condition would notice the male burglar and the female driver changes than participants in the incidental condition. No significant relationship was found between condition and whether or not the participant

noticed the female driver change ( $\chi^2(1) = .066, p > .05$ ). A significant relationship, however, was found between condition and whether or not the participant noticed the male burglar change ( $\chi^2(1) = 3.194, p < .05$ ). The results show that participants who were primed to pay attention were more likely to notice the change in the male burglar, but not the female driver.

### **The Effect of Instruction on Memory Score**

An independent-sample t-test was computed to compare the memory scores of participants in the intentional condition to memory scores of participants in the incidental condition. It was hypothesized that memory scores would be significantly higher for participants in the intentional condition. No significant difference was found ( $t(53) = 1.187, p > .05$ ), however, between the memory scores of participants in the intentional group ( $M = 7, sd = 1.56$ ) and the memory scores of participants in the incidental group ( $M = 6.5, sd = 1.42$ ). Being primed to pay attention, therefore, did not have a significant impact on content memory.

### **The Effect of Time Intermission on Change Blindness**

A chi-square test of independence was calculated comparing the frequency of participants who noticed a change in the male burglar (no time interval) to that of the female driver (two minute interval). A significant difference was found ( $\chi^2(1) = 6.466, p < .05$ ). The results show that significantly more participants noticed the male burglar change ( $n = 10$ ) than the female driver change ( $n = 5$ ). This result suggests that time-intermission had a significant impact on change blindness, but this interpretation is not fully supported by the statistics used (full analysis found in the discussion section).

### **The Effect of Gender-Matched Observers on Change Blindness**

A chi-square test of independence was also calculated comparing the frequency of male participants who noticed the male burglar change to female participants who noticed the male burglar change. It was hypothesized that there would be a significant interaction between male participants and recognition of male burglar change. No significant interaction was found ( $\chi^2(1) = .490, p > .05$ ), however. Gender matched participants did not differ significantly from non-gender matched participants in whether or not they noticed the male burglar change.

A chi-square test of independence was also calculated comparing

the frequency of female participants who noticed the female driver change to male participants who noticed the female driver change. It was hypothesized that there would be a significant interaction between female participants and recognition of female driver change, but no significant interaction was found ( $\chi^2(1) = .636, p > .05$ ). Gender matched participants did not differ significantly from non-gender matched participants in whether or not they noticed the male burglar change.

## Discussion

As expected, 82% of participants did not notice the identity change of the male burglar and 91% of participants did not notice the identity change of the female lookout. In other words, most participants, regardless of which condition they were in, did not show signs of awareness of the changes made in identities throughout the film. Although this result had the highest expectation, we were still surprised by how high the rates were for change blindness. The changes in clothing and appearance, even if argued as subtle, were accompanied by radical changes in demeanor between the actors. We therefore recommend that future research push change blindness further by creating even more discernable differences between actors (perhaps incorporate a shift from dull colored attire to brightly colored attire).

With regard to the effects of instruction, there was a significant relationship between awareness of change of the male burglar's identity and condition, indicating that priming participants to pay close attention had a positive effect on change blindness. This result was anticipated due to results obtained by Davies & Hine (2007). However, awareness of change of female lookout did not share the same relationship with condition. At this point in the analysis, a bit of ambiguity surrounds this result, for it could be caused by the time intermission variable that distinguishes the burglar from the lookout identity swaps, or it might be related to the gender of the actors. Further speculation also raises a concern of overlay between our variables, which would justify further study.

In terms of the interaction between instruction and memory score, we were surprised to find that there was no significant difference between the memory score of participants who were instructed to pay close attention and that of participants who were not, indicating that 'priming' participants to remember content did not significantly affect their memory score. This result was perhaps the most unexpected because it disagrees with

Davies' research. We believe this result may be due to the difficulty of our content questionnaire. Our memory score was heavily based on how many stolen items the participant could 'recall' from their memory after watching the film. In any situation, we know that content recall (fill in the blank) is much more difficult than content recognition (multiple choice). Furthermore, it could be argued that the items stolen in the video were not comprised of prototypical objects in their respective category. For instance, the camera that was snatched up was a digital camera that was small and compact; it could have been mistaken for something else. Some of the objects were also displayed in poor lighting, which should be addressed in future paradigms of similar nature. Lastly, we propose a more dynamic memory score be created for future research, one that includes a mixture of both recognition and recall questions; this should yield a more effective tool for accurately conveying both the quality and quantity of content retention.

In addressing one of our unique hypotheses, awareness of change appears to be significantly related to the time intermission between each identity change. This interpretation derives from the data analysis showing that significantly more participants noticed the male burglar identity change (no intermission) than the female driver change (two-and-a-half minute intermission), which would indicate that change blindness is, at the very least, somewhat dependent on time intermission. This result seems to alleviate our confusion about an earlier result—the absence of a relationship between awareness of change of female lookout and condition. However, upon review, this result should still be treated with caution due to a reasonable possibility of variable confounding. It is possible that other variables, such as the burglar's gender or his role in the film, might have contributed or had an unwelcomed effect on the recorded result. Therefore, the analysis does not serve as sufficient evidence to support the claim that time-intermission significantly affected awareness of change within our study; however, it does not evoke a rejection of our hypothesis, either. Future research should further investigate the relevancy of time-intermission on change blindness by taking greater care in controlling for this variable, for there are still adequate reasons to pursue this facet of change blindness.

Lastly, no significant interaction was found between gender-matched participants and awareness of change, indicating that awareness of change of either the male or female perpetrators was not influenced by the participant's gender. This result was neither expected nor unexpected, as we did not have predictions for this variable. It is also worth noting

that our participant pool was not made up of an equal number of male and female participants, which we fear may have skewed the results on this particular test. Of course, future research would do well to control for an equal ratio of male to female participants when testing for this variable.

Nevertheless, these results mostly strengthen the findings of prior research conducted by Davies & Hines (2007) and adequately demonstrate the relevance of change blindness on eyewitness identification literature. At this point in the investigation, it would be logically indefensible to deny the validity of change blindness or the fact that primed individuals are less likely to experience it. This study succeeds in further examining the infrastructure of this phenomenon and makes laudable attempts at exploring the relevancy of two unique variables—the effects of time intermission and gender-matched observers. Although certainty was not obtained from every result, the groundwork has certainly been laid for future research to build on these ideas and learn from the limitation mentioned above.

The study of change blindness is certainly important in understanding more about how attention, perception, and memory are intertwined, but this line of research has an even greater practical application in our justice system—where eyewitness misidentification has led to a staggering number of wrongful convictions. The change blindness found in this study builds on previous research in demonstrating the fallible nature of memory and reveals that eyewitness testimony may not be the most reliable resource in ascertaining the truth. Unfortunately, this is contrary to what many judges, litigators, and active jurors may currently believe. Eyewitness testimony is currently held in high regard in terms of accuracy and reliability; more disturbingly, it has served as the turning point in securing thousands of successful, but wrongful convictions. A first step in minimizing this problem begins with encouraging researchers in eyewitness testimony to take a closer look at the relevance of change blindness, and to begin disseminating their findings to the public and to our judicial officials. The goal is to reform public predispositions about eyewitness testimony by revealing the fallible nature of memory and instances where change blindness comes into play.

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Jamie Padden graduated from the University of Memphis in December 2015, obtaining a Bachelor's of Arts. She graduated *summa cum laude* with a major in Psychology and a minor in Business Management, and is a member of Phi Kappa Phi National Honor Society. Jamie has been a research assistant in the Challenging Health Disparities in Adolescents and Nurturing Global Empowerment (CHANGE) lab for the past two years. She enjoys working on innovative research, implementing study protocols on campus and in the Memphis community, analyzing data, writing manuscripts, and presenting her work at national conferences. Her specific research interests include exploration of contributors to health disparities in obesity and HIV, occupational health, and employee wellness. She aims to pursue her doctorate in industrial organizational psychology given her passion for helping people in organizations. Jamie's career objective is to become an occupational health psychologist for a Fortune 500 company in order to promote positive health and wellness in the workplace. Ultimately, Jamie wants to develop and implement successful employee wellness programs in order to improve job satisfaction, employee performance, employee health, and decrease chronic and preventable diseases among employees in the work place.

# **Jamie Padden**

An Examination of Locus of Control Moderating the Effects of  
Current Weight Status and Intentions to Lose Weight

**Faculty Sponsor**  
Dr. Idia B. Thurston



## **Abstract**

This study investigates the moderating role of locus of control (LOC; degree of perceived control over one's life) on the relationship between weight status and weight loss intent. It was hypothesized that the strength of the relationship between weight status and weight loss intentions would vary as a result of LOC and be more salient for female students. University students (N=286; 18-25 years-old) completed weight intentions and weight LOC measures. Trained researchers obtained height and weight. Logistic regression analyses indicated females ( $\beta = -2.80, p < .0001$ ), and individuals who were overweight ( $\beta = 1.77, p < .05$ ) or obese ( $\beta = 2.20, p < .05$ ) had greater weight loss intentions than males and students with normal weight. LOC did not moderate this relationship. Findings highlight the need to explore unique motivators for weight loss among male and female students. The non-significant moderating role of LOC indicates future studies should examine other personality constructs and individual characteristics as potential factors influencing weight-related behaviors.

## Introduction

Obesity is a widespread problem, even more so for industrialized countries (Flegal, et al., 2012). According to the 2011–2012 National Health and Nutrition Examination Survey (NHANES), of U.S. adults aged 20 and older, 33.9% are overweight, 35.1% are obese, and 6.4% are morbidly obese (Ojala, et al., 2007). The status of emerging adults (i.e. individuals between the ages of 18-25) is particularly problematic. The prevalence of obesity has increased dramatically among this group (Sheehan, et al., 2003), making it a high-risk population (Mulye, et al., 2009). Previous research has indicated that weight gain among emerging adults is the highest of any age group (Sheehan, et al., 2003).

In 2009, national surveys indicated that over 40% of young adults aged 18-25 in the United States were considered to be overweight or obese (Mulye, et al., 2009), which exposes this age group to chronic diseases early in adulthood such as heart disease and diabetes and various forms of cancer (Mulye, et al., 2009). In addition, emerging adults are at high risk for unhealthy weight-related behaviors like poor eating habits and low rates of physical activity. Young adulthood is a time of significant transition, and involves major life changes such as going to college, joining the military, finding employment, and leaving home while supporting oneself; each of these factors may have a large impact on personal health status and access to care (Mulye, et al., 2009). Financial strain and other new stressors during this transitional period, moreover, increase the risk of poor eating habits, lack of exercise, and other risky behaviors like recreational drug use and binge drinking (Mulye, et al., 2009).

As young people are at high risk for unhealthy behaviors and obesity, exploring the relationship between weight status and intentions to lose weight is important. Ojala and colleagues (2007) conducted a cross-national study to determine important factors that contributed to adolescents' attempts to lose weight. The findings from this sample of adolescents across 30 countries from North America, Europe, and Israel, indicated that adolescents who were overweight or obese were more likely to intend to lose weight and attempt to lose weight compared to their normal weight peers (Ojala, et al., 2007). Gender differences also emerged, with, 80% of girls who were overweight or obese either trying to lose weight or feeling that they needed to lose weight (Ojala, et al., 2007).

Ajzen's (2001) research (which supports the findings of Ojala

and colleagues, 2007) identified an individual's intentions as an important predeterminer of an individual's actions. Further, implementing and promoting positive intentions promotes goal achievement and translates well into specific behavioral action plans (Ajzen, 2001). This link between intentions, and specific desired outcomes, cues the actions and increases the probability of an individual achieving them (Gollwitzer, 1999). Several studies have explored the role of weight intentions in increasing physical activity, healthy food intake, and overall healthy lifestyle choices (Prestwich, Lawton, & Conner, 2003; Verplanken & Faes, 1999; Zieglermann, Lipple, & Schwarzer, 2006). Specifically, Prestwich and colleagues (2003) found that participants enrolled in the positive behavioral intention intervention had the greatest frequency of time spent exercising per week, and displayed the greatest fitness improvements. Also, Verplanken & Faes (1999) found that the intention to implement healthy eating habits was effective in establishing a long-term healthier diet among participants. These studies illustrate the importance of examining the effects of an individual's *intention* on actual behaviors. In addition, these studies highlight the importance of investigating the impact of weight intentions as a proxy for actual weight reduction.

With rates of obesity steadily increasing for emerging adults, treatment programs and interventions for individuals who are overweight and obese have been gradually emerging. However, even with the creation of these programs, participants often drop-out, are unsuccessful at maintaining weight-loss, or are unable to consistently lose weight over time (Elfhag & Rössner, 2005; Kolodziejczyk, et al., 2014). Current weight-loss programs are not tailored to meet the needs of young adults and so are not effective (Elfhag & Rössner, 2005; Kolodziejczyk, et al., 2014). For example, a review of 14 weight loss interventions in 2010 reported non-significant mean weight loss (6.61 pounds) for the young adults enrolled in the different programs (Laska, et al., 2012). In addition, a review of randomized controlled trials in 2013 indicated that the average weight loss for young adult women who were enrolled in a weight reduction program ranged from 0.22 pounds to 4.18 pounds (Hutchesson, Hulst, & Collins, 2013), a similarly non-significant amount of weight loss. Furthermore, out of the eight studies reviewed, 20% of the participants did not stay in the weight loss program (Hutchesson, et al., 2013), indicating high drop-out rates. These reviews illustrate that young adults have lower attendance, retention, and weight loss compared to older adults who are actively en-

rolled in weight reduction programs (Hutchesson, et al., 2013).

Locus of control (LOC) refers to individuals' perceptions about the underlying cause of events and outcomes in their lives (Rotter, 1966). LOC started out as a personality construct created by Rotter in the 1950's, which posited that behaviors were guided by reinforcement, which in turn transforms into rewards and punishments. These rewards and punishments then influence individual beliefs about what causes personal actions (Rotter, 1966). As supported by Rotter's research, these individual beliefs guide an individual's attitude and behavioral choices. Rotter's locus of control theory is comprised of two major parts: internal orientation and external orientation (Rotter, 1966). External LOC orientation refers to outcomes perceived to be outside an individuals' control, often referred to as "fate" and independent of an individuals' decisions and hard work (Rotter, 1966). Internal LOC orientation refers to outcomes over which the individual perceives that s/he has full control and results in outcomes that are determined by hard work, perseverance, and choices (Rotter, 1966). Internal and external LOC orientation have thus been examined together to explain the relationship between personality and behavior change. Building on the idea that personality affects choices and behaviors, LOC was recommended for general treatment adherence in healthcare settings, with an emphasis on applying LOC to weight and other health-related behavior changes (Parcel & Meyer, 1978).

It is possible that current weight loss programs and interventions for emerging adults are not effective because they do not identify predictors of success and match programs to participant strengths and individual needs (Adolfsson, et al., 2005) and, as Kraschewski, et al. (2010) note, it is important to understand and identify the behavioral strategies that will motivate and be effective for losing weight over the long-term. Individuals who have greater internal LOC orientation achieved more weight loss, and maintained weight loss more consistently over time, compared with individuals who had greater external LOC orientation (Adolfsson, et al., 2005; Elfhag & Rössner, 2005). This research suggests that a valuable dimension for predicting success in weight loss programs and interventions is missing.

One of the first studies that explored LOC and obesity examined the importance of LOC on personal attitudes and social norms related to weight loss (Saltzer, 1978). The findings from this study indicated that

among individuals who put a high value on health and appearance, those with an external LOC orientation rated social norms as highly influential while those with an internal LOC orientation rated personal attitudes as most important. In addition, the researchers found that the Locus of Control scale was an accurate predictor for intent to lose weight (Saltzer, 1978). This study highlighted the importance of health education programs to consider both personal attitudes and social norms when designing programs to alter behavioral intentions about health. Building on this research, Saltzer conducted an additional study in 1982 that assessed the validity of a 4-item Weight Locus of Control (WLOC) scale. This study explored key components of WLOC, using a specific measure of expectancies of LOC with respect to personal weight and was developed for the prediction of behaviors in relation to weight loss. The results of this study support the validity of the WLOC scale and its usefulness in distinguishing individuals who have internal LOC versus external LOC orientation with regard to weight loss (Saltzer, 1978). Furthermore, participants who demonstrated internal LOC orientation on the WLOC scale were only influenced in their behavioral intentions to lose weight by their personal attitude toward weight loss. Participants with an external LOC orientation on the WLOC scale were only influenced by perceived social normative beliefs in predicting their behavioral intentions to lose weight (Saltzer, 1982).

Adolfsson (2005) also examined LOC to determine success and engagement in weight loss and weight loss treatment programs among adults. In this study, LOC was used to predict attitudes and behaviors related to weight loss (Adolfsson, et al., 2005). Adolfsson and colleagues found that individuals who were obese were more externally oriented than individuals who were categorized as normal weight. Furthermore, those with an internal LOC orientation achieved greater weight loss than participants exhibiting external LOC orientation (Adolfsson, et al., 2005). Similarly, Ali & Lindström (2006) studied LOC as a multidimensional construct: comparing women who were underweight, normal weight, overweight, and obese on the basis of socioeconomic factors, health behaviors, LOC, and psychological health. Findings indicated that individuals who were overweight and obese had lower rates of internal LOC leading to unhealthier behaviors (e.g., smoking and sedentary lifestyle) (Ali & Lindström, 2006). In addition, these authors found that healthy dietary practices and physical activity were associated with individuals who had higher

internal LOC orientation.

Similarly, Holt, Clark & Kreuter (2001) used LOC to predict two outcomes: 1) weight-related behaviors of individuals who were overweight in relation to actual weight loss, and 2) individuals' responses to health education materials regarding weight loss. Findings indicated that individuals with different LOC orientations responded differently to health-related education materials (Holt, Clark, & Kreuter, 2001). An internal LOC orientation was related to the positive ratings of health education materials, confidence, motivation, weight loss intent, and actual weight loss. Individuals with an external LOC orientation, on the other hand, cited an external etiology of being overweight, identified external barriers to physical activity, and had a negative view of social support (Holt, et al., 2001). The results of this study support using LOC as an instrument for predicting weight loss, attitudes, and behaviors of individuals who are overweight. Examining LOC and other constructs, Donovan & Penny (2014) examined LOC as a moderator of the relationship between body dissatisfaction and general self-control and weight-restricting behaviors (e.g., dieting, exercise). The hypothesis of this study was not supported; LOC was not found to moderate the relationship between body dissatisfaction and any of the measures of weight restriction (Donovan & Penny, 2014). However, the results indicated that higher internal LOC orientation was associated with higher levels of dieting and exercise (Donovan & Penny, 2014).

### **The Role of Gender**

In addition to age and intentionality as factors in weight loss and LOC, gender differences have also been posited. Sherman and colleagues (1997) reviewed more than 250 studies that examined gender differences within the LOC construct. Results indicated that only 36 (14.3%) of these studies reported no gender differences regarding LOC, while 183 (72.9%) reported significant gender differences (Sherman, Higgs, & Williams, 1997). Sherman concluded that combining LOC data from males and females may skew results or ignore important patterns that actually exist (Sherman, et al., 1997). Dixon, McKee & McRae (1976) conducted one of the first studies that examined gender differences in LOC. Three LOC scales were used: Rotter I-E, James I-E, and ANS I-E, and all three were administered to 221 college students—123 female and 98 male. The results of this study indicated that female students scored higher on ex-

ternal LOC (on all three scales) compared to male students. Further, the gender difference was statistically significant for the Rotter I-E and James I-E scales (Dixon, et al., 1976). Conversely, Tiggemann and Rothblum, (1997) examined gender differences in internal beliefs about weight using the Weight Locus of Control Scale. Findings showed a significant gender difference on the WLOC scale,  $p < .05$ . (Tiggemann & Rothblum, 1997). Mean scores indicated that women had a higher internal LOC orientation than men (Tiggemann & Rothblum, 1997). The gender differences highlighted in these studies support the examination of LOC separately by gender.

### **Self-efficacy**

Finally, LOC has been studied as a mediator of the relationship between self-efficacy and subsequent weight loss (Chambliss & Murray, 1979). Results indicated that individuals with internal LOC orientation were successful in weight reduction programs that were designed to increase self-efficacy. Alternatively, individuals with external LOC orientation were not as successful; they responded better to a program that used medication for weight loss. Further, individuals with internal LOC orientation who received self-efficacy training lost the most weight of all other participant conditions (Chambliss, et al., 1979).

The various studies reviewed found associations between LOC and health-related attitudes, behaviors and outcomes, and thus suggest that the construct has value in predicting health-related behaviors. The applied value of such a construct is that it may be useful in health intervention programs to: (1) predict the success of participants, and (2) frame and tailor program features to the LOC orientation of the participants to maximize intervention effects. The current study aimed to build upon this literature by investigating the relationship between weight status and intentions to lose weight and explored whether LOC served as a moderator, explaining the strength of the relationship between the current weight and intentions to lose weight. Given that research supports gender differences regarding LOC (Dixon, et al., 1976), the present study also aimed to examine the impact of gender for male and female emerging adults.

### **Hypotheses**

Building on this previous research, the specific aims and hypotheses of this study were as follows:

- 1) **Investigate the relationship between current weight and the intent to lose weight, including the potential moderating effects of gender.** Based on previous research, it was hypothesized that individuals categorized as normal weight would have fewer intentions to change their weight compared to those categorized as overweight or obese (Ojala, et al., 2007). Further, it was hypothesized that gender would moderate the relationship between current weight and intention to lose weight (Ojala, et al., 2007). Specifically, we expected that the strength of the relationship between current weight and intent to lose weight will be weakened for male participants.
- 2) **Investigate the relationship between current weight and the LOC, including the potential moderating effects of gender.** Based on previous research (Tiggemann & Rothblum, 1997), it was hypothesized that individuals categorized as normal weight would be more likely to have an internal LOC orientation than individuals who were overweight or obese. Further, it was hypothesized that gender would moderate the relationship between current weight and LOC orientation (Hankins & Hopkins, 1978). Specifically, we expected that the strength of the relationship between current weight and LOC would be weakened for male participants.
- 3) **Investigate the relationship between LOC and intentions to lose weight, including the potential moderating effects of gender.** Based on previous research (Holt, et al., 2001), it was hypothesized that individuals with an internal LOC would report higher intentions to lose weight than those with an external LOC orientation. Further, it was hypothesized that gender would moderate the relationship between LOC orientation and intentions to lose weight (Schifter & Ajzen, 1985). Specifically, we expected that the strength of the relationship between LOC and intentions to lose weight would be weakened for male participants.
- 4) **Investigate the potential moderating effects of LOC on the relationship between current weight and the intent to lose weight.** Based on previous research (Adolfsson, et al., 2005), it was hypothesized that LOC would moderate the relationship between current weight status and intentions to lose weight. Specifically, we expected that the strength of the relationship between current weight and intent

to lose weight would be weakened among those with external LOC.

## **Method**

### **Participants**

A total of 346 university students were enrolled through a participant subject pool as part of a larger study on weight perception and reporting. Underweight individuals ( $n= 17$ ) were excluded from the analysis sample due to small sample size. Participants were also limited to those ranging in age from 18 to 25 years, consistent with the emerging adult age range. Thus the final analysis sample included 286 emerging adults. Participants were compensated for their time by receiving mandatory participation points or extra credit points toward their overall grade in the psychology course they were enrolled in from February 2014-July 2015. A total of 1.5 points were given to each participant.

### **Procedures**

Participants sat at a desktop computer in a private room while trained research assistants reviewed the informed consent document, including exclusionary criteria. Specifically, participants who were under age 18, pregnant, or taking medication that would affect their weight or appetite were not eligible to participate in the study. After providing electronic consent, the participants completed questionnaires and recorded demographic information on the computer. Participants could only participate once and the study lasted approximately one hour. Upon completion of the questionnaires, participants' height and weight were measured. Weight was recorded in kilograms using a Tanita BWB 800S Doctor's Scale. Tanita is a portable scale capable of withstanding frequent use and measures up to 150 kilograms / 330 pounds. Height was measured in centimeters using a standard model PE-WM-BASE stadiometer. The stadiometer is comprised of a standing ruler mounted on a wall, with a movable head plate allowing for accurate and consistent height measurements as the plate stops at the top of the participants head. To ensure accurate data collection, two height and two weight measurements were recorded for all participants. If there was a discrepancy of .5cm or more across the two height measurements and/or a discrepancy of 1kg or more across the two weight measurements, a third measurement was collected for the relevant discrepant measurement.

Following weight and height measurement, participants were debriefed about the study by research assistants who emphasized the confidentiality of the study and instructed participants not to share details about the nature of the study to decrease pre-existing biases in future participants.

## Measures

*Demographics questionnaire.* The demographics questionnaire included questions about participant's age, ethnicity, race, socioeconomic status (based on family income), and gender.

*Weight Locus of Control Scale.* An adapted version of Saltzer's 1982 WLOC scale was used. Saltzer (1982) version included four items: two assessing internal LOC orientation and two assessing external LOC orientation with a Cronbach's alpha of .58. This scale was adapted, and 11 additional items were added to further explore the concept of LOC. Specifically, we explored how quantity of food, quality of food, amount of exercise, amount of sleep, and stress might contribute to weight-related LOC. These additions resulted in a 15-item scale with a Cronbach's alpha of .59. Response items were on a 6 point Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree). The possible range for the scale was 15 to 90. Overall, the range of scores for all participants enrolled within the study was 24-63. Specifically, the range of scores for the subset of participants used for the current analyses was 24-62. A median split was used to categorize LOC orientation such that scores above the median were classified as externally LOC oriented, and scores at or below the median were classified as internally LOC oriented. This procedure is consistent with previous research (Saltzer, 1978).

*Body Mass Index (BMI).* BMI was calculated using measured height (cm) and weight (kg) by dividing each participant's weight in kilograms by their body height in centimeters squared and expressed in units of  $\text{kg}/\text{m}^2$  ("Centers for Disease Control and Prevention," 2015). Weight categories were calculated using BMI measurements and participants were classified as follows: underweight—BMI <18.4, normal weight—BMI between 18.5-24.9, overweight—BMI between 25.0-29.9, very overweight/obese—BMI  $\geq$ 30 ("Centers for Disease Control and Prevention," 2015).

*Intention to Lose or Gain Weight.* Participants were asked a question regarding their intent to lose or gain weight: "Are you trying to lose

weight, gain weight or stay the same?" For the purposes of these analyses, participants reporting a desire to gain weight or stay the same were collapsed into one group because this research was focused on individuals wanting to lose weight.

### **Data Analysis**

Tests of assumptions for binary logistic regressions were conducted and explored to test for linearity, independence of errors, and multicollinearity (A. P. Field, 2005). In order to ensure the data had linearity, the log (or logit) of the data was tested. The interaction terms of weight status x gender by intent to lose weight, weight status x gender by LOC orientation, weight intent x gender by LOC orientation, and weight status x LOC by intentions to lose weight were each tested by log transformation. Each interaction term and its associated log transformation was significant ( $p < .05$ ) indicating that the assumption of linearity was validated (A. Field, 2009). The independence of errors assumption was supported because participants were measured at one time point and were not included in more than one group. The multicollinearity assumption was also supported because predictor variables were not highly correlated. This assumption was evaluated using the condition indexes and the variance of proportions of the predictor variables. The assumption tests indicated that the variables in this study were linear, errors were independent, and there were no difficulties with multicollinearity (A. Field, 2009).

Hypothesis 1 was tested using a binary logistic regression to examine the moderating effects of gender on the relationship between weight status (based on the categorical variables of normal weight, overweight, and obese) and intent to lose weight. Weight status was the independent variable, intent to lose weight was the dependent variable, and gender was the moderator. To explore whether the relationship between weight status and intent to lose weight varied as a function of the gender (moderator), the interaction between weight status and gender was examined as a predictor of intent to lose weight.

Hypothesis 2 was tested using a binary logistic regression, which was used to examine the moderating effects of gender on the relationship between weight status (normal weight, overweight, and obese) and participants' LOC orientation (internal and external). Weight status was the independent variable, LOC was the dependent variable, and gender was the moderator. To explore whether the relationship between weight status

and intent to lose weight varied as a function of gender, the interaction between weight status and gender was examined as a predictor of LOC orientation.

To examine the relationship between LOC orientation (internal and external) and intent to lose weight, hypothesis 3 was tested using a binary logistic regression. Intention to lose weight was the independent variable, LOC orientation was the dependent variable, and gender was the moderator. To explore whether the relationship between intentions to lose weight and LOC varied as a function of gender, the interaction between weight intent and gender was examined as a predictor of LOC orientation.

Finally, hypothesis 4 was tested with two binary logistic regressions (stratified by gender), which were used to examine the moderating effects of LOC on the relationship between weight status and intentions to lose weight. Current weight status was the independent variable, intent to lose weight was the dependent variable, and LOC was the moderator. To explore whether the relationship between weight status and intent to lose weight varied as a function of the LOC (moderator), the interaction between weight status and LOC was examined as a predictor of intent to lose weight.

## Results

### Sample description

Our sample consisted of 286 18-25-year-old ( $M = 19.51$ ,  $SD = 1.69$ ) college students with body mass index (BMI) ranging from 18.63-52.78 ( $M = 25.50$ ,  $SD = 5.86$ ) and 58% of participants in normal weight category, 26% with overweight, and 16% with obesity. Specifically, 52% of male participants were of normal weight, 29% overweight, and 17% obese. Conversely, 54% of female participants were of normal weight, 24% overweight, and 17% obese. The majority of participants were female (70%). Further, the sample was racially diverse with 46% of participants self-identifying as Black, 41% as White, 3% as Hispanic, 4% Multiracial, and 7% Other (see Table 1). Regarding LOC ( $M = 42.71$ ,  $SD = 7.00$ ), 53.8% of participants were internally oriented, and 46.2% were external oriented. In addition, the average family income of the participants was between \$60,000 and \$90,000. Overall, 44% of participants reported a desire to stay the same or gain weight, and 56% reported a desire to lose weight.

## Preliminary analyses

Due to the research supporting gender differences, preliminary analyses were conducted to examine whether male and female participants in this sample varied with respect to their LOC and intentions to lose weight. A chi-square test was used to examine the association between gender and intentions to lose weight. The findings were significant ( $X^2(1) = 33.48, p < .001$ ) indicating that males and females differed in their intentions to lose weight. Specifically, the majority of female participants (67%) reported a desire to lose weight compared to 30% of male participants. Additionally, 70% of male participants reported a desire to stay the same or gain weight compared to 33% of female participants. A chi-square test was used to examine the association between gender and LOC. Male and female participants significantly differed on LOC orientation ( $X^2(1) = 5.57, p = .02$ ). Among female participants, 49% had an internal LOC orientation and 51% had an external LOC. Conversely, 64% of male participants had an internal LOC orientation, while only 36% had an external LOC orientation. Given these gender differences in intentions to lose weight and LOC, hypothesis 4 was stratified by gender.

### Hypothesis 1:

A binary logistic regression was performed to investigate the relationship between current weight and intentions to lose weight, as well as the potential moderating role of gender. Results indicated that the main effects of weight status on intentions to lose weight was statistically significant. Specifically, individuals categorized as normal weight were less likely to report a desire to lose weight compared to individuals categorized as overweight ( $\beta = 1.77, \text{Wald } x^2(1) = 15.64, p < .0001$ ) or obese ( $\beta = 2.20, \text{Wald } x^2(1) = 12.03, p = .001$ ). In addition, the main effect of gender on intentions to lose weight was statistically significant, ( $\beta = -2.80, \text{Wald } x^2(1) = 20.11, p < .0001$ ), indicating male participants were less likely to report a desire to lose weight compared to female participants. However, the interaction effect of gender and weight status on intent to lose weight was non-significant for overweight ( $\beta = .87, \text{Wald } x^2(1) = 1.05, p = .31$ ), or obese ( $\beta = 1.92, \text{Wald } x^2(1) = 3.13, p = .08$ ) emerging adults. This suggests that participants' gender did not affect the relationship between weight status and intentions to lose weight.

## **Hypothesis 2:**

A binary logistic regression was performed to investigate the relationship between current weight and LOC orientation, as well as the potential moderating role of gender. Results indicated that the main effect of weight status on LOC was not statistically significant. Individuals categorized as normal weight did not differ on internal LOC orientation from individuals categorized as overweight ( $\beta = -.20$ , Wald  $\chi^2(1) = .34$ ,  $p = .56$ ), or obese ( $\beta = .51$ , Wald  $\chi^2(1) = 1.56$ ,  $p = .21$ ). Further, the main effect of gender on LOC was also not statistically significant ( $\beta = -.63$ , Wald  $\chi^2(1) = 3.21$ ,  $p = .07$ ). Similarly, the interaction effect of gender and weight status on LOC was non-significant (overweight ( $\beta = .003$ , Wald  $\chi^2(1) < .0001$ ,  $p = 1.0$ ; obese ( $\beta = -.01$ , Wald  $\chi^2(1) = .0003$ ,  $p = .99$ ). This suggests that participants' gender did not have an effect on the relationship between weight status and LOC orientation.

## **Hypothesis 3:**

A binary logistic regression was performed to investigate the relationship between LOC and intentions to lose weight, as well as the potential moderating role of gender. Results indicated the main effect of LOC on intentions to lose weight was not statistically significant ( $\beta = .41$ , Wald  $\chi^2(1) = 1.83$ ,  $p = .18$ ), indicating that LOC did not significantly impact participants' intentions to lose weight. However, the main effect of gender on intentions to lose weight was statistically significant ( $\beta = -1.40$ , Wald  $\chi^2(1) = 9.85$ ,  $p = .002$ ), indicating male participants were less likely to report a desire to lose weight than female participants. The interaction effect of gender and LOC on intentions to lose weight was non-significant ( $\beta = -.35$ , Wald  $\chi^2(1) = .36$ ,  $p = .55$ ), suggesting that male and female participants did not differ with respect to the relationship between LOC and weight intent.

## **Hypothesis 4:**

Gender-stratified binary logistic regressions were performed to examine the moderating effects of LOC on the relationship between weight status and intentions to lose weight. For male emerging adults, results indicated the main effect of weight status on intentions to lose weight was significant (obesity  $\beta = 2.19$ , Wald  $\chi^2(1) = 5.14$ ,  $p = .02$ ). Specifically, male participants categorized as obese were more likely to report intentions to lose weight compared to male participants categorized as normal weight

(see Figure 1). However, there was a non-significant interaction of LOC and weight status on intentions to lose weight (overweight [ $\beta = 20.09$ , Wald  $\chi^2(1) < .0007$ ,  $p = 1.0$ ] and obese [ $\beta = 40.22$ , Wald  $\chi^2(1) < .0006$ ,  $p = 1.0$ ]). This suggests that there was no effect of LOC on the relationship between current weight and weight intent for male participants.

For female emerging adults, results revealed the main effect of weight status on intentions to lose weight was significant, indicating female participants categorized as overweight ( $\beta = 1.89$ , Wald  $\chi^2(1) = 7.41$ ,  $p = .006$ ), or obesity ( $\beta = 1.82$ , Wald  $\chi^2(1) = 6.81$ ,  $p = .009$ ) were more likely to report intentions to lose weight compared to female participants categorized as normal weight (see Figure 2). However, there was a non-significant interaction of LOC and weight status on intention to lose weight (overweight [ $\beta = -.25$ , Wald  $\chi^2(1) = .07$ ,  $p = .79$ ], and obesity [ $\beta = 19.04$ , Wald  $\chi^2(1) < .0003$ ,  $p = 1.0$ ]), suggesting there was no effect of LOC on the relationship between current weight and weight intent for female participants.

## Discussion

The aim of this study was to investigate relationships between weight status and intentions to lose weight, weight status and LOC, and LOC and intentions to lose weight, while exploring gender as a potential moderator of each of these relationships. Another aim of this study was to explore the moderating effect of LOC on the relationship between weight status and intentions to lose weight.

Consistent with the first hypothesis, we found an association between weight status and intention to lose weight. This finding was in line with previous research (Ojala, et al., 2007), where male and female emerging adults categorized as normal weight reported fewer intentions to lose weight than individuals categorized as overweight or obese. However, there was a non-significant interaction effect of gender on the relationship between weight status and intentions to lose weight; a finding that does not align with previous research (Ojala, et al., 2007) where gender affected the strength of the relationship between weight status and intentions to lose weight. Specifically, Ojala and colleagues (2007) found that male participants with normal weight reported fewer intentions to lose weight than female participants.

Inconsistent with previous research (Tiggemann & Rothblum,

1997), the second hypothesis, which predicted an association between weight status and LOC orientation was not confirmed. In our sample, individuals categorized as normal weight did not differ on LOC orientation from individuals categorized as overweight or obese. Further, the non-significant interaction effect of gender on the relationship between weight status and LOC did not align with previous research (Hankins & Hopkins, 1978) where gender affected the strength of the relationship between weight status and LOC orientation. Specifically, Hankins and Hopkins found that female participants categorized as overweight or obese were more likely to be internally LOC oriented than male participants who were more likely to be externally LOC oriented. These null findings indicate other factors like self-efficacy and self-esteem may influence an individual's LOC orientation and the perceived control they have over their weight and weight-related intentions.

In hypothesis 3, associations between LOC and intentions to lose weight were not confirmed. Inconsistent with previous research (Holt, et al., 2001), LOC orientation did not significantly impact participants' intentions to lose weight. Further, the moderating effect of gender was not significant, such that the strength of the relationship between LOC and intention to lose weight was not impacted by participant's gender. These findings add to a new area of research where gender is examined as a moderator to explore how the association between perceived control and intentions to lose weight differ between male and female emerging adults. Overall, these null findings may allude to the possibility that LOC does not independently reflect an individual's desire to change his or her weight status.

The fourth hypothesis, which examined modification of LOC on the relationship between weight status and intentions to lose weight was not confirmed for male or female participants. This non-significant interaction effect of LOC on the relationship between weight status and intentions to lose weight adds new insight into the study of locus of control affecting weight-related behaviors. Specifically, previous research had not examined the effect of locus of control on weight intentions, but rather weight reduction. This study hoped to highlight the importance of examining locus of control affecting weight intentions because research shows that weight intentions can be a proxy for why male and female emerging adults enroll in weight loss programs. Further, recent research has indicat-

ed the importance of correlating locus of control with weight intentions because male and female emerging adults who perceive control over their weight and/or their behaviors are more successful when they actually engage in weight reduction behaviors (Anastasiou, et al., 2015). Ultimately, these null findings indicate the importance of determining what specific underlying factors are valid predictors of weight intentions among emerging adults.

### **Study Limitations**

When interpreting results from this study, several limitations should be considered. Due to the limited sample size of males (30%), they may have been underpowered to examine gender differences across study variables. Thus it is possible that null findings were related to power issues rather than the specific variables themselves. Accordingly, future work should consider oversampling for male participants to ensure sufficient power. The sample for this study was comprised of subject pool participants (i.e., college students enrolled in psychology classes), thus some members of the emerging adult community were less likely to be included than others. Due to this, a sampling bias may have occurred because participants were not randomly selected. An entire-college based sample could still be problematic because it can impact the generalizability of the results to a broader emerging adult population. Research suggests that education can be a confounding factor that differentiates obesity rates (Yu, 2012). Additionally, previous research has shown a relationship between educational achievement/success and higher internal LOC orientation (Majzub, et al., 2011). Thus, future research should examine weight LOC in non-college students to determine whether findings are generalizable beyond the population of highly educated emerging adults.

The title of the study, “Weight Reporting from Adolescents’ Perspectives,” may have also resulted in participant bias. Specifically, it is possible that individuals who signed up for the study were less concerned about their weight and so were comfortable signing up for a study on weight. Finally, the cross-sectional design of this study did not allow for the examination of actual weight loss over time. The inability to match intent with actual weight-loss did not allow us to examine which participants followed through with their weight-loss goals, and which ones did not.

## Future Directions

Subsequent investigations should consider administering a follow-up assessment to test long-term effects of the study which would allow for the examination of actual weight loss among male and female emerging adults (Anastasiou, et al., 2015). This addition would extend previous research by examining the impact of LOC on weight-loss intent, and actual weight loss (Anastasiou, et al., 2015). Few studies have looked at LOC as a potential factor that influences weight loss intent, and actual measured weight loss over time (Kraschnewski, et al., 2010). Future research should also explore the malleability of LOC and determine whether individuals are more likely to have an internal LOC during certain times in their lives. Specifically, if LOC is related to weight loss, interventions could be targeted for time periods when LOC is most likely to be internal (which may boost intervention effects).

Finally, since this study included an adapted LOC scale that has not been subjected to rigorous psychometric evaluation, future investigations should test the reliability of this adapted LOC measure. A Cronbach's alpha of .59 indicates this adapted LOC scale has poor internal consistency, thus supporting the creation of a new LOC measure or further investigation of this measure. In addition, factor analyses should be conducted to assess the strength of the relationship among each item within the measure to ensure they contribute to the overall reliability of the measure. For example, future research could examine internally oriented items separately from externally oriented items. If a factor analysis supported subscales, examining the internal consistency of those subscales separately may yield better internal consistency than the scale as a whole (A. P. Field, 2005). In addition, future investigations could replicate the current study using the original WLOC scale; perhaps including it would yield different results. The original scale published by Saltzer in 1982 has not been frequently used, so including the WLOC could be helpful for furthering the reliability of the measure. However, given that the published LOC measure only had an alpha of .58, future studies could also use better measures of LOC, such as the health locus of control scale (HLC) (Anastasiou, et al., 2015; Wallston, et al., 1976) which has a Cronbach's alpha of .72. Furthermore, future studies could examine other possible variables that may impact the relationship between current weight status and intentions to lose weight (e.g., self-efficacy, body satisfaction) (Donovan & Penny, 2014).

## **Clinical Significance**

This study provides helpful information for clinicians regarding the role LOC has on weight-related intentions for male and female emerging adults. The null findings of this study indicate the need for examination of other personality constructs and individual characteristics, instead of solely examining LOC as a potential factor influencing weight-related behaviors (Abusabha & Achterberg, 1997). Furthermore, gender differences in intentions to lose weight highlight the importance of understanding the unique motivators that influence male and female emerging adults and how they might impact treatment (Kraschnewski, et al., 2010).

## **Conclusion**

The findings of the present study highlight the complexity of understanding factors that predict intentions to lose weight. The results suggest that other important personality constructs and individual characteristics may be more important than LOC orientation in determining intentions to lose weight (Donovan & Penny, 2014). Specifically, this study alludes to the importance of exploring other potential theories impacting weight-related intentions. Future interventions targeting weight-intentions and actual weight-related behaviors could yield impactful results to further combat the growing obesity epidemic for male and female emerging adults (Anastasiou, et al., 2015). Although, most of the hypotheses were not supported, the results that were highlight the importance of examining weight-related intentions among male and female emerging adults separately to better understand their fundamental differences (Sherman, et al., 1997). Determining factors that may be influencing or impacting obesity differently for male and female emerging adults, can be helpful for motivating individuals to live healthier lives (Anastasiou, et al., 2015).

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Danielle Davis will graduate from the University of Memphis in May of 2016 with a Bachelor's of Science in Education. Danielle's research interests include: educational policy, educational program evaluation, school transformations, early childhood education, and parent engagement. Upon graduation, Danielle will pursue a master's of public policy in education from Peabody College, Vanderbilt University. Danielle's career objective is to become a superintendent in order to transform low performing schools within the Memphis community.

# **Danielle Davis**

Moving Toward Change: A Shift from Silence to Parent Engagement

**Faculty Sponsor**  
Dr. Denise Winsor



## **Abstract**

The push for increased academic achievement among urban schools has been at the forefront of political agendas nationwide. Strengthening the families and communities that serve the school empowers parents to become active participants and collaborators in their students' academic achievement. Funded by the University of Memphis's 2015 Summer Research Fellowship, this qualitative single site case study investigated eight parents whose students attended a low-income urban elementary school located in southwest Tennessee regarding their level of involvement and their needs to become more engaged. The current study used an open-ended survey and individual interviews as a way to identify appropriate school programming to support moving parents from passive followers to active and equal partners. Using a constant comparative method of analysis along with inductive open coding and deductive axial coding four themes emerged: (1) need for community; (2) knowledge about child's development and education; (3) behavior management strategies; and (4) job skills. This study was intervention focused, resulting in the creation of both parenting and school programs geared toward the specific needs of parents in order to increase parent engagement schoolwide. The project received support from the Tennessee Arts Commission's Arts Builds Communities grant. This research project's interventions and seed funding have positive implications for parents, educators and administrator's interactions and communications. Moreover, this research also has implications for students in terms of learning, development, and academic achievement.

## Introduction

The push for increased academic achievement among low-income urban schools has been at the forefront of political agendas nationwide. Federally, various approaches to increase student achievement have included restructuring schools, mandating state testing, and increasing teacher accountability, whereas states and local school districts are struggling to keep up with the new mandates (Zhao, 2009). While there are many debates surrounding the effectiveness of these particular strategies, in many cases they fail to include and engage parents (Kahan, 2013). Instead of solely focusing on a top to bottom approach (i.e., improving schools to impact home life) policymakers, administrators, and educators should consider a bottom-to-top approach (i.e., improving home life in order to positively impact schools). Shifting the emphasis toward improving students' home life can improve the degree of parent engagement which is proven to be effective (Ferlazzo & Hammond, 2009; Hong, 2011). Strengthening the families and communities that serve the school empowers parents to become active participants and collaborators in their students' academic careers. According to *Webster's Dictionary*, involvement is defined as having or including (someone or something) as a part of something. Engagement, on the other hand, is the act of coming together and interlocking with someone or something. While parental involvement is necessary in order to maximize student achievement it is parental *engagement* that is optimal, since it is shown to increase students' academic achievement and persistence (Ferlarro, 2009).

Being an at-risk, urban, low-income school can generate several areas of concern (e.g., access to educational materials, funding, and the recruitment high quality teachers) (Kahan, 2013). The lack of congruent and effective interaction and communication between parents, children, teachers, and administrators created a degree of disconnect in which parents at the school being studied felt left-out, isolated, uninformed, and ill-equipped. In this case, parents perceived administrators as not understanding the challenges of raising children while also being economically disadvantaged (Jeynes, 2003); this resulted in a lack of interaction and communication between administrators and parents. As a result, the community this school served was unable to provide what was needed to ensure success. Therefore, the focus of this research was to bridge the gap that parents are experiencing.

Funded by the University of Memphis’ summer research fellowship, this qualitative single-site case study explored the effects of moving parents from passive followers to active and equal partners at a low-income urban elementary school located in Memphis, TN. The purpose of the study was to work in conjunction with the school’s administrators, teachers, and parents to understand the level of parent engagement. We sought to understand parents’ perspectives regarding their roles and willingness to become engaged. As a result of the parents’ identified needs, a future goal is to be able to construct programming for the school, and possibly use this research as a working model to address parent engagement in other schools within the local urban area. The implications of this study could affect the way educators, administrators, and policymakers view teaching, learning, and development.

Given the climate of the school and the lack of parent participation, the administration wanted to address four main research questions: 1) Do the parents of the children attending the school view themselves as engaged? 2) What do the parents of the children attending the school need in order to be more engaged? 3) How can we move toward actively engaging the parents of the children attending the school? 4) What knowledge and/or skills do parents think can help them become more engaged in their child’s development and academic success? Based upon these four research questions, a list of questions was created to guide the parent interviews and surveys. The research questions guiding this research are as follows:

<b>Research Questions</b>	<b>Parent Interviews and Surveys Questions that address the four particular research questions</b>
Do the parents of the children attending the school view themselves as engaged?	<p>Are you engaged in any of the school activities or opportunities? If so, which ones? (interview)</p> <p>What are your perceptions of Newfield K-8? (Interview)</p> <p>Are you affiliated with the Newfield library? Community center? (interview)</p>

<p>What do the parents of the children attending the school need to be more engaged?</p>	<p>What do you need to become a more successful parent? (survey)</p> <p>What are your individual needs aside from time and money? (interview)</p> <p>What would make you attend the events offered at Newfield? (interview)</p>
<p>How can we move toward actively engaging the parents of the children attending the school?</p>	<p>What is hindering you from becoming a successful parent? (survey)</p> <p>What do you envision for the Newfield community and school? (interview)</p>
<p>What knowledge and/or skills do parents think can help them become more engaged in their child's development and academic success?</p>	<p>What are your career and life goals? What skills do you need in order to accomplish these goals? (interview)</p> <p>What topics or real life issues would you like the Parent University to address? (interview)</p>

Table 1. Research Questions

## Theoretical Framework

The *Ecological Systems Theory* developed by Urie Bronfenbrenner recognizes that children develop within five contexts that are both bi-directional and dynamic (Bronfenbrenner, 1986). The smallest level and most adjacent to the developing child is the microsystem which consists of family members, teachers, peers, and other individuals who directly impact the child's development. The ways in which these individuals and institutions interact (e.g., parent-child; parent-teacher; parent-school) and collaborate have an effect on the child; this second layer is known as the mesosystem. The third layer, known as the macrosystem involves a broader context to incorporate the cultural identity (e.g., race, ethnicity, gender, socioeconomic) of the same individuals, groups, and organizations with persistent emphasis placed on the specific interaction and the impact on the individual (in this case the child). As a child grows and develops,

the scope and range of the macrosystem also expands and becomes multidimensional and complex in that it begins to include extended family, church groups, parents' workplace, and beyond, to other indirect but still relevant entities. For example, educational policymakers' decisions can directly affect children's education, therefore, relationships between children, families, schools, and communities function in a reciprocal pattern in that what positively or negatively impacts one can also have an effect on the others (Bronfenbrenner, 1994). The role of parents and families are instrumental to children's life-long success as they provide the foundations that schools (i.e., teachers and administrators) build upon. Lastly, the outer most chronosystem addresses environmental, contextual, and historical events and changes that occur in an individual's life (e.g., divorces, death, parenting shifts, family relocation resulting in a change of schools). Applying the idea of a chronosystem to real world events can be seen, for example, through the negative effects of divorce on children (Amato & Keith, 1991; Kaye, 1989; Kurdek, 1981). Changes in social-historical circumstances such as these can afford both positive and negative effects on the developing child.

The *Ecological Systems Theory* has helped educators, administrators, and researchers understand the importance of a child's development within various contexts (Hill & Tyson, 2009). Therefore, strengthening and empowering the families and communities to be involved and actively engaged in their child's learning, growth and development is critical. Studies show that low-income African American children are better able to conduct themselves appropriately in the classroom, interact with peers, and anticipate the consequences of their behavior when they have supportive and involved mothers (Hill & Craft, 2003; Jeynes, 2003; Jeynes, 2007; Lee & Bowen, 2006). Bronfenbrenner's *Ecological Systems Theory* has significant relevance to this particular qualitative case study in understanding the level of parent engagement constructing interventions and future programming that will address the parents' levels of engagement.

## **Review of the Literature**

A school striving for family involvement often leads with its mouth—identifying projects, needs, and goals and then telling parents how they can contribute. A school striving for parent engagement, on the other hand, tends to lead with its ears—listening to what parents think, dream, and worry about. The goal of family engagement is not to serve cli-

ents but to gain partners (Ferlazzo, 2011) by moving beyond involvement and focusing on parents' strengths to build engagement. A strengths-based approach does not focus on changing or forcing parents to participate or be active; instead it focuses on engagement by strengthening parents' abilities to support their children's learning.

### **Parent Involvement and Engagement**

Involvement is to have or include (someone or something) as a part of something (Webster). Parent involvement can be viewed as volunteering in a child's classroom, going to Christmas parties, etc. Studies show that, when family involvement levels are high from kindergarten through fifth grade, the achievement gap in average literacy performance between children of more and less educated mothers is nonexistent (Dearing, et.al, 2006). While parent involvement is helpful in increasing student achievement, it is not enough. Involvement is a low-level participation in which parents may be physically present but do not commit or feel connected to the group or activity (Ferlazzo, 2011).

Engagement, on the other hand, seeks to get and keep (someone's attention, interest, etc.); to interlock with (Webster). In order to move beyond involvement to parent engagement in an at-risk community, the goal is to build a sense of trust and a line of communication. Examples of parent engagement might include creating a parenting group that addresses the school needs, providing feedback and advice in particular school decisions, and creating events to capture and engage other parents. This goal is a direct implementation of Urie Bronfenbrenner's systems of ecological development. *Figure 1* depicts the need for parents' ownership of their children's academic careers, (allowing them to be engaged and maintain a positive relationship) as well as the need to create a sense of ownership among teachers to both communicate engage with the parents and communities they serve. Additionally, administrators are responsible for maintaining positive relationships and providing an environment in which parents are welcomed to collaborate and become engaged. It is not until each entity (i.e. parent, teachers, and administrators) begin to show a sense of ownership that the child will begin to experience increased benefits (i.e. improved literacy, language growth and development, increased motivation, prosocial efficacy, and sense of community. The aim of this case study is to move parents beyond silent, passive involvement to active engagement.

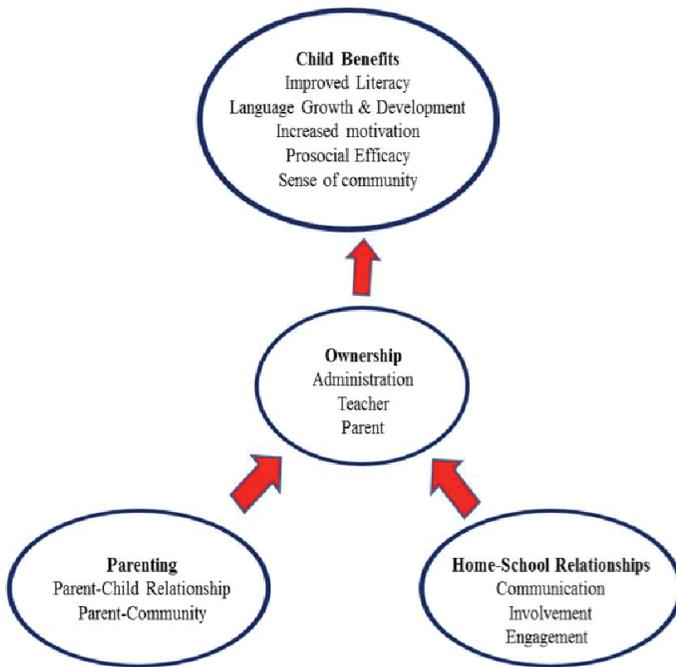


Figure 1. Theoretical Framework (adapted from Caspe (2006))

## Method

This study is an interpretive qualitative single-site case study that explores the effects of moving parents from passively involved to actively engaged and equal partners at a low-income urban elementary school located in Memphis, TN. Case study research is most appropriate when there is a need to understand the complexity of specific processes, needs or behaviors; and when an in-depth understanding can inform that which is already known as a result of previous research (Creswell, 2007; Yin, 2003). The case study design in this research focuses on parents' current level of involvement, what they need to become more engaged as members of the school community, and strategies to develop the parent-school relationship.

Qualitative approaches have been critiqued as being less rigorous than more measurement-focused quantitative methods; however, according to Yin (2003), case study research should be understood as empirical inquiry because it uses multiple types of data as evidence toward explor-

ing authentic real world relationships in context. Despite the interpretive nature of qualitative case study investigations, a protocol of rigor, credibility, dependability, transferability and trustworthiness are present in this study (See Figure 2 adapted from Creswell, 2007). Adhering to Creswell's (2003) steps for conducting credible and dependable research we ensured alignment of the research problem, purpose, and research questions; and we collected multiple data sources (i.e., open-ended survey and interview). Further, we established a data analysis protocol using a constant comparative approach and thematic coding including five levels of analysis, and interrater reliability across two raters (Creswell & Miller, 2000).

## CASE STUDY DESIGN

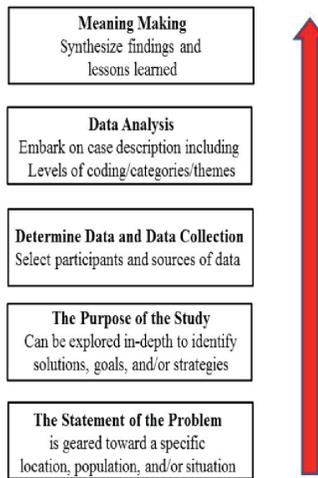


Figure 2. Case Study Design Framework (adapted from Creswell (2007))

### Setting

This study took place at an urban elementary school located in Memphis, TN. In 2013, the U.S. census reported that more than 50% of the children living in Memphis were living below the federal poverty line. In 2012, Memphis' primary school district, LaSalle County Schools, in conjunction with the State of Tennessee Department of Education, targeted at-risk schools that demonstrated 5% student achievement scores on standardized measures. These schools were labeled Innovation Zone (iZone)

schools and were in jeopardy of being closed by the state due to their poor performance. The iZone identification allowed the 69 affected schools in Memphis five years to obtain an above-50% performance rate in comparison with other schools across the state of Tennessee.

The school identified in the current study was targeted as an iZone school in 2012; this identification involves some benefits to the school and students but imposes some additional challenges and stresses too. For instance, on the positive side, the school was assigned a principal with a proven track record for outstanding performance within the LaSalle School system. The principal is afforded the task of hiring staff and faculty consistent with his/her visions and goals; and with similar perspectives and teaching efficacy for the population. iZone schools were given a substantial budget through a federal School Improvement Grant (SIG) to take-over schools operating in the bottom 5%. The funds are a way to obtain resources, professional development, and programming to equip the staff, faculty, students, and families with appropriate resources to be successful. Further, and most important to the scope of this research, the principal independently makes decisions on the research, interventions, and programs implemented in his/her school. This privilege was paramount to this research because it built on an existing relationship of trust and mutual respect between the school, the principal, and the families involved through previous collaborations. On the challenging side, as an iZone school, there was substantial pressure to constantly and persistently demonstrate proficiencies on the standardized tests with a steady student achievement score above 55%. Added stresses included: (1) the five year clock; (2) implications for the students and community if the school closed; (3) sustainability of academic achievement without the additional iZone funds if the goal were met; and (4) reintegration to the LaSalle School system.

Newfield PK-8<sup>th</sup> grade school, is located within an urban low-income community and is surrounded by tight-knit neighborhood that has a rich history and strong ties to with its 400+ alumni. Mirroring the city of Memphis, Newfield is 97.9% African American; the majority of whom are educationally and economically disadvantaged. During the 2014-2015 academic calendar year, Newfield was named a reward school which indicated a substantial academic gain compared to all other iZone schools in the state of Tennessee.

## Participants

The participants of this study were parents of 1<sup>st</sup> through 8<sup>th</sup> grade students. Initially 442 parents were solicited to participate in an open-ended survey. Out of the surveys distributed, 52 were returned. Surveys were anonymous; no identifying information was required for participation. Additionally, we asked the principal to provide a contact list of 15 parents that we could solicit for individual interviews. This resulted in 6 interviews. All participants were African-American women ranging in age from 26-59 years old. Five were the biological mothers of the students, and one participant was the grandmother of a student. Three of the participants dropped out of high school while the other three had completed high school as their highest level of education. This study represents preliminary findings from the 52 completed parent surveys and thematic findings from the six parent interviews.

## Measurement and Procedure

**Open-ended surveys.** In March of 2015, a two item open-ended survey was sent home to all parents of students enrolled in 1<sup>st</sup> through 8<sup>th</sup> grade at Newfield School (see Figure 3). The two prompts were: (1) What do you need in order to be a successful parent? and (2) What gets in your way of being a successful parent? After the initial solicitation, two additional attempts were made to get parents to complete the survey at school-sponsored “Snacks for Stats” events. There was also a school-wide reminder that was distributed to encourage parents to complete the survey and return it to the school. The anticipated sample size was 150 responses, but only 52 were returned.

**NEWFIELD PARENTS MATTER**

...because it all begins with you  
 ...because being a parent is not easy  
 ...because children need & depend on you  
 ...because it takes a village  
 ...because we care

Greetings Parents,

Newfield K-8 has partnered with the University of Memphis to create a Parent University. Please take the time to answer the questions below. Your valuable input will be used to design classes that will be offered to all parents of Newfield K-8 during the 2015-2016 school year. Thank you,

**What do you need to be a successful parent?**

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**What gets in your way of being a successful parent?**

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Figure 3. Open-ended Parent Survey

**Individual parent interview.** Based on the 52 open-ended parent surveys that were returned, we asked the principal to provide a list of 15 parents who might be willing to participate in an individual interview. The list provided included 12 women and 3 men. All 15 parents were contacted by phone to generate interest and willingness to participate. There were nine parents who scheduled interviews (6 women and 3 men). As noted above, of the initial 15 potential participants, 6 completed the interview process.

The individual interviews were semi-structured and lasted approx-

imately 60-90 minutes. They were held at Newfield School in the parent resource room and were audiotaped for later transcription and analysis. An interview guide was constructed from preliminary findings of the open-ended survey (see Table 1). The questions were informal and focused on the following themes: (1) parent’s affiliations within the community, (2) perceptions of the school and community, (3) child development, (4) parenting skills and strategies, (5) job skills, and (6) technology skills. Due to the general nature of the topics the sample interview guide represents the broad questions; appropriate probing was less structured and varied across parents.

1. What are your perceptions of Newfield K-8? Strengths? Needs?
2. What type of community do you envision for Newfield?
3. Are you affiliated with any of the Newfield churches? Community Centers? Libraries?
4. What topics or real life issues would you like the Parent University to address?
5. What are your career/life goals? What skills do you need in order to accomplish those goals?
6. What access to technology do you have? How often do you use the internet?

Table 2. Sample Interview Guide

## Analysis

This study utilized a constant comparative method of analysis during a process of three levels (see Figure 4) in which preliminary findings from one data source were used to inform investigation of another data source in a comparative manner (Lincoln & Guba, 1985). Level 1 coding resulted in preliminary findings of in two areas: (1) what parents need to be successful; and (2) what prevents parents from being successful. The categories from level 1 analysis aided in the development of the semi-structured interview guide. Level 2 analysis resulted in categorical coding. Level 3 involved combining the categories from level 1 and level 2 to identify emergent themes in the data. Throughout the levels of analysis there was a process of interrater reliability of 96% agreement of the coding across two members of the research team.

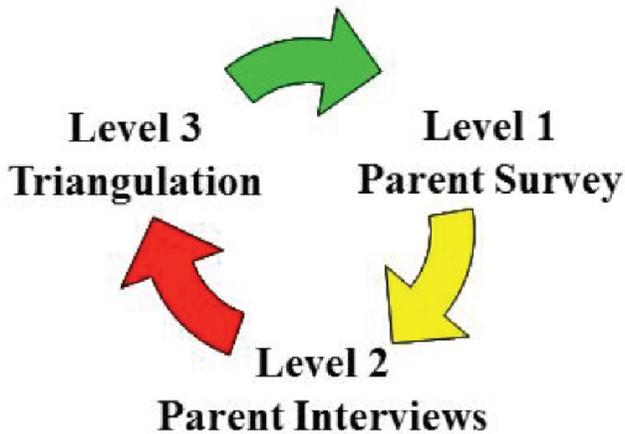


Figure 4. Constant Comparative Levels of Analysis

**Level 1.** In this case, the open-ended survey was the initial data source and was inductively coded for topics and ideas. For example, there were codes for faith, community, knowledge of child, time, and communication (see Table 2). Based on these codes, broader categories were identified in order to construct guiding questions for the individual parent interview.

Initially the 52 surveys were analyzed using open-coding with an emphasis on the actual text, broken down into concept codes and then broader categories. Each survey response was coded in preparation for analysis. After the responses were coded they were analyzed for common responses and charted. This was followed by a process of axial coding in which the researchers double checked all of the codes and categories and then explored how they were interrelated. These preliminary findings were the catalyst for the interview items and the foundation for level 2 analysis.

**Level 2.** There were six individual interviews. The same process of open and axial coding took place. The transcripts were initially open coded based on the categorical analysis from the survey. Axial coding explored more of the individual parent’s experiences, and specific patterns, explanations, and perspectives repeated until saturation where there were no new ideas being identified.

Table 2. Level One Sample Coding Scheme

	<b>What do you need to be a successful parent?</b>	<b>Level 1 CODE</b>	<b>What gets in your way of being a successful parent?</b>	<b>Level 1 CODE</b>
1	Prayer, hope, a chance to help better myself instead of being in charge of a large family.	Prayer. Self-improvement. Overwhelmed.	Handling a big family since mother passed away last year. Have to control a bunch of grown people and can't please myself.	Family stress. Overwhelmed. Death. Self.
2	Quality time with my child. Patience and understanding.	Quality time. Patience. Understanding.	Work hours. Impatience. Not empathizing.	Job. Tolerance. Sensitivity.
3	Communication skills	Communication skills.	My lack of communication with my child. Sometimes anger.	Lack parent-child communication. Lack parent-child interaction.
4	Focused mind frame. Keep up with my child's progress. Participating more. More involvement with the pictures.	Knowledge. Attention. More involvement. More engagement. Child's schoolwork.	Working too much.	Job.
5	Making sure that they have the proper tools to work with.	Resources.	Not being able to provide for them.	Limited provider.
6	We need to know the language of the curriculum (e.g. 'regrouping' in math).	Curriculum. Math skills.	Busyness. I am busy all of the time.	Time management.
7	Patience with my child, strategies to help my child study better. How to approach my child and reward doing better at school.	Patience. Study strategies. Behavior strategies.	My child's attitude. Lack of understanding in how children learn.	Child disposition. Lack of knowledge about child development.
8	To be a successful parent I feel I need a heart, love, patience, a good education, a good head on your shoulders, and a support team.	Parenting skills. Affection. Patience. Knowledge. Support.	I feel not having a college degree gets in my way of being a successful parent.	Lack of education.
9	To be informed about how our surroundings are changing. Also, pay close attention to our children. Sit down and talk to them.	Knowledge of change in environment. Know what child is doing. Communication with child.	Work and not enough time in the day.	Job. Time management.

**Level 3.** The survey categories and the patterns found in the interview data were triangulated, that is compared and broad themes were found to be consistent. At this point in the analysis the researchers revisited the research questions in order to make meaning of the patterns.

## **Results**

The aim of the current research was to learn and understand the current level of parent engagement, as well as their perspectives and needs to become more engaged with their children and the school. Examining both the survey and interview data through inductive analysis (i.e., interpretive) and deductive reasoning (i.e., grounded in the literature on parent engagement) we identified four ways that schools could work toward engaging parents by addressing their needs: (1) a need for educational and job related skills; (2) a need for knowledge regarding their children's education and development; (3) a need for alternative behavioral strategies; and (4) a need for community.

### **Educational and Job Related Skills**

Many parents felt that without a degree they were unable to help their child(ren) succeed in school. One parent wrote, "I feel like not having a college degree gets in my way of being a successful parent," while another parent felt like school was what they needed in order to be successful. Additionally, parents were seeking jobs, but lacked the skills to pursue a career such as computer and technology knowledge, resume and interview tips, etc.

### **Knowledge of Child's Education and Development**

The lack of knowledge regarding their children's education and development seemed to present a common area of concern among parents as well. Responses to the question, "What gets in your way of being a successful parent?" included, "My child's attitude" and "Lack of understanding in how children learn." Additionally, when asked "What do you need to be a successful parent?," one parent felt that in order to be successful they needed "patience with my child, and strategies to help my child study better. How to approach my child and reward doing better at school." Another parent stated "We need to know the language of the curriculum. Example: regrouping in math."

## **Effective Behavior Strategies**

Parents expressed that they were unable to communicate, understand, and discipline their child(ren). A commonality was that many parents resorted to spankings as the main method of discipline. When asked, “What do you need in order to be a successful parent?”, parents responded by saying that they needed, “communication skills”, and “to spend time with their child to teach them how to study and right from wrong.” Other parents felt that the “lack of communication” and resulting anger was what was in their way of becoming a successful parent.

## **Community Support**

The need for community support was not only an issue identified by parents but also by the schools’ administrators. Newfield K-8 has always served as a tight-knit community, however in recent years there has been a shift and an influx of young teenage parents. One parent stated that, “I think what gets in the way is people on the outside judging without knowledge of the inside of what’s going on in parent’s and children’s lives. It is very stressful.” Overall, parents were looking for more support and guidance in raising their child.

From the four common themes gathered from the data an intervention plan was created to address the needs and concerns among the parents at Newfield K-8. In order to address the need for a closer community, art is being used as a catalyst to create a sense of community among the Newfield K-8 family. Art classes, taught by University of Memphis art students will provide the opportunity for parents and students to create works of art. To date the art project has secured a \$4,000 seed grant by the Tennessee Arts Commission: Art Builds Community grant. The grant will be used to fund not only after school art sessions, but also a cumulating art festival. A portion of the artworks will be placed in a silent auction.

Additionally, parenting workshops will be provided throughout the school year that will address the parents’ other areas of concern including: lack of education and job related skills, lack of knowledge regarding their child’s development and education, and the need for alternative behavioral strategies.

## **Discussion**

This study is important because of the direct link between parent

engagement and student achievement (Ferlazzo, 2011). When parents are engaged in their children's education, growth, and development, the children are more motivated, active, and successful in their academic careers and their contribution to society (Casper, 2006). However, knowing how to move parents from being involved to being engaged ultimately varies based on their needs; and this study focused on one group of parents in an at-risk, low socioeconomic urban school. This study holds relevance and implications for stakeholders from the top of the education food chain, including policymakers, school administrators, teachers, parents, and students. Many of the broader themes from the survey items are transferable to other schools and other populations. Unfortunately, many urban low-income schools are struggling with the lack of interaction, communication, and connections with the parents that they are serving. In the era of school reform, the need to increase student achievement is vital (Dearing, et al., 2006).

## **Implications**

Moving forward, teaching educators and administrators to focus on engagement rather than involvement so that parents feel more connected and relevant in the educational process is vital to future success. When teachers actively promote parent engagement in their classrooms, parents have more opportunity to ask questions, learn skills, and support their children. For example, when parents are engaged in active classroom experiences they can understand the importance of safety, reading and math skills; and discuss social and emotional elements of development (Lopez & Casper, 2014). Parent engagement in the classroom can provide teachers with the opportunity to know and understand the parents' challenges and the students' home environment so that teachers can more effectively address individual student needs. The continuity that parent engagement has on teachers and parents can positively affect student performance and foster cognitive, social, and emotional development (Lopez, 2014).

Learning implications for students are well-documented in the literature on parent engagement. There is evidence that shows that when parents are more engaged their children have better achievement; the impact is seen in the children's attitudes and behaviors (Halgunseth, 2009). They are more willing to attend school and do homework when parents seem to have a genuine investment in the activities at school (Halgunseth, 2011). All of these components of learning foster retention and aspirations

for future goals and career options for students (Lopez, 2014).

Developmental implications due to parent engagement tap into areas that also promote and ensure academic achievement. For instance, children whose parents are actively engaged with components of their child's teaching and learning demonstrate higher levels of self-esteem and a healthy self-concept (Halgunseth, 2009). These students are more highly motivated and excel in early reading and math skills (Halgunseth, 2009). Moreover, students with engaged parents get along better with others and can sustain friendships with their teachers and peers (Caspe, 2006). Their outlook on their future is also more optimistic, goal-oriented, and stable over time. Their dispositions are more compassionate and patient which results in better behavior and sensitivity toward others (Brody, 2002). When parent engagement is high, children's cognitive, social, and emotional development is more apt to follow a positive trajectory that can impact the economics of a community and future generations. This is particularly salient in this study since the community has a strong history and has aspirations to thrive in the future, but they need the next generations to step up and be contributing members of society.

## **Limitations**

Consistent with all research, this study has some limitations. Due to the qualitative nature of the study, the sample size is small; however, the perspective is in-depth and lends a voice to what parents need to be more engaged. Knowing the perspectives and the words of the parents has potential to be transferrable to other parents. Overall, the number of surveys returned was less than 10% (52 out of 442). Although the compliance was disappointing, it did provide background knowledge about the level of parent engagement in the school. Due to the limited education level of many of the parents it was apparent from the two-item survey that some of the parents did not fully understand the nature of the questions. We included these in the analysis because we observed it more than once but it was not consistent enough to generate a theme. However, it did alert the investigators toward perspective-taking and item writing.

## **Future Directions**

The purpose of the study was to understand the level of engagement at Newfield School K-8 in order to develop future interventions that

will bolster parents to be more engaged. The rationale is if there is an understanding of the parent's needs and some of these needs are addressed; then parent engagement will increase. Therefore, a plan has been set in motion including future projects at Newfield K-8.

Following the funded art initiative set in place by this study, a future goal is to continue to look for larger grants to develop a sustainable parent organization at Newfield that includes the community. The creation of the art workshops and a mural created there address the sense of community that the parents of Newfield K-8 are seeking. Parents of Newfield K-8 have the opportunity to become engaged partners with their child(ren) in order to create art, as well as become engaged partners to restore the rich history of the Newfield community for future generations.

A second project that builds on this initial study develops informational and training parent workshops. Thus far we have secured 10 laptop computers and constructed a schedule of workshops that will take place during Spring 2016. The parent workshops will include topics such as social and emotional development, behavioral strategies, and résumé and career building techniques. These workshops will be held at Newfield School in the parent resource room one evening per week for six weeks. To foster parent's knowledge and experience, we have solicited vendors to provide educational and training resources and this has been a successful endeavor thus far.

There is also a plan to conduct a book drive for the students through the University of Memphis' Alpha Lambda Delta honor society this spring. This project began in 2015; the organization was able to provide the school with 150 books for parents and children.

Another project that has derived from the current research is a collaboration between a local artist and the school principal to create a school mosaic that can engage the staff and faculty, the parents, and the students as well as the community. Further, this project will rejuvenate school and community morale and efficacy to bring back some of the strength and spirit that has been misplaced during the struggles as a community to maintain the community school. The mosaic will be constructed based on the theme "Past, Present, and Future," with ideas being generated from the current Arts Builds Communities grant. Grades PK-1 will represent the future, grades 2-8 will represent the present, and the Newfield Alumni will represent the past. Art work and writing samples created in the

after-school art classes, funded by the Tennessee Arts Commission, will provide direction and inspiration to the design of the mosaic which will be located in the entryway of Newfield PK-8 School. The mural will serve as a constant reminder of the efforts to repair a strong community and the school it serves.

A final and more ambitious goal resulting from this research is to initiate some of the parent engagement strategies in other iZone schools within the school district to give other schools, parents, and students the opportunity to be more actively engaged. Many other urban low-income schools are seeking methods to increase parental engagement in order to untimely impact student achievement. The future of the study with appropriate funding can produce positive effect on student achievement. The data collected in this study addresses what parents need in order to become engaged and successful and each of these future projects provides the opportunity to meet the needs of parents to move them beyond silence to engagement.

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# **Faculty Review Board**

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# Submission Guidelines



## **Eligibility**

QuaesitUM considers submissions from any current University of Memphis undergraduate student; eligibility also extends to those who have graduated within the last two (non-summer) semesters. Research reported must reflect University of Memphis student projects. All submissions must be faculty sponsored. Submitted texts may be single or co-authored, but the paper should focus on the student's contributions even if the research was conducted as part of a larger faculty project. Faculty members and graduate students are not eligible.

## **Content**

Papers must discuss rigorous and analytical research performed by the author(s). Submissions should contain within the body of the text a section in which research methodology is described in detail.

All submitted text is to be the sole creation of the author(s) with the exception of correctly cited paraphrases and properly indicated quotations.

Any research involving human subjects must have approval from the appropriate Institutional Review Board. Submitting authors are responsible for adhering to IRB guidelines. Check with your faculty advisor for further information.

QuaesitUM understands that various disciplines exhibit a variety of differences regarding textual genres. For this reason, there is not a stated specific minimum or maximum article length. However, QuaesitUM prefers articles with a length of no more than 8,000 words.

## Format

All submissions must conform to the following guidelines. Submissions that do not will be rejected.

1. Remove all occurrences of author(s) names from the manuscript.
2. Upload (as a separate file) a cover sheet that contains name(s), date, title and name of faculty sponsor. Follow this cover sheet with a page containing an abstract of no more than 150 words.
3. All submissions must be in .docx or .doc format. Use the citation style (APA, MLA or Chicago) most appropriate for your area of research.
4. Regardless of the style used, all papers should conform to the following criteria:
  - Single-space the body of the text.
  - Use 12 point Times New Roman.
  - Include page numbers on all pages except for the title page.
  - Include a works cited page.
  - Papers must include endnotes. Footnotes are not accepted.
5. Figures and Tables
  - Provide a separate file for each table and figure.
  - Files must be a minimum of 300 pixels per inch (ppi).
  - Files must be 1200 pixels wide.
  - Figures must be JPEG, TIFF, PNG, EPS or PDF files.
  - Tables may be submitted in the formats listed above for figures.
  - Tables may also be submitted as separate Word or Excel documents.
  - Do not embed figures and tables in the body of the text.
  - Clearly indicate the placement of all figures and tables.
  - Label all tables and figures and provide a corresponding caption at the appropriate location in your text.
6. Submissions may not be under review for publication elsewhere.

## **Review Process**

A panel comprised of current University of Memphis undergraduate honor students screens all submissions. Papers meeting and exceeding this panel's criteria are forwarded to an editorial review board that consists of volunteer faculty members. Final selection decisions are left to the editorial staff – technical editor and two faculty advisors. This process is a blind review; the authors as well as the faculty who review the papers remain anonymous. This is the reason for requiring all names to be omitted from the body of submitted articles.

## **Deadline for Submissions**

Papers may be submitted for review throughout the academic year. Please check our website at <http://www.memphis.edu/quaesitum/> for specific publication dates and deadlines.

## **Publication**

QuaesitUM is an annual printed publication distributed near the end of the spring semester. With the author's permission, all papers will be made available online.

## **For More Information**

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