

**“Time to Abide By the Law”: Reconsidering the Traditional Narrative of North-South
Educational Desegregation in Regards to Evansville, Indiana**

**Research Question: To what extent did educational desegregation in Evansville, Indiana
mirror Southern, as opposed to Northern, desegregation?**

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Introduction

In 1952, the first of the *Brown v. Board of Education of Topeka* rulings overturned the United States Supreme Court's prior decision upholding segregation, triggering federally mandated desegregation in all spheres, including education.¹ The primary educational effects of this ruling were felt in the Southern² United States, with courts often forcing hesitant school districts to integrate their schools.³ In the North, schools had often legally desegregated prior to the *Brown* decision, though practical segregation persisted.⁴ These two geographic trends have traditionally been generalized to cities across the United States.

While it is true that court-mandated desegregation was more frequent in the South—and that these court orders occurred far earlier—applying this as a lens for understanding all desegregation minimizes local nuances, and, in the case of Evansville, may be fundamentally at odds with the historical record.

By the late 1940s, Indiana's attitudes toward educational segregation had shifted, though those of Evansville—a mid size Northern city situated on the Ohio River—had not. The city had remained segregated throughout extensive Black migration,⁵ a World War II era economic boom, and KKK racialized violence and would continue to resist desegregation well into the 1970s.⁶ At the time of Indiana's 1949 desegregation law—which Evansville disobeyed and would not

¹ Earl Warren and Supreme Court Of The United States. *U.S. Reports: Brown v. Board of Education*, 347 U.S. 483. 1953. Periodical. <https://www.loc.gov/item/usrep347483/>.

²Note: For the purposes of this paper, Northern/Southern distinction is based on a state's status as a free or slave state during the Civil War period. Indiana's 1816 Constitution explicitly prohibited slavery.

³ Thandeka Chapman, "Segregation, Desegregation, Segregation" in *Peabody Journal of Education* (Nashville: Vanderbilt University Press, 2017).

⁴ Thomas Pettigrew, "Desegregation and Its Chances for Success: Northern and Southern Views." in *Social Forces* (Oxford: Oxford University Press, 1957).

⁵ Darrel E. Bigham, *We Ask Only a Fair Trial: A History of the Black Community of Evansville, Indiana* (Evansville, IN 1987), 7-10.

⁶ Ibid.

wholly rectify until 1972—the city’s population was approximately 110,000 people, making it one of the largest cities in Indiana.⁷ Despite this, its desegregation did not align with these comparable cities. Traditional scholarship has nonetheless applied the generalizations of Northern desegregation to Evansville’s understudied desegregation process in order to include Evansville in the broader narrative of Northern desegregation. This incorrect association runs the risk of misdiagnosing both the inequalities of the past and those that persist today.

Upon closer scrutiny, Evansville’s desegregation pattern more closely falls in line with a Southern court-mandated process than a Northern pattern. In particular, Evansville’s continued disobedience of the 1949 Indiana desegregation law and its 1972 court-mandated desegregation plan begins to suggest a pattern reminiscent of Southern cities.⁸ As a result, this paper endeavors to explore, through a historical case study analysis, the question: To what extent did educational desegregation in the early 1970s in Evansville, Indiana mirror Southern, as opposed to Northern, desegregation?

Literature Review

In general, the existing literature on the desegregation process in Evansville is severely lacking. Nonetheless, some research suggests—though none names nor explores—the emergence of a separate pattern in Evansville than in the other cities of Indiana, and furthermore, the North as a whole.

In Darrel Bigam’s 1987 book on the history of Evansville’s Black community, he argues that Evansville followed a Northern pattern with implied, rather than codified, segregation.⁹ His

⁷ U.S. Census Bureau. Indiana City/Town Census Counts, 1900 to 2010. Prepared by Stats Indiana. (accessed April 23 2020).

⁸ Dwight W. Culver, "Racial Desegregation in Education in Indiana," *The Journal of Negro Education* 23, no. 3 (1954): 296-302, doi:10.2307/2293227.

⁹ Darrel E. Bigam, "*We Ask Only a Fair Trial*"

work on the emergence of the Black ghetto provides the context for this; however, his reading of the circumstances surrounding Evansville's segregation fails to account for the difference in attitudes toward segregation and its persistence in Evansville compared to other Northern cities with Black ghettos. Importantly, Bigam is the academic authority on Evansville's Black community, and as such, this interpretation has become the prominent narrative.

Some purely historical documentation, absent of distinction between Evansville and other similar Indiana cities, does exist regarding Evansville's legal segregation tactics. In a *Journal of Negro Education* article, Reid Jackson considers the climate of desegregation in 1947 in the United States, with specific emphasis on Indiana.¹⁰ In this work, both Indianapolis and Evansville are documented as continuing to disobey the Indiana desegregation law,¹¹ much like Southern cities which refused to integrate until they were forced to by the federal government. Additionally, Social Scientist Dwight W. Culver reported that Evansville instituted a dual school system after they were forced to integrate under Indiana's 1949 School Desegregation law, a tactic employed by Southern school systems to avoid integration.¹² This work contributes to the emerging pattern of Evansville as a unique—or at least nonconforming—case.

Methodology

In order to properly study the limitations of the traditional narrative applied to Evansville, this paper used a coupled methodology. Part One of this paper endeavored to identify and create a framework for quantifying the generalized patterns of "Northern" and "Southern" desegregation. This was done through a consultation of existing historical literature on specific

¹⁰ Reid E. Jackson. "The Development and Character of Permissive and Partly Segregated Schools." *The Journal of Negro Education* 16, no. 3 (1947): 301-10. doi:10.2307/2966336.

¹¹ Ibid.

¹² Dwight W. Culver, "Racial Desegregation," 296-302.

Northern and Southern cities, as well as expert opinions and trends that have been explored outside of the scope of this paper. Secondly, this paper sought to identify, narrate, and assess the historical events of the desegregation process in Evansville. Prior to this paper, no full account of school desegregation in Evansville had been crafted, nor widely published. Because of this limitation, the chief sources consulted were primary source articles from the city's two newspapers of the time: *The Evansville Courier* and *The Evansville Press*. In addition to articles from these papers, federal court and departmental documents were consulted. Demographic data from the 1970s through the present day, as well as limited contemporary reflections, also played a role in understanding the implications of this research.

The framework created in Part One of the methodology was then combined with the identified history from Part Two to characterize Evansville's educational desegregation. This was done through analysis of each of the identified trends in Part One and a discussion of the extent to which Evansville fit the model. Through this combination of methods, it was concluded that Evansville's desegregation fit the distinctly Southern model of educational desegregation, in stark contrast to the prevailing narrative of this period in Evansville's history. The scope of this paper ends with the integration of the EVSC school system during the 1972-73 school year, though community challenges persisted.

Part One: Identification of Trends

Scholarship has traditionally referred to the existence of two general patterns of segregation in the North and the South, but the specifics of these trends are chronically underidentified. In this paper, the trends that will be explored are: (1) the existence of codified *de jure* segregation enforced by individual school boards, (2) the presence of pressure from the

United States Department of Health, Education, and Wellness (HEW), and (3) desegregation being ultimately driven by a court order.

The first trend distinguishing school desegregation between the North and South was the existence of *de jure*—sanctioned by law—as opposed to *de facto*—maintained in practice, not necessarily by law—segregation. In the Northern United States, explicit school segregation was far less common than it was in the South; instead, school districts in the North built districts that relied on residential patterns. These patterns were often highly segregated as a result of practices such as redlining or community pressures, rather than explicitly discriminatory laws that were more common in the South.¹³ School districts in the North did not typically segregate extensively within their schools past the existing residential segregation. In Figure 1 below, Steven G. Rivkin of Amherst College used a modified version of the Gini Index¹⁴ to measure discrepancies between theoretical integration and actualized integration.¹⁵ The regional breakdown contains the difference between residential and district-based educational segregation. This data reveals that in the North, during the period in this paper, segregation was almost entirely attributable to residential causes. Particularly notable for this study is the discrepancy between the Midwest, with educational segregation arising from 0.88 Residential and 0.08 School District, and the South, with 0.58 Residential and 0.34 School District.¹⁶ This cumulative data provides

¹³ Steven G. Rivkin, "Residential Segregation and School Integration." *Sociology of Education* 67, no. 4 (1994): 279-92. Accessed February 24, 2020. doi:10.2307/2112817.

¹⁴ The Gini Index is typically used as a measure of economic inequality; however, in this case it was converted to a measurement of dissimilarity, based on the index of dissimilarity, which is itself based on the extent to which different racial groups are homogenous within schools.

¹⁵ *Ibid.*

¹⁶ *Ibid.*

quantitative evidence of the greater prevalence of *de jure* segregation in the South as opposed to the North, constituting criterion one.

Table 2. Gini Index Decomposition, by Region and the United States as a Whole: 1958, 1980, and 1988

	1958	1980	1988
Midwest			
Residential	0.98	0.92	0.91
School District	0.08	0.02	0.01
Northeast			
Residential	0.85	0.88	0.88
School District	0.06	0.03	0.03
South			
Residential	0.92	0.79	0.72
School District	0.34	0.10	0.09
West			
Residential	0.89	0.79	0.75
School District	0.15	0.04	0.03
United States			
Residential	0.83	0.84	0.82
School District	0.17	0.06	0.05

*Figure 1: Gini Index Decomposition*¹⁷

Criterion two concerns the involvement of the US Department of Health, Education, and Wellness (HEW) in communities' desegregation. In 1955, the Supreme Court provided direction concerning the implementation of *Brown* in *Brown v. Board II*.¹⁸ This case offered guidance on how to desegregate and granted authority to local districts.¹⁹ This case also called for the implementation of the *Brown* decision to occur at "all deliberate speed."²⁰ As a result of *Brown II*, individual districts carried the onus to desegregate their communities. Ten years later, only 2.3% of Black children in the Southern United States attended desegregated schools.²¹ The passage of the Civil Rights Act of 1964 further expanded responsibility and charged all federal

¹⁷ Ibid.

¹⁸ *Brown v. Board of Education of Topeka (2)*. (n.d.). Oyez. Retrieved February 13, 2020, from <https://www.oyez.org/cases/1940-1955/349us294>

¹⁹ Ibid.

²⁰ Ibid.

²¹ The Courts, HEW, and Southern School Desegregation. (1967). *The Yale Law Journal*, 77(2), 321. doi:10.2307/795081

agencies of the U.S. government to ensure no discrimination occurred in any program receiving federal dollars.²² This effectively forced HEW to assume responsibility for desegregating schools across the United States by withholding funding for schools who refused to desegregate. They targeted egregious examples of *de jure* segregation extensively, with minimal attention paid to school segregation as a byproduct of *de facto* residential segregation. The vast majority of schools under HEW pressure were in the Southern United States, characterizing Southern desegregation.²³

The final characteristic of Southern desegregation is resolution through court-mandated desegregation. Though these court cases also existed in the North, they were significantly more frequent in the South as a direct result of the first trend discussed in this paper—*de jure* as opposed to *de facto* segregation.²⁴ After *Brown*, Supreme Court doctrine held that only intentional segregation was unconstitutional and could be rectified through the Courts.²⁵ Therefore, successful court-mandated desegregation was significantly more common in the Southern United States, where school districts were explicitly segregated further than existing residential segregation, though doctrine later expanded to allow circumstantial evidence of intentional discrimination, which resulted in more successful cases in the North throughout the 1980s.²⁶

Together, these trends create a general framework for interpreting regional school desegregation throughout the Southern United States. It would be remiss to assume that meeting

²² Ibid. 322

²³ Ibid. 330.

²⁴ John R. Logan, Weiwei Zhang, and Deirdre Oakley. "Court Orders, White Flight, and School District Segregation, 1970–2010." *Social Forces* 95, no. 3 (2017): 1049-1075. <https://www.muse.jhu.edu/article/648370>.

²⁵ Eric S. Stein. "Attacking School Segregation Root and Branch." *The Yale Law Journal* 99, no. 8 (1990): 2003-022. Accessed February 24, 2020. doi:10.2307/796681.t

²⁶ Ibid.

these criteria in isolation constitutes Southern segregation; instead, the cumulative Southern experience is effectively signaled by these markers. For the purposes of this paper, the Northern pattern has been constructed primarily as the absence of the Southern markers, though a similar criteria framework could be constructed. The framework built off of these trends can be widely applied to conceptualize regional segregation, though it should not be used to overwrite local history, as in the case of Evansville's formerly generalized narrative.

Part Two: Narrative of Evansville's Desegregation Process

To classify the type of desegregation which occurred in Evansville, the process as a whole must first be explained. Drawing on newspaper accounts from the *Evansville Press* and the *Evansville Courier*, the following narrative has been reconstructed.

Prior to 1949, Indiana school boards had free reign to decide whether primary or secondary education would be segregated in their districts.²⁷ This largely resulted in segregated school systems in the state's larger cities and dual-school systems in smaller communities, where students would be required to travel between cities to attend school with their racial group.²⁸ In 1949, the Indiana General Assembly passed House Bill 242, the Indiana Educational Nonsegregation Law, which required school boards to ensure the gradual integration of "entering" classes—kindergarten, first grade, and high school freshmen.²⁹ The Evansville-Vanderburgh School Corporation (EVSC) of 1949 decided to minimally comply with this law by instituting school choice, though they continued their "double-district system" which enforced segregation despite the illusion of choice.³⁰ At the time, even the minimal change was

²⁷ Dwight W. Culver "Racial Desegregation in Education in Indiana." *The Journal of Negro Education* 23, no. 3 (1954): 296-302. doi:10.2307/2293227.

²⁸ Ibid, 298.

²⁹ "Schools Act to Comply with Anti-Segregation Law." *The Evansville Press*, March 22, 1949.

³⁰ Ibid.

met with heavy resistance from the community, including an injunction filed against the school board.³¹ Nonetheless, the plan was executed, which offered select groups of pupils the choice to attend all white or all black schools.³² This policy was not deemed radical, even at the time. A spokesman from Evansville College, now the University of Evansville, criticized the plan for its lack of real social change and pointed to the college's successes in integration.³³ Throughout the period, the EVSC worked with school corporations outside Vanderburgh County borders to maintain segregated schools by busing students into the city to attend Evansville's all-black high school, Lincoln High School. Students from Boonville and Yankeetown, in the neighboring Warrick county, were forcibly bussed in to attend school at Lincoln.³⁴ In 1962, the EVSC discontinued education at Lincoln, which helped to stave off criticism of a "dual-district" system, though intentional segregation persisted in the elementary and middle schools. Until 1966, this limited choice 1949 plan was EVSC's general policy toward integrating K-8 schools.

Between 1949 and 1972, the tide of national attitudes toward segregation shifted drastically. *Brown v. Board I*, the case ending educational segregation, was decided in May of 1954. Approximately one year later, *Brown v. Board II* clarified that desegregation must occur intentionally and with "all deliberate speed,"³⁵ ensuring that segregation could not drag on under the illusion of being "in progress." Within a decade, the Civil Rights Act of 1964 outlawed segregation across the United States and called all departments of the federal government to help enforce it by withholding funds that would go anywhere practicing segregation. This forced

³¹ Ibid.

³² "Mayor's Group Okays Plan to End School Segregation." *The Evansville Press*. April 5, 1949.

³³ Ibid.

³⁴ *Martin v. Evansville-Vanderburgh School Corporation*. (n.d.). *Justicia*. Retrieved February 13, 2020, from <https://law.justia.com/cases/federal/district-courts/FSupp/347/816/1404396/>

³⁵ *Brown v. Board of Education of Topeka* (2).

HEW to identify and withhold funding from school districts that were practicing *de jure* segregation.³⁶ To avoid being susceptible to such a funding cut, in 1966, the EVSC moved to expand the voluntary transfer plan they had employed since 1949.³⁷ Under this expansion, school choice was extended to all students regardless of grade level. Similarly to the original 1949 plan, this plan failed to undo any of the constructed segregation and, in effect, maintained the “double-district” system which had been created in 1949. Years later, in 1970, the EVSC adopted an expanded integration plan exclusively for high schools. Under this plan, students were assigned to schools on a “well-integrated basis,” as described in the eventual desegregating lawsuit.³⁸ However, this plan did not address the elementary or middle schools. For the grade schools, the expanded 1966 plan was employed, though it failed to account for the “root and branch” of segregation and was eventually met with resistance by HEW.³⁹

The persistent traces of segregation in public schools led to HEW issuing the EVSC a desegregation mandate on July 23, 1971 that threatened to withhold funding if the district did not comply.⁴⁰ This was an application of the powers granted to HEW under the Civil Rights Act to issue mandates and withhold funding for schools practicing *de jure* segregation. Despite this, the EVSC disobeyed this mandate into August of 1971. On August 14th, the EVSC School Board met to reaffirm their decision to disobey the order, since they had not yet lost funding.⁴¹

At the same time, community members from both the pro-integration and pro-segregation sides in Evansville began to gear up for a legal battle. In November of 1971, the EVSC School

³⁶ Eric S Stein. "Attacking School Segregation Root and Branch." 2015-022

³⁷ Martin v. Evansville-Vanderburgh School Corporation.

³⁸ Ibid.

³⁹ Brown v. Board of Education of Topeka (2).

⁴⁰ "HEW Funds Not Lost Yet," *Evansville Press*, August 14, 1971.

⁴¹ Ibid.

Board, in an attempt to comply with the HEW mandate, adopted a plan that would have accomplished a degree of integration for the grade schools.⁴² This plan did not include busing and was focused on only the inner city of Evansville, rather than integrating the entire Evansville-Vanderburgh region. The developing factions attacked this plan from both sides, seeking legal remedies to achieve their goals. A group of white parents and students sought an injunction on the basis that the school board lacked the authority to issue such a plan and disrupt the “neighborhood school system” that had previously been at work.⁴³ In February of 1972, the district court decided in favor of the school board.⁴⁴ This particular case had no bearing on whether the EVSC was appropriately addressing segregation, but it did grant their affirmative right to create districts with the explicit purpose of integration.⁴⁵ From the other side, a group of Black students and their parents, with the support of the local NAACP and a select group of teachers, filed a suit that asserted this plan did not go far enough to eliminate the lasting effects of the “double district” segregated system.⁴⁶ The second suit had a court date in June of 1972, but in February of that year, HEW approved the November plan, pending modifications, which expanded the program to address district-wide segregation.⁴⁷ The EVSC agreed to this plan on May 10th in a 4-3 vote.⁴⁸ On June 15th, the suit was dropped as the parties involved agreed that the amended plan was an adequate step toward desegregation.⁴⁹

⁴² *Martin v. Evansville-Vanderburgh School Corporation.*

⁴³ “Court Rules School Plan within Board's Powers,” *Evansville Press*, August 24, 1972.

⁴⁴ *Ibid.*

⁴⁵ *Martin v. Evansville-Vanderburgh School Corporation.*

⁴⁶ “Both Sides Show Concern on Busing,” *Evansville Press*, August 12, 1971.

⁴⁷ “HEW Approves Integration Plan.” *Evansville Press*, February 3, 1972.

⁴⁸ *Martin v. Evansville-Vanderburgh School Corporation.*

⁴⁹ *Ibid.*

The plan was set to go into effect for the 1972-73 school year. Over the course of the summer, however, a new member was appointed to the EVSC School Board by the Mayor, shifting the approval of the plan. In early August, the EVSC had been defending its busing plan against the anti-integration "Concerned Citizens Organization,"⁵⁰ but by the August 2nd School Board Meeting, this new coalition of members voted to rescind the plan and on August 7th, voted to adopt an alternate, small-scale plan similar to the original, unapproved plan. On August 4th, the plaintiffs from the second community lawsuit filed a motion to reinstate their suit because of the EVSC's failure to comply with the terms of dismissal. Because of the time-sensitive nature of the implementation, the case—*Martin v. EVSC*—was prioritized and heard on August 11th by US District Court Judge Samuel H. Dillin.

At this hearing, the Court sided in favor of the plaintiffs, pointing to the reversal as a clear example of *de jure* segregation.⁵¹ The Court ordered the EVSC to adopt the May 10th plan in the immediate period, but required the School Board to formulate a final plan by January 10, 1973 for the Court's approval.⁵² Immediately following, Judge Dillin published an article in the *Evansville Press* titled "Time to Abide by the Law" explaining his decision and urging parents and teachers to recognize the worth of integration.⁵³

The Evansville community responded with varying degrees of support. Some groups of white parents banded together to form "Freedom Schools" to avoid sending their students to integrated schools.⁵⁴ Others celebrated the court order as a victory for equality in Evansville.⁵⁵

⁵⁰"Schools Seek Dismissal of Antiplan Suits." *Evansville Press*, August 1, 1972.

⁵¹ *Martin v. Evansville-Vanderburgh School Corporation*

⁵² *Ibid.*

⁵³ "Time to Abide by Law, Judge Dillin Says." *Evansville Press*, August 12, 1972.

⁵⁴ "New School Plans to Open Sep. 5," *Evansville Press*, August 18, 1972.

⁵⁵ "Two Views of Court Order," *Evansville Press*, August 12, 1972.

When schools opened on September 5th, integration went mostly smoothly, though some community conflicts persisted for years past the decision.⁵⁶

Application and Analysis of the Identified Desegregation Framework

With this historical record established, it is clear that Evansville's narrative more closely aligns with that of the American South, rather than that of the North where Evansville is technically located. On each of the previously identified markers, Evansville's record falls squarely in the realm of the South, as explored in the following section.

The first characteristic—presence of *de jure* segregation as opposed to *de facto* segregation—is the most complex in the story of Evansville's desegregation. Segregation had been at one time explicitly *de jure*, though once the school choice program was expanded following the 1949 Indiana Desegregation Law, this distinction became more complicated. Evansville's schools were "neighborhood schools" with pupils assigned based primarily on neighborhoods. However, these districts relied on the functionally segregated housing situations of the city—a well documented byproduct of both the Second World War and discriminatory homeownership practices.⁵⁷ Because functionally segregated housing was used as a basis for districting schools, segregation was echoed in the schools and purposefully upheld through the drawing of districts. It was imperfect, however, and some schools were more integrated than others.

In this way, segregation was *de facto*—a Northern trait. Despite this, Evansville's maintenance of the dual-school system in collaboration with Boonville and Yankeetown did constitute traditional *de jure* segregation. Both HEW and the court in *Martin v EVSC*, however,

⁵⁶ "School Classes Go Smoothly," *Evansville Courier*, September 6, 1972.

⁵⁷ James L. MacLeod, *Evansville in World War II* (Charleston: Arcadia Publishing, 2015), 65.

chose to establish evidence of *de jure* segregation differently, as a result of the complexities in distinguishing between types. HEW focused on the presence of “vestiges of the pre-1949 dual school system,”⁵⁸ absolving them of any need to distinguish between *de jure* and *de facto* in the present. This was not an admittance that *de jure* segregation did not exist; rather, it was an insistence, whether or not the EVSC was continuing segregation, the effect of explicit *de jure* segregation from the past was enough to meet the burden of proof of intentional segregation, thus legally requiring a remedy.

The Court pursued a different path. By pointing to the overturning of the first desegregation plan, the court was able to cite a demonstrable example of *de jure* segregation. The court reasoned that in intentionally trying to subvert the HEW approved desegregation order, the EVSC was knowingly attempting to maintain segregation. Through those contemporary analyses, in addition to present day analysis of the period’s segregation, it is clear that the EVSC meets the first criteria to be characterized with Southern desegregation processes. Despite this affirmation, this area represents the clearest limitation of the framework, as Evansville’s segregation was neither squarely *de jure* nor *de facto* at the moment of the federal government’s intervention.

The second metric, HEW intervention, is particularly diagnostic in the case of Evansville. Through its initial order, HEW grouped Evansville only with Southern states and, in fact, explicitly linked Evansville with 17 other Southern and border states as a result of its remaining inequities from the pre-1949 school system.⁵⁹ Not only did HEW link these groups, bolstering the argument that Evansville experienced Southern desegregation, but their actions were also the

⁵⁸ “Evansville Plan Hinges on U.S. Action Elsewhere,” *Evansville Press*, August 8, 1972.

⁵⁹ *Ibid.*

very thing that spurred desegregation in Evansville. The EVSC relied on HEW guidelines and was required to gain their approval on its desegregation plans to meet legal requirements.⁶⁰ Nonetheless, overturning of these approved plans was ultimately the event which led to Evansville's form of criteria three: a desegregating court case, as well as demonstrating criteria one: *de jure* segregation.

As previously explored, *Martin v. EVSC* was an emergency court case held within days of the overturning of the HEW plans. This case was a reopening of a previously dropped suit concerning EVSC desegregation. The court analyzed the extensive body of evidence and found that the EVSC had been practicing *de jure* segregation and that HEW was well within their rights to order the EVSC to desegregate. The court required the EVSC to adopt the HEW-approved plans and submit them to the court for approval. Though this case did not permanently nor immediately resolve segregation in Evansville, its decision provided the framework and legal basis under which desegregation occurred. Therefore, this case constitutes the third and final criterion.

Conclusions and Implications

Under the constructed framework, Evansville clearly meets each of the established markers for Southern desegregation—often in multiple ways. Moreover, by understanding these markers not as the ultimate qualifiers, but as signals that the desegregation at hand is reminiscent of the larger Southern pattern, it becomes even more evident that Evansville's process was that of the South.

⁶⁰ "HEW OK's School Integration Plan," *Evansville Courier*, February 2, 1971.

Today, Evansville schools remain imbalanced along racial lines. The U.S. Department of Education reports that eight schools in the EVSC are over 30% Black and several others are over 90% white, which wildly differ from the city's demographics and coincide with formerly segregated schools.⁶¹ These numbers partially reflect ongoing geographic segregation and white flight, but they also reflect the unfinished legacy of Evansville's segregation. Understanding Evansville's desegregation as distinctly Southern, as is suggested by the historical record and well-documented trends identified in this paper, allows policymakers and school officials to make informed decisions on how best to remedy these issues with the tools, research, and examples available to Southern schools.

Limitations and Questions for Further Study

It is important to note that the framework constructed in this study fails as a universally applicable generalization of *all* school districts in *all* communities across the United States, which is precisely what this paper intended to address in the case of Evansville. The framework is intended to act as a generalization for the purpose of study, not a shorthand of the historical record. Similar research is therefore encouraged on a case by case basis for other school districts to appropriately conceptualize and address their histories.

Secondly, though the scope of this paper does not touch on specific rectifications used by geographic regions, some literature suggests that Southern schools were able to integrate more effectively.⁶² School districts that have associated themselves with the incorrect region may be

⁶¹ "School/District Search: EVSC" *Civil Rights Data Collection*, (2015): Accessed February 13, 2020. <https://ocrdata.ed.gov/DistrictSchoolSearch#schoolSearch>.

⁶² Steven G. Rivkin, "Residential Segregation and School Integration." *Sociology of Education* 67, no. 4 (1994): 279-92. Accessed February 24, 2020. doi:10.2307/2112817.

able to draw on this information. Thus, the particular region-aligned remedies and their efficacy present an additional area for study.

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**Mortal or Goddess: The Immortalization of Euripides' Medea Through the
Goddess Hera**

**How does our understanding of the goddess Hera affect our understanding of the
characterization of Euripides' Medea?**

English, Category 1

Word Count: 3991

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Introduction

Medea was first performed in 431 BC in Athens for a religious festival in honor of Dionysus. Written by tragedian Euripides, it withstood the test of time and became one of the most well-known dramas in the Western theater. Introducing a new interpretation of *Medea* and Jason, characters that originated from the epic poem *Argonautica*, it is a play of passion and revenge. Euripides created a whole new ending for the children of Medea, and in doing so changed Medea's whole character. Besides Euripides' version or retellings of his version (such as Seneca's *Medea*), no accounts of the death of Medea's children mention the idea that Medea caused the intentional death of the sons (Conacher). In Pausanias II, the children are "said to have been stoned to death by the Corinthians owing to the gifts which legend says they brought to Glauce." Pausanias also describes another version of the story where Medea conceals her kids in the temple of Hera in Corinth and tries to make them immortal, in doing so accidentally leading them to their deaths according to Conacher. Euripides' rebirth of Medea's character this time includes a crime passionnel which had not been used before.

Introducing a new interpretation of Medea and Jason, the play is one of passion and revenge. Euripides creates a whole new ending for the children of Medea, and in doing so changes Medea's whole character. Introducing this crime of sexual jealousy gives the characters of Jason and Medea new complexities, the conflict giving way to a game of placing blame. Medea blames Jason for the heartbreak that eventually leads her to kill her children, "Who began this feud? The gods know," (1370-1371). Jason, however, feels the other way, "It was not my hand that killed my sons," (1377). McClure argues that this blame speech that Medea uses, especially used against women during this time, enforces the characterization of Medea as a

“male hero.” This characterization of her has been long debated and elaborated, first by A. Maddalena in 1963. They argue that the speech used for Medea is speech and diction that writers in Ancient Greece would use when writing about epic heroes, “She wishes to appear formidable and invincible rather than vulnerable in the faces of her opponents,” (McClure). Taking this information, it is clear that Euripides was not trying to write Medea in the same way playwrights had written women in the past, he attempts to change her and her character in a new way to emphasize something specific about her character. However, further in this paper, McClure argues that there’s a discrepancy in the speech patterns used, indicating that while she was written to appear like an epic hero, she faults in doing so because of the mix of feminine and masculine qualities.

Boedecker compares Medea to a few great male heroes, including her husband Jason. She argues that her speech and actions reflect those of Jason’s by the end of the play, “By the end of the drama, in the view of many interpreters, the mortal, womanly Medea has somehow died. Her murder of a mirror image of herself surely suggests (or accomplishes) such a demise.” Boedecker even goes as far to use that to compare Medea to Achilles from Homer’s Iliad, suggesting “that just as Homer’s Achilles kills a Hector wearing Achilles’ own armor, Medea too is killing in image of herself.” Medea’s character is unlike many female characters from Euripides’ time. Conacher also agrees with the idea that Medea is not just an ordinary woman, bringing up a point about the chorus’s “reference to Ino... intimates that no human mother could bear to live after slaying her children.” So who is Medea? Is she a Scylla (1344) like Jason says? Or is Euripides trying to say more about this character?

Euripides changes Medea’s character from a barbarian princess to a cold, cunning, and passionate mother, but in doing so he changes her image. In Apollonius Rhodius’ Argonautica,

the epic poem that tells the story of how Jason and Medea came together, there is a line using a simile about a girl wearing a wedding dress. This line is then compared to Medea and her excitement about marrying Jason in the future (4.167-70). This dress directly parallels the same gown Medea gave to the Corinthian princess that was covered in poison that led to her death (Knight). The use of this allusion shows the change Medea goes through. From a blushing, excited young woman to a brokenhearted and cunning mother. This supports the idea that Euripides took the character that Apollonius Rhodius wrote and changes it to better fit his image of Medea, also supporting McClure's argument that she had a mix of masculine and feminine attributes: a mix of past and current traits battling each other in her head. That isn't the only allusion Knight brings up in the play, arguing that the same dress and coronet that Medea poisons and gives to Jason's bride are also the same wedding gifts she receives in book 4 of the *Argonautica*. This can be seen as Medea giving up everything that reminds her of her marriage to Jason in the play after the betrayal she felt from Jason. By giving up the dress and crown she's giving up the old memories she still carries of her past with Jason.

The use of the gown and coronet that were given to Jason's bride is not just an allusion to *Argonautica*, but also to *The Iliad*. The image of using feminine and materialistic items to win someone over is a crucial part of Hera's plan to deceive Zeus in book 14. Hera puts on a gown and headpiece to try and seduce Zeus into him looking the other way (14.175-186), which directly parallels Medea giving the gown and coronet to the princess to win her over (943-50). This is not the only similarity Medea shares with the goddess Hera. Both the mortal and the goddess suffer from their husband favoring other women over them (Zeus even happens to give a lengthy list of said women during Hera's seduction at 14.312-28). Hera, however, is known for acting upon hearing of each encounter Zeus has with another woman. From Semele (Ovid's

Metamorphoses 3.251) to Io (1.567), Hera acts out of sexual jealousy. One of the most notable ones, and one also written by Euripides, is Heracles slaughtering his wife and sons from madness brought about by Hera. Boedeker compares Medea to a goddess as well but claims that Medea is similar to Aphrodite because of the constant references to a marriage bed in the play. Moreover, Aphrodite is responsible for Jason and Medea's marriage, for she convinces Eros to make Medea fall for Jason in the *Argonautica* (3.127-144), and also came to the aid of Jason in Colchis, helping him as Medea did. The issue with this argument is that Aphrodite did not make Medea fall in love on her own accord, Hera convinces her to. The references to the marriage bed could be used to compare Aphrodite, goddess of love but more importantly to Hera, goddess of marriage who is the protector of married women (Hamilton, 22). The use of imagery for beds and marriage beds repeats several times over in the entirety of Euripides' tragedy, both of which can be tied to Hera. Euripides had written a female character who acts out of sexual jealousy by a husband who betrays her for a younger woman, ignoring their marriage vows when Medea worships those oaths. The uses of these, matched with the imagery of the dresses both Hera and Medea uses to deceive and outwit their husbands, make Euripides' character of Medea much more clear. Hera is never mentioned in the play except in the final scene where Medea announces she'll bury her children in a temple of Hera (Holland).

It also is important to point out the use of *deus ex machina* in the play. *Deus ex machina* is defined by the Merriam-Webster dictionary as "a god introduced by means of a crane in ancient Greek and Roman drama to decide the final outcome." This mechanism was ONLY used in plays where gods are characters that appear to give them a more godly presence, however, no gods are present in the entirety of Medea. Yet, despite this fact, Medea is seen using this mechanism in the final scene with her chariot pulled by dragons. Levett agrees that this is

significant and that Medea is “something more than mortal as she appears on the high in the chariot.” What if Medea’s characterization was never meant to be a male hero or a monster of any kind, but rather a goddess?

Many scholars agree that this play was a “strange play” (Palmer) for the time it came out, there has been much debate about what Medea’s characterization is. Many people focus on the use of oaths, such as Allen who argues that Medea loses credibility in her reasoning behind committing the crimes with her use of oaths, as well as Garstad who analyzes the use of oaths and the effect it had on the Athenian audience at the time. Lawrence wrote about how the audience would have felt uncertain about Medea as a character, not sure if to agree or disagree with her actions at times, but not much on their impressions of her characterization. What researchers seem to not often think about is what the audience would have perceived Medea as, and how Euripides would have, at the time. Hera was a goddess worshiped and praised by the people of Ancient Greece at this time, they were more likely to be more familiar with her than the myth Medea originates from, so there is a chance people in the audience only knew Euripides’ characterization of Medea. I believe that Euripides makes this new character of Medea based loosely on Apollonius Rhodius but mainly creates his own Medea through the image of Hera.

Throughout this essay, I will argue that Euripides creates Medea and her character in the image of the goddess Hera as a thematic way to make Medea seem more powerful as a mortal woman to seem highly capable of horrific things. However, in doing this, Euripides made her seem less mortal and more immortal, making her seem like an Olympian herself using specific diction of sacred items, thematic parallels between Medea and Hera of sexual jealousy, as well as the symbolism of a dress and headpiece.

Methodology

This was a qualitative study of Euripides' *Medea*. For the purpose of this paper, only the translation of *Medea* by Philip Vellacott was read in order to not blur together two different translations—unless a specific word or phrase was compared to other translations to understand the limits of this specific translation. In that instance, only the phrase would be looked at in the separate translation and no other parts. No other version of *Medea* was read other than Euripides' edition (such as Ovid's or Seneca's *Medea*) to focus on his interpretation of the character. Any comparisons to other interpretations were drawn from papers written by other researchers. When reading Euripides' *Medea*, notes were taken on keywords and themes that repeated throughout the story that could be compared to Hera: references to beds/marriage/marriage beds in any form (I did not include the use of terms such as "wife," "husband" or "bride" unless it preceded or followed a phrase indicating marriage), the word "queen" or any other royal terms when referring to Medea, the use of deception against men, and feminine charms including the dress and golden crown Medea uses.

When looking for information on Hera, several different myths were looked at to find agreed-upon characteristics of her character. The writers chosen for the sake of the paper include Hesiod, Homer, Ovid, and Apollonius Rhodius. Despite using a Roman work where the Roman names are used for the characters, for this paper the Greek names are used to not create confusion. A large pool of myths including Hera, most focusing on her acts of sexual jealousy, were needed to find the agreed-upon characteristics to establish a basis of her overall character for the use of comparison. The myths chosen were ones comparable to Medea's character that show Hera's use of deception, feminine charms, and sacredness of her marriage bed.

The Marriage Bed

The play *Medea* is full of motifs that are sacred to Hera. The importance of marriage and the marriage bed to Medea in the entirety of the play repeats over and over again. Throughout the play, I highlighted any mention of marriage, beds, or the marriage bed. All considered sacred to Hera, Euripides' includes many references to these in the play. Ranging from "Your marriage lost, your bed solitary," (436) to "Should I set fire to the house, and burn the bridal chamber? Or creep up to their bed..." (378-379). Any use of the word marriage or reference to marriage ("Then you became my wife" from line 1338) was included. In the end, I found 35 references out of all 1419 lines. That means on average every 41 lines in the play there is a reference to not only something sacred to Hera but something that concerns Hera in several instances. It concerns Medea so much in this play, that it almost feels as if her marriage bed is sacred to her as well. Euripides emphasizes this often, "But touch her right in marriage, and there's no bloodier spirit," (262-263).

In *Theogony*, Hesiod writes of the birth of Hephaestus, after Zeus gave birth to Athena. Hera tries to conceive of Hephaestus on her own because "she was angry and quarreled with her mate," (Hesiod, 924). Hera is known for never sleeping with anyone besides Zeus, unlike Zeus who is known for sleeping with many other women (more on that later). Hera acts out of sexual jealousy in respect of her marriage bed to try and get back at her cheating husband. The respect for the marriage bed not only connects Medea to Hera, who also acts out of respect for her marriage by not cheating like her husband but trying to find some other way to make him suffer

consequences. Medea never tries to “dishonor” (1355) their marriage bed like Jason, much like how Hera never does either. Both of them can come up with more cunning ideas.

Sexual Jealousy

Medea shares several thematic parallels to other myths Hera is a part of. The first and most prominent one is a wife acting out of sexual jealousy. In Medea’s first monologue (lines 214 to 263), she explains why she is so distraught by Jason’s decision to marry another, in lines 261-263:

“...A woman's weak and timid in most matters;
The noise of war, the look of steel, makes her a coward.
But to touch her right in marriage, and there's no bloodier spirit.”

The reason she starts plotting against Jason is that she believes that marriage is the one thing that matters to women, and in him disrespecting their marriage he disrespects her. Medea even acknowledges to Jason in the final scene that she agrees it is not a “slight” injury to a woman (1364). She did not commit the atrocities she did because she is vain or “a foreign woman” (239), she acts out because of the attack on her marriage. The repetition emphasizes that that is the only reason. Hera is known to also act out of sexual jealousy after Zeus disrespects their marriage bed. In Ovid’s *Metamorphoses*, Book III, Ovid writes of the myth of Semele, the mother of one of Zeus' children. When Hera learns Semele was pregnant with Zeus' child, she became furious:

“In injured passion, she began to speak

‘What have I gained by all my threats and warnings? That girl must feel my anger, not my words.

If I am to keep the name Empress [Hera],
 To hold the jewel-wrought sceptre in right hand,
 If I am queen of all the world, [Zeus’] sister,
 His wife, indeed his sister, I must act.
 It seems the girl enjoys adultery,
 But this betrayal of my marriage bed
 Is of the moment; she conceived, is pregnant
 As though to show how big she is, how proud
 Of being made a mother by great [Zeus],
 An honour that has scarcely come to me.
 The girl is vain of her good looks; I’ll
 Make her vanity the cause of her disaster.’”

This act of sexual jealousy by Hera can be directly parallel to Medea poisoning Jason’s new bride. In both instances as well, the victim of the women’s death had something to do with fire, both of the women burned in some way. Medea’s poisons on the dress and cornet given to Glauce, described by the messenger, causes the princess’s skin to catch on fire, “The more she shook her head the fiercer the flame burned,” (1193). Semele is killed the moment she sees Zeus’ true form, “No could her body take the full thrust of godly heat and love; It flamed to ashes in

Jove's quick embrace." Both of these deaths were planned before, both executed flawlessly and with much pain inflicted on the targets. The fires they both use further emphasize the burning rages they both felt from the betrayal of their marriages and their beds. The chorus in *Medea* even acknowledges this, "For jealousy of your marriage-bed," (997).

Euripides even goes as far to show he does believe that Hera is a goddess that acts out of jealousy. While not in this play, Euripides' tragedy of *Heracles* also highlights this. Hera is not a present character in the play, but she is mentioned as the driving force to make Heracles go mad and murder his wife and children. Iris, the messenger for the gods, is the one who tells the audience that Hera was the one that brought Madness upon Heracles (852-853). This gives us more insight to how Euripides himself views Hera, especially since this play includes an example of Hera acting out of sexual jealousy. Instead of Hera killing Zeus' child he had without her, he forces that child to kill his family. It lines up with the theme of *Medea*, indicating that Euripides carries around this sentiment about Hera as a playwright, and therefore considers it when writing the character Medea.

The Dress and Headpiece/Feminine Charms

Hera and Medea are both cunning figures as well, which is proven with the use of two simple items: A dress and a headpiece. For this point, I will be bringing up Book 14 in Homer's epic, *The Iliad*. In this scene, Hera plans to deceive Zeus to aid the Achaeans by tricking him into sleeping with her so she could pour sleep over his eyes, allowing the Achaeans to travel unnoticed. To do this, she cleans and anoints herself and puts on a dress and headpiece to seduce Zeus into sleeping with her. She makes use of these items to blind him from her true intentions.

The dress and headpiece serve as feminine items Hera uses to help her seduce and outwit Zeus, representing her using her femininity and sexuality to her advantage. She plays dumb at the moment, trying to trick Zeus into thinking she has no plans when the opposite is true. Hera's actions in this reflect the actions of Medea throughout the play. Medea tries to trick three men (Creon, Jason, and Aegeus) by playing dumb or innocent. She appeals to what they expect to see of a woman, and it works at times. By playing the victim, she tricks Creon into letting her stay an extra day before exile:

Medea: For my two sons, since their own father is not concerned
 To help them. Show pity: you are a father too,
 You should feel kindly towards them. For myself, exile
 Is nothing. I weep for them; their fate is very hard.
 Creon: I'm no tyrant by nature. My soft heart has often
 Betrayed me; and I know it's foolish of me now;
 Yet non the less, Medea, you shall have what you ask.

Medea is able to trick Creon into giving her what she wants as she plans so she can scheme and get back at Jason. Her cunning pays off as she plans to kill Glauce, but her planning shifts as the play continues. She knows she must trick Jason and Glauce somehow so she can have an opening to kill them before fleeing. In order to distract everyone from her true intentions, she uses a dress and a golden coronet. Medea says to herself they are the "loveliest things to be found anywhere on earth" (946), and that they will convince Glauce "if she's like

other women,” (943). The dress and coronet are a distraction to hide the burning poisons Medea embeds in them, similarly to the dress and headpiece, Hera wears to distract Zeus from her true intentions of putting him under sleep. They symbolize the feminine charms both women use to distract the characters around them into believing what they want them to believe.

Euripides made Medea in the image of a goddess, making her feel more powerful as a character but also as a woman. I believe it was always his plan to make her feel like a more powerful woman, but he wants to do it differently. While in the *Argonautica*, it is stressed that Medea is a sorceress of Hecate and uses her own magic to her advantage, little to none is seen in this play. Creon mentions her “many evil arts” (285) referencing the magic she once used, but not seen here. She is seen using poisons to kill the princess and king (she is not seen physically acting upon this however, not once does she leave the stage in between her deciding to poison the dress and crown and her giving them to her children to send away) and fly away on a chariot pulled by dragons (a gift to her from the god Helios, not her own magic) and that’s it. This seems to give the effect that she is more human in this than a sorceress, but it does just the opposite. Because of the lack of her normal magic, she is performing all of these acts with her strength, not any magic from Hecate. It makes her a less powerful sorceress but still, she holds that power. As mentioned before, Jason states that he married “no woman, but a tiger; a Tuscan Scylla-but more savage,”(1344), creating the idea that perhaps Medea is indeed no mere woman, but indeed a goddess created in the image of the goddess Hera.

Conclusion

In conclusion, Euripides did try at one point to make Medea seem “formidable” as McClure suggested, making her in the image of male heroes of the past to create a strong character. However, since most of the interpretations of strong female characters at the time were only goddesses seen fighting in epic poems for what they deemed right, Euripides accidentally made a goddess of a character himself. In doing so, he gave a goddess for other women to look up to, which is most likely why this play today is so popular when looking at it from a modern perspective and why it would not have been as popular in 431 BC. It is because of Hera and the characterization of Hera through the years that allows Medea to withstand the test of time from 431 BC to now. From a barbarian princess who betrays her family to a goddess, Euripides's Medea not only gives us a broken, tragic hero ahead of her time but a goddess who can do what can be seen as wrong and still be seen as right in the eyes of the gods. Medea is a lesson for all other mortals and all other gods to adhere to in the eyes of the great tragedian Euripides.

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SEEING AMERICAN VALUES IN BHARATNATYAM

Seeing American Values in Bharatanatyam

Subject: Dance

AP Research

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ABSTRACT

The purpose of this study was to determine the extent to which the values of America can be seen through the classical Indian art form of Bharatanatyam. Prior research has indicated that there are several instances in which the two cultures have been compared specifically when it comes to religion, politics, and spirituality. Research has shown previously that there are several similarities between the two cultures specifically when it comes to religion and the roots of Hinduism and the roots of Catholicism. The same research testimony provided the information that there are similarities between Hinduism and Catholicism when it comes to art forms specifically comparing Bharatanatyam and Baroque Ballet of the 17th Century. It later compared the values of the two cultures. The values specifically had to do with religion and the ability to represent religion in dance. While this research seemed to simply compare the two cultures through the representations of religious values in dance choreography, it did not inspect a broader viewpoint of the culture as it only focused on religion. The research conducted in this study below takes a look into the values that are held by the general culture in the United States. Due to time constraints, these values were chosen by prior research done by an intercultural trainer and a travelled professional L. Robert Kohls. Research done in this study below, and the study done by Kohls have great significance to modern society. The significance of this study is to set new boundaries among diverse cultures, to promote unity in the increasing diversity of the world today, and to demonstrate different cultural values through an ancient art form. There are two important keywords in this study, Bharatanatyam and values. Bharatanatyam is an ancient south Indian dance form "from the South Indian state of Tamil Nadu" ("Bharatanatyam: A STORY FOR THE GODS."). Bharatanatyam is the dance form in which the dance is being

choreographed to. According to Merriam Webster Dictionary, values means “the relative usefulness or importance of something as judged by specific qualities” (“Value Synonyms, Value Antonyms.”). Values are represented by what Kohls discussed in his prior research. These two terms, Bharatanatyam and values, are used often throughout the research study as the study focuses on how values held high and of significance in America can be seen in the Indian art form of Bharatanatyam. The method was conducted through the artistic process, as a dance was choreographed. The choreography consisted of Bharatanatyam steps aspects while representing values that are considered high and respected in America. When the dance was performed, it was clear through the interpretation that was made, that the choreography effectively communicated the values of America in an Indian dance form. The interpretation was done through a number scale in which effectivity in communication was rated on a scale of one through five. Future research can grow from these results by conducting a research study in which a certain group of people are interviewed, such as teenagers between sixteen and eighteen or females that are between ages ten and twelve, and see what they consider values in America. In the future, a dance can be created from what the survey gathers, and an interpretation of accuracy can be assumed.

LITERATURE REVIEW

Bharatanatyam is an ancient form of dance from India that dates back several centuries, all the way to two hundred B.C. E. It originates from the South Indian state of Tamil Nadu and is “linked to the ancient Sanskrit text of the performing arts, the Natya Shastra (written in two hundred BCE)” (“Bharatanatyam: A STORY FOR THE GODS.”). It is one of the seven ancient and classical dance forms of India. Originally, it was a dance that was only performed in Hindu temples, however today it is practiced and performed around the world in any setting. The dance

is considered to be a religious dance in which different Gods are represented through the story telling method, however the dance has evolved into society today and become more, it has become an activity and hobby for many people ranging from young to old age, both men and women.

Bharatanatyam has three main elements, facial expressions, footwork, and hand movements. According to research on the background of the art form of Bharatanatyam, the dance involves “facial expressions and hand gestures...There are 28 single-hand mudras and 24 double-hand mudras, and each gesture has an accompanying sloka, or poem, to describe its usage” (“Bharatanatyam: A STORY FOR THE GODS.”). With these hand movements, a story is created. These hand movements are significant because they tell the story. The different mudra describe a story of a character or a characteristic quality. Bharatanatyam conveys the story of a certain God, on occasion, multiple gods, and demonstrates a moral, a quality, or a simple lesson. According to the organization Rangashree, a school of Bharatanatyam, “The movements of Bharatanatyam are unique. They share elements with other classical Indian dances, but aren’t found in any western dance style” (Hoffman). The movements done in the dance are highly rhythmic and expressive. The facial expressions are crucial to the dance and are recognized as nine emotions known as Navarasas. The nine Navarasas are “delight, laughter, sorrow, anger, heroism, fear, disgust, wonder, and peace” (Anjali). They are all demonstrated through specific expressions.

Bharatanatyam’s legacy is significant to the research being conducted. According to an academic journal written by Rajika Puri, “It is the most popular and well-known of the classical dance forms performed in India today” (Puri). Dating back several centuries, the classical dance of Bharatanatyam still exists today and is very popular. It is one of the seven original classical Indian dances that is still alive. Today, the dance is performed widely around the world.

Bharatanatyam today has several added elements that enhance its exquisiteness and beauty today.

One perspective of the beauty in Bharatanatyam comes from the costume and jewelry. The dance involves beautiful and unique costumes with different colors both traditional and eccentric, and while sometimes the colors pertain to the dance and the character being portrayed, many times the colors are chosen simply according to the dancer's wishes. The costume is "six yards of hand-woven silk (a *sāri*) interwoven with gold threads. The border and one of the ends of the *sāri* are normally in a contrasting color" (Puri). The sari is cut into several pieces that all come together to form as the costume. The most prominent feature of the costume is the middle fan. Today, the costume is considered "the fan costume" (Puri). The jewelry used in Bharatanatyam is very elaborate and tiny, but very meaningful. It typically consists of hundreds of pearls, rubies, and emeralds that are adorned around the dancer's head, neck, and feet. The different pieces involved include bangles, anklets, headpieces, necklaces, and a belt. It is said that, "The dancer wears at least 10 pieces of gold jewelry" (Puri). The make-up is another part of the costume of a Bharatanatyam dancer. The make-up is said to portray "the way in which a Southern Indian bride is dressed...it is the most ornate costume that a Southern Indian woman wears during her lifetime" (Puri). The make-up consists of heavy eye-liner, lipstick, and a tilak which represents a married woman. The costume is an important part in communicating the traditional and ancient aspects of the dance.

The performance perspective of Bharatanatyam is extremely important and critical to the purpose of the dance. An Arangetram is the graduation of a Bharatanatyam dancer and it is typically a solo debut with several dances that are practiced through the dancer's career. Although it represents an end to the learning of the dance, it actually marks the beginning of new opportunities in the world of Bharatanatyam. According to the Deeksha School of

Performing Arts, it literally means, “ascending the stage” in Tamil (“Arangetrams.”). The graduation marks being done with the learning and diving into the enjoyment of learning the dance. It has to do with the creation and getting into the rhythms and purpose of the dance.

The significance of Bharatanatyam is important in today’s society and its evolution into modern times is relevant to the research conducted. The relevance of how the dance is performed and the choreography of the dance is significant as it shows the importance of this ancient dance in today’s society and how its methods of being created still live today. There is a significant amount of research and several testimonies that are pertaining to Bharatanatyam in society today having to do with the origin of the dance. Susan Walker gained testimony from Lata Pada, a Canadian Bharatanatyam choreographer in which Pada discusses how she “sees no contradiction in calling herself an Indian and a Canadian... she maintains strong ties to India’s Bharatanatyam dance culture” (Walker). This testimony is significant to the research study as this study is measuring how American values can be seen in Indian culture. Walker demonstrates how Pada describes that she maintains her Canadian values through Indian culture, which is relevant to the study.

According to L. Robert Kohls, a well-known intercultural trainer, there are several values that are given significance in America. He wrote in his book, *The Values Americans Live By*, about the different values of America in which he names “independence as People are seen as separate individuals (not group members) with individual needs” (Kohls). He later describes “acquisitiveness as material goods are seen as the just rewards of hard-work, the evidence of God's favor” (Kohls). Kohls then describes honesty as an important value when he says, “One can only trust people who ‘look you in the eye’ and ‘tell it like it is’. Truth is a function of reality not of circumstance” (Kohls). He describes work as significant when he describes it to be, “Americans believe that work is morally right; that it is immoral to waste time” (Kohls). In this

research study, the American values of independence, acquisitiveness, honesty, and work, presented by Kohls are measured.

Father George at Boston College looked through the lens of comparing Catholicism and Hinduism. He describes how Bharatanatyam is, “a commitment of the whole person, body and soul. Everything that is danced is in place of God. God may be Shiva, or Krishna — or one of the other gods of the Hindu tradition” and how this compares to Catholicism when he says, “Jesuit enthusiasm for baroque ballets in the 17th century” (Higgins). Father George’s account of comparison between Bharatanatyam of Hindu culture and Baroque Ballets of Catholicism proved that there have previously been comparisons of American and Indian dances through the viewpoint of religions. However, there is a gap. There are not many studies in which American and Indian culture have been compared in the way where the ability to measure the effectiveness in demonstrating American values through a cultural tradition of India has been done. Because this is a broad topic and can be done through several methods, the route was taken to produce this measurement through an art form as this has not been done in prior studies. This leads to the research question of this study, “How can modern American values be represented in Bharatanatyam, a classical Indian dance through its hand movements and facial expressions?”. In this research study, the ability to demonstrate the modern American values of work, acquisitiveness, independence, and honesty through Bharatanatyam are measured using an artistic process.

HYPOTHESIS

Before conducting research, there was a desire that the research study would blend modern American values into a traditional Indian dance. The hypothesis was made that choreographing a Bharatanatyam dance in which the American values classified by Kohls in his

book *The Values Americans Live By*, of work, acquisitiveness, independence, and honesty, would be successfully represented (Kohls).

METHODS

The method for this research was done through the artistic process, a creative research design. This was chosen as part of the gap which was to be able to demonstrate values held of high importance in American through an art form, in this case Bharatanatyam. A dance was choreographed in which the American values of work, acquisitiveness, independence, and honesty are represented as they are considered the highest in America. These were the American values that were ultimately chosen after much research. First, a song that was appropriate for the Bharatanatyam aspect, as well as one that touched on the important values with the lyrics, was chosen. The song chosen for this research study was "Krishna" by Colonial Cousins. The music chosen was significant and chosen with purpose in mind as the lyrics were in both English and Hindi, so it represented both traditional Indian values as well as modern American values through the lyrics. The song was chosen by listening carefully to different rhythmic Bharatanatyam music and listening carefully to the lyrics and the meaning of the song altogether. The song "Krishna" demonstrated the ideals of both Indian and American cultures, and therefore it accomplished the goal of diversity that the research study was looking for. The next step after choosing an appropriate song is choreographing a dance with the elements of Bharatanatyam, footwork, hand movements, and facial expressions ("Bharatanatyam: A STORY FOR THE GODS."). The song is approximately five minutes and eighteen seconds. Since the song itself was about five minutes, the dance was choreographed over a ten week period. In two weeks, one minute was choreographed. The dance was choreographed on the weekends. At the end of the ten week period, the dance was recorded. There is a repetitive chorus which says, "So come back as Jesus, come back and save the world, bless all the future, of every boy and girl,

come back as Rama, forgive us for what we've done, come back as Allah, come back as anyone” (“Colonial Cousins - Krishna Nee Bega Baro Lyrics.”). The choreography for this repetitive chorus was the same and the alternating parts of the music, with different lyrics, were choreographed differently with Bharatanatyam steps and elements. The repetition of the lyrics and choreography made the management of time more convenient in learning and practicing within the time period given for the research study. Each time a new minute was learned, the previous minute would be practice in addition to the newly choreographed part. This was important in order to memorize the dance and to add facial expressions, the navarasas. When the dance was done being choreographed and learnt thoroughly, with all the steps memorized, the dance was performed. This was done by setting up a video camera in front, which was done by another adult. This additional person filmed the dance. In this performance of the dance, the sari typically worn in a Bharatanatyam performance was worn. In addition to the sari, the extravagant “marriage like” makeup and gold jewelry was worn as it was a debut performance. Recording the dance took several tries, approximately ten, in order to get a perfect run through of the dance in the most accurate and detailed way. The video was then interpreted and the effectiveness of conveying American and Indian values was determined. The determination of whether these values could be tied together and represented through the art of dance was measured. The ability to achieve the mix desired originally was measured and the effectiveness in tying the cultural values together was measured. A number scale was made to determine the effectiveness of representing the values of work, acquisitiveness, independence, and honesty, in the categories of hand movements and facial expressions. The scale is made from one to five, one being not effective at all, and five being the most effective. The artistic process for the method captures the experiment in the way that the diversity of the two cultures of the two nationalities can be represented. The simple interpretation test is a way in measuring if this

ability was effective. This method is appropriate to determine how two cultures that are very traditional and old can be represented in a modern society.

RESULTS

	Facial Expressions	Hand Movements
Work	4	5
Acquisitiveness	4	3
Independence	5	4
Honesty	3	5

Above is a table that displays the results gathered from the interpretation of the choreographed dance. It puts the four American values of work, acquisitiveness, independence, and honesty, determined by Kohl in his book as the variables that are being measured. These values are being measured through the two important aspects of Bharatanatyam, facial expressions and hand movements. Facial expressions and hand movements are being measured in the ability to see its effectiveness in communicating the American values.

DISCUSSION

Throughout the song, there were several lyrics pertaining to the values brought up by Kohls. The song presents the lyrics, "Time is the healer, Time moves on, Time don't wait for anyone" ("Colonial Cousins - Krishna Nee Bega Baro Lyrics."). With these lyrics, the hand movements and facial expressions pertaining to work were presented as through Kohls's definition of this value, he discusses how this value represents how Americans waste no time. Later in the song, the lyrics "And you are the only one, We can rely on, To build a better world" ("Colonial Cousins - Krishna Nee Bega Baro Lyrics."). With these lyrics, the

value of independence was represented. This was shown with these lyrics because Kohls's definition brings up how independence shows individuality and accomplishing duties by oneself which are exactly what these lyrics communicate. The lyrics also say, "Everybody wants control" ("Colonial Cousins - Krishna Nee Bega Baro Lyrics."). This shows the acquisitiveness that Kohls was originally describing in his book. It demonstrates the desire for good after working hard. The lyrics also said "To build a better world" ("Colonial Cousins - Krishna Nee Bega Baro Lyrics."). Honesty and the desire for truth can be shown here to demonstrate an advancement in the world. With the different lyrics in this song, the American values originally proposed and described by Kohls in his book, *The Values Americans Live By*, were shown and choreographed. While the lyrics were not part of the measurement and interpretation in this study, they contributed effectively to how the dance was choreographed and the effectiveness of the choreography.

The method was overall conducted successfully and the self-choreographed dance was recorded successfully. The choreographed dance was then interpreted through a self interpretation in which the four values discussed in the literature review, work, acquisitiveness, independence, and honesty, were measured according to two of the three important elements of Bharatanatyam, facial expressions and hand movements. A scale of one through five, as discussed in the method, was made in which one represents completely ineffective and five represents most effective. Work and acquisitiveness were represented as four for facial expressions. This was as a result of effectiveness in demonstrating those values through emotions, or Navarasas, of heroism, wonder, and delight which are three of the nine original navarasas in Bharatanatyam. Independence was given a five for facial expression because it could be seen through bravery, compassion, as well as anger in the dance, three important

Navarasas in Bharatanatyam. Honesty was given a three because this was not conveyed as well. While it was shown through love, the idea of honesty was not effectively communicated as there was a difficulty in matching up a Navarasa with this American value. In hand movements, the values of work and honesty were both given a five. This was because the mudras, the hand movements, conveyed very effectively those values. The idea was conveyed and portrayed in a way where the action was seen and understood. Bharatanatyam hand movements were effectively able to show honesty and work in a way that was understood. Acquisitiveness was given a three because the idea was not conveyed as effectively and could be taken for another meaning. It could have been choreographed in a more understandable way when it came to the hand motions. It was communicated by putting the hand to the face in a questionable way, however this simple movement could demonstrate several other qualities. The hand movement of Bharatanatyam did not convey this quality in a way that was effective. Independence was given a four because the action of putting hands up in air communicated the idea of independence. However, it could have been communicated a bit more effectively to get the full idea. Overall, the scores of one through five show that the choreography involving elements of Bharatanatyam was extremely effective in communicating the four main values of America.

IMPLICATIONS AND LIMITATIONS

The results demonstrate that overall the research done in this study with an artistic process was successful. It has proven that the purpose in the ability to find American values through the Indian dance of Bharatanatyam was successful. While the results proved to be successful, there were several implications and limitations that became evident in the end and throughout the process. Because the method was artistic, there was a significant

amount of creative and independent work involved. This was an implication because as a result, a large amount of time was being used choreographing the dance. Coming up with original dance moves was what took up the most amount of time, which could be done better if more time is given in future research. Another implication that was seen in the results and discussion was that some of the hand movement and facial expressions, Navrasas, were not enough to describe the American value shown in the choreography. Also, choosing the music was another step that took a significant amount of time. Choosing an appropriate song is important in effectively completing this artistic process and achieving and proving the final purpose. Similarly, a more thorough scale of measuring the interpretation of the dance could be made if more time was given. While these parts in the process were accomplished in the time given, they could have been done more effectively if a larger time period was given. Time was a significant limitation on the lengths that this study could go, and with more time, future research on this topic and future studies similar to this can be extremely successful and very beneficial.

CONCLUSION

In conclusion, from prior research, this research study, the method, and results, the study has gathered that it is indeed possible for there to be a mixture of culture of India and America, in which American values can be seen through the Indian dance of Bharatanatyam. The gap of accomplishing this research through an art form was successful and proved effective in getting the purpose across. Through the creation of a dance, the portrayal of different values idealized in America were demonstrated. The four values originally written about by Kohls in a book, work acquisitiveness, independence, and honesty were specifically represented in this dance. This proved the original hypotheses made prior to conducting the method and research study,

successful. In future research, when there is no major time constraint, the values can be chosen through a survey style instead of simple research. Instead of deciding the values chosen from a book developed from prior research studies, as was done in this study, a survey can be conducted. A specific group of people can be chosen, in which these people decide what they believe significant American values are. This future study will benefit the general public more as it will display less bias and as a result show a greater sample size in who considers these values to be held high. In future studies, the choreographed dance can be performed and demonstrated in front of a large audience. This will be effective in spreading the original purpose that is proven successful as a result of the study. This could all be possible because more time will be available in the future to conduct thorough research and a method that is focused into benefitting a certain population while this study was more beneficial to the general public. While this research study was successful in communicating its purpose of seeing American values in Indian dance, it can be conducted in the future to gain more insight into the topic and to benefit more people.

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AP[®] RESEARCH 2018 SCORING COMMENTARY

Academic Paper

Overview

This performance task was intended to assess students' ability to conduct scholarly and responsible research and articulate an evidence-based argument that clearly communicates the conclusion, solution, or answer to their stated research question. More specifically, this performance task was intended to assess students' ability to:

- Generate a focused research question that is situated within or connected to a larger scholarly context or community;
- Explore relationships between and among multiple works representing multiple perspectives within the scholarly literature related to the topic of inquiry;
- Articulate what approach, method, or process they have chosen to use to address their research question, why they have chosen that approach to answering their question, and how they employed it;
- Develop and present their own argument, conclusion, or new understanding while acknowledging its limitations and discussing implications;
- Support their conclusion through the compilation, use, and synthesis of relevant and significant evidence generated by their research;
- Use organizational and design elements to effectively convey the paper's message;
- Consistently and accurately cite, attribute, and integrate the knowledge and work of others, while distinguishing between the student's voice and that of others;
- Generate a paper in which word choice and syntax enhance communication by adhering to established conventions of grammar, usage, and mechanics.

FILM

A *Raw* Film Analysis

Introduction

Feminist film theory (FFT) is a theoretical film criticism that bases its analysis in feminist politics and feminist theory. FFT developed through the politics of the second wave of feminism in the 1960s and 1970s, and took hold in the 1980s as a way to understand how portrayals of women on-screen affect women in real life. Film analysis focuses on the meaning within a film's text and the way in which that text affects the viewing subjects. However, FFT is one way to read a film, including both a literary analysis and also explores how the process of cinematic production both constructs and affects women on screen.

Media is important to study, as media does influence both how women and girls shape their identities, as well as others (spectators) perceive them. In order to explore how the film industry presents a portrayal of femininity, I will be utilizing an intersectional, feminist reading of the 2016 film *Raw*. *Raw* follows Justine, a young veterinarian prodigy, over the course of her first week at the same university her parents attended and that her sister Alex currently attends. As part of a hazing ritual, lifetime vegetarian Justine is forced to eat raw rabbit kidney, resulting in her realizing she craves meat, eventually progressing to cannibalism. In order to fully analyze *Raw*, I will be using multiple feminist film theories surrounding spectatorship as well as a gendered reading of hunger in media.

Review of Literature

Gaze and Voyeurism in Film

Gaze, and its tendency to act as voyeurism in cinema, is the basis of FFT as a whole. In her essay "Visual Pleasure and Narrative Cinema," Laura Mulvey first defined what has become

known colloquially as “the male gaze.” Mulvey argues that “unchallenged, mainstream film coded the erotic into language of the dominant patriarchal order.”¹ This has resulted in mainstream films where the pleasure in looking renders men as active gaze, and women as passive material.² This gaze relates to scopophilic intent, as in film women are coded to be eroticized and fetishized, built as a spectacle or icon. This denotes a woman’s “to-be-looked-at-ness”³ wherein both the male spectator in the audience as well as the male character on screen gain pleasure through looking.

While male gaze is present everywhere, not just the movie screen, it is further perpetuated through the norms of cinema. The camera acts as the audience’s perspective, but its motions are controlled by the action of the protagonist, and invisible editing likewise blurs the limits that exist in real life.⁴ This allows for the spectator to identify with the glamorized, main male protagonist as a “screen surrogate,”⁵ which allows for both spectatorship and a feeling of omnipotence. This power renders women as passive objects for fetishization as the following gaze is focused and male.⁶

Further, the female figure in its eroticization presents problems, as the female figure often disrupts the narrative, and creates a tension between looks on screen. These problems can be solved through both plot devices or camera techniques that take movies out of the context of realism. Contextualizing the character, for example as a performer, engages their “to-be-looked-at-ness” in a simple way that unites the looks of both spectators, on screen or

¹ See Mulvey, 835

² See Mulvey, 843

³ See Mulvey, 837

⁴ See Mulvey, 839

⁵ See Mulvey, 838

⁶ See Mulvey, 836-837

audience, and resolves the tension between these contrasting gazes.⁷ This solves the complication the female figure presents in narrative.

Besides depicting the woman as a performer, camera shots and angles allow unification of on-screen and offscreen gaze. In her book of essays *Femme Fatales*, Mary Ann Doane builds upon Mulvey's idea of unification to specifically explore how directors utilize conventional close-ups, of faces, legs or other disembodied parts to unite gaze while not disrupting narrative. Doane explains that these close ups act as a "demolition of the dichotomy of surface and depth,"⁸ and links this idea to the concealment of truth. Using camera angles and close-ups to depict women renders them as a flat surface and equates them to a cut-out. This, just as choosing to have women perform, does not limit the sexual impact, but rather allows women to become a "sexualized, eroticized, and perfected surface," without disrupting the narrative or causing tension between the looks of audience and actor.⁹

However, both of these arguments focus only on sexual difference, which suppresses the recognition of othering factors outside of just woman/man. This is known as the "abstraction of women," a phenomenon Doane acknowledges, and that bell hooks builds upon in her essay "The Oppositional Gaze." hooks focuses on race as a significant factor that abstraction, and thus FFT, often ignores, but this idea illuminates how gaze analysis must acknowledge factors besides sexual difference as othering.¹⁰ In this way, both Doane and Mulvey's arguments fall short of complete intersectional analysis in practice.

The Female Spectator and Hunger

⁷ See Mulvey, 837

⁸ See Doane, 57

⁹ See Doane, 56

¹⁰ See hooks, 124

Within arguments of gaze, it is also necessary to address the female spectator. Doane and hooks both discuss the female spectator, something that is almost completely absent in Mulvey's critical analysis, which focuses on male protagonists, and inherently, male viewers. In contrast, Doane pays attention to the female spectator, and identifies the problems of female spectatorship when, in agreement with Mulvey, cinema has been crafted for the male gaze.

In mainstream cinema, as the male gaze is centered, there is no "female view" to approach cinema from. Thus, Doane argues that the female spectator is only given two options besides resistance: to over-identify with the male view or to become one's own object of desire.¹¹ To over-identify with the male viewer, Doane offers that the female spectator may gain masochistic pleasure, as she must sacrifice her femininity in order to enjoy the film through the male-centered gaze. The other option is to participate in the fetishization of the female body, while identifying with her, which leads to narcissism, and proves difficult to maintain throughout a film.¹² Both of these options prove othering and further complicate female spectatorship, often leading female spectators to form an oppositional gaze which allows them to "manufacture a distance from the image."¹³ This distance is necessary to create a spectator that resists either over-identification or fetishization in order to fully analyze women in film.

This is especially true of media's treatment of women and their hunger. Hunger is inherently linked to gaze, as hunger and gaze both require an active participant. However, as established by Mulvey's binary, women are passive in film.¹⁴ This overcomplicates the relationship between women and hunger, as it must be avoided or changed in order to maintain

¹¹ See Doane, 31-32

¹² See Doane, 31-32

¹³ See Doane, 32

¹⁴ See Mulvey, 843

woman as passive. This results in what Susan Bordo identifies in her book *Unbearable Weight* as “hunger as an ideology.”¹⁵ For women in media, food, and thus hunger, can never just be food. Bordo cites hunger for women as a unification with narrative, such as a woman’s appetite acting as a metaphor for her sexual appetite,¹⁶ or a woman’s cooking as a metaphor for her love of those she feeds.¹⁷ Just as Mulvey and Doane argue for a unification of gaze, Bordo depicts the necessity of hunger and food as a metaphor for women on screen.

Application of Theory to Film

The past decade, films starring women have become more mainstreamed. One example of this is a practice many critics and viewers alike have begun utilizing called the Bechdel Test. Originally created from Alison Bechdel’s comic “Dykes to Watch Out For”, The Bechdel Test has become a commonplace evaluation of “feminist” film. This “rule” states that a film has to follow three basic rules, “one, it [a film] has to have two female characters who, two, talk to each other about, three, something besides a man,” in order for the character in the comic to watch a film.¹⁸ Although this rule started as a joke in a comic strip in 1985, it has become mainstreamed, even to the extent that Swedish cinemas now use it as a rating, alongside those of nudity or graphic violence.¹⁹ However, as pointed out by current feminist film theorists, the Bechdel test is very limited.²⁰

Representation for representation’s sake is a fruitless pursuit, as these portrayals, when analyzed, often devolve into mere tokenism, fetishism and eroticism: the initial problems with

¹⁵ See Bordo, 99

¹⁶ See Bordo, 110

¹⁷ See Bordo, 124-125

¹⁸ See Bechdel

¹⁹ See O’Meara, 1120

²⁰ See O’Meara, 1120

cinema to begin with. Mulvey, Doane, and hooks all agreed that positive representations of women in film were possible, but that they would often only be able to exist as a counterpoint to mainstream or Hollywood film.²¹

In this vein, *Raw*, an independent and foreign film starring two women surrounding their eating habits, presents itself as a cross genre, progressive piece of cinema. *Raw* clearly has the objective to show women not as fetishized or erotic objects, but as complicated characters with a multitude of facets, which makes it an interesting film to analyze for achieving its goals. *Raw* is only one movie, but conducting a gendered reading on this film is one way to understand if the media, especially the media that hooks pointed to, is continuing to uphold and perpetuate the patriarchy with its harmful depictions of women on screen. This is why it is necessary for *Raw* to be analyzed using an intersectional feminist reading, which has not been done before. The intersection of Bordo's theories in conversation with other prominent feminist film theories leads me to the question: to what extent does *Raw* support and subvert the relationships between gaze and hunger for women?

Methodology

I will be conducting an analysis of the film *Raw* using an intersectional feminist lense focused on gaze and hunger, in order to gauge the extent that *Raw* supports and subverts the relationships between gaze and hunger. Gaze marks the viewer as an active participant, which makes women with gaze (or female spectators) go against the typical grain that wants to mark them as passive. This is especially true in Mulvey's binary, as women as explicitly marked as passive. Because of this complicated relationship, analyzing the gaze in *Raw* is unique. In the

²¹ See Mulvey, 834

same vein, *Raw* is unique because Justine (the main character) both actively participates in the act of spectatorship and in an active, carnal hunger. I hypothesize that the relationship between gaze and hunger is something intrinsic to the plot of *Raw*, and thus makes it a clear marker of how these relationships are presented when centered in a film, which could be similarly applied to other films where these relationships are subtler.

Some limitations of my project are that I am analyzing a film that is in French, and I do not speak French. Another limit is the nuances of French culture in the film, as I am American. I have emailed the production company but they have not allowed me to have the original script, so I can't examine that specifically. I will not be looking at other people's opinions of the movie, or reviews of the movie. I will not take anything outside of the film in its final, published version into account, like box office numbers or director's commentary.

Feminist film theory²² will guide my analysis, focusing on scholars who specifically explore gaze and/or hunger in films, making them appropriate and relevant to my analysis. The process of collecting the data, which includes plot, characters, dialogue, and mise-én-scène, will be conducted by viewing *Raw* multiple times, during which notes will be recorded within a chart. The chart will be split into the actual occurrence and interpretation, based on scholarly analysis. After data collection, a cohesive feminist analysis of *Raw* will be more accessible.

Findings and Analysis

I will be assessing the chronological arcs of hunger and gaze throughout the film, and then considering the actions between them in order to come to a conclusion about the

²² Such as Laura Mulvey, Mary Ann Doane, Susan Bordo, Cynthia Freeland, bell hooks

relationships between hunger and gaze, as well as to what extent *Raw* subverts and perpetuates these norms.

Hunger

Justine's first action in *Raw* is eating. With her head down, she orders a lunch with no meat, much to the dismay of her server. As Justine eats, she finds a meatball in her potatoes, while her mother yells at her to spit it out. This first interaction marks Justine as both a vegetarian and as passive person, as her vegetarianism is shown not as a choice, but rather a tradition her family forced onto her. She follows her mother's orders, and remains quiet as her mother berates her and then her server. This scene is crucial in first depicting Justine's lack of control over what she eats. Her parents control her eating habits through their enforced vegetarianism. Bordo extends that in media, the rhetoric of control extends to women wanting control over themselves, where as control for men is over others.²³ In order to code control as feminine, women must master control of themselves, while men are already in control of their own bodies and now must control others. The fact that Justine, throughout the film, struggles with control so often is a clear indicator of her struggle to be feminine, just as Bordo theorized. At first, she struggles for control as her parents police her eating habits. However, as the film continues, she will struggle to control her hunger, which will ultimately be her undoing.

When Justine first gives into her urge for meat, she tries to steal a hamburger.²⁴ She attempts to extend her control to Adrien, to police his meat eating in the same way her parents did, but he does not react in any way. Adrien is able to partake in such a rich food like beef with no shame or repercussions because, as Bordo explains, a man eating this food is not

²³ See Bordo, 105

²⁴ See fig. 1

transgressive, as a woman surrendering to food would be. Supported by Bordo, the different ways Justine and Adrien react to food illustrates Mulvey's binary of sexual difference.²⁵ Adrien presents his food to the cashier normally, while Justine's burger remains in her pocket, congealing juice and revealing her lack of control or a healthy relationship with food.²⁶ Bordo explains that the ultimate goal is for women is to obtain a "casual relation to food,"²⁷ something Justine is clearly lacking. Both the policing over vegetarianism and the hypocrisy presented by attempting to steal the burger (with the implication of eating meat) rather than eating the burger the way society intends (typically on a plate, with a bun) show Justine's obsession, indicating the continued power of food.²⁸



Fig. 1. "Ringin' Up Stolen Hamburger." Wild Bunch, 2016. Author's screenshot

The power dynamics between Justine and food come to a turning point during a crucial sequence, where Justine goes from ravaging down schwarma to eating raw chicken breast. In the former, Justine's eating is coded as fulfilling a ravishing hunger, something that Bordo argues is presentable for a woman who is starved, as typically a women indulging in "rich exciting food, is

²⁵ See Mulvey, 837

²⁶ See fig. 1

²⁷ See Bordo, 100

²⁸ See Bordo, 100

taboo.”²⁹ However, because this is presumed to be Justine’s first time eating meat, this transgression can be allowed, although it does suggest a lack of femininity, shown through Adrien’s and the male truck-driver’s disgusted looks as Justine wolfs down her food. In the latter scene, Justine gives full control to her hunger as she eats a raw chicken breast³⁰.



Fig. 2. “Justine Smelling Raw Chicken.” Wild Bunch, 2016. Author’s screenshot



Fig 3. “Justine Eating Raw Chicken.” Wild Bunch, 2016. Author’s screenshot

Consuming raw meat is fully taboo, something that acts as a turning point in *Raw*. Justine’s unabashed and wholehearted enjoyment of the raw meat is characterized by the

²⁹ See Bordo, 110

³⁰ See figs. 2-3

satisfied snapping of the meat, accompanied by Justine moaning and panting as she eats.

Similarly, Justine is in her underwear and a flimsy shirt, linking this enthusiastic eating with sexual pleasure/desire. Bordo explains that, in mainstream media, unadulterated hunger in a woman needs to be coded as sexual appetite in order to explain her lust for food.³¹ This tie between physical appetite and sexual appetite is also shown when Justine visits the school nurse about a rash. Justine tells the nurse, abashedly, that she has never had sex, and later the nurse tells her to fast. Justine responds that “[she is] hungry though. My stomach always feels empty.” This links her lack of sex to her insatiable hunger, once again coding sexual appetite as hunger. This inexplicable connection that Bordo examined remains true in *Raw*, and seems inescapable even in this “independent” film. This relationship continues to develop as both Justine’s sense of hunger and sense of her sexuality grows, developing alongside her gaze.

Gaze

bell hooks asserts that “one’s gaze can be dangerous.”³² This quote embodies both Justine and Alex (Justine’s sister), as throughout *Raw* they use their gaze to hunt and prey on victims. We meet Alex with her gaze fully developed and intact, something she has honed while away from her parents. Justine, meanwhile, lacks this assertive gaze at the beginning of the film. Justine is routinely told to keep her “Eyes to the floor for an elder,”³³ by older students as a part of her hazing. There is a power in looking,³⁴ and thus by forcing Justine to look at the floor, her power is taken away. Furthermore, when she attempts to resist certain actions³⁵ she is urged that she has to because “they’re watching.” Justine’s resistance ruins the “active/male passive/female”

³¹ See Bordo, 110

³² See hooks, 115

³³ See fig. 4

³⁴ See hooks, 115

³⁵ Like consuming the raw rabbit kidney at initiation.

that Mulvey explains is necessary for a traditional female role.³⁶ By reminding Justine of others' gaze, she is brought back into the reality of herself as someone to be looked at, and thus someone who needs to be passive. As she allows her sister to push food into her mouth with her eyes closed, Justine's resistance dissolves, rendering her as passive, lacking gaze, once again.



Fig. 4. "Justine Looking at Floor." Wild Bunch, 2016. Author's screenshot

Immediately after eating the raw chicken breast, Justine is confronted by a teacher about cheating. Although shot from above, making Justine small, she meets her teacher's gaze consistently, already showing growing confidence since her previous confrontations when she kept her eyes down.³⁷ However, throughout the scene, Justine chews on and eats her own hair. She consumes her own body; reducing herself by making herself smaller, forcing her body to take up less space. Eating her own hair also acts as punishment for Justine, as after she viciously struggles to throw it up.³⁸ Cynthia Freeland states that in films "women who possess the gaze...require punishment,"³⁹ explaining why Justine's confronting gaze towards her male

³⁶ See Mulvey, 837

³⁷ See fig. 5

³⁸ See fig. 6

³⁹ See Freeland, 744

teacher, a representation of the patriarchy and order, is immediately met by punishment. Justine has just begun to “possess the gaze” and as her ability to wield it effectively grows, so will her punishments.



Fig. 5. “Justine Looking at Teacher.” Wild Bunch, 2016. Author’s screenshot



Fig. 6. “Justine Throwing Up” Wild Bunch, 2016. Author’s screenshot

Alongside confronting the gaze of those around her, *Raw* allows Justine to confront her own gaze. Doane explains the complicated nature of one’s own gaze, as it is inaccessible, except through a mirror which can only create a virtual image.⁴⁰ Justine uses a mirror to meet her own

⁴⁰ See Doane, 47

gaze, simultaneously illustrating the problems Doane associates with female spectatorship and with gaze itself. First shot from a wide angle, Justine looks at herself in her sister's dress timidly.⁴¹ Building alongside an explicit, sexual and violent song,⁴² Justine regards herself, then eventually approaches the mirror,⁴³ and seems to “become her own object of desire,”⁴⁴ applying and smearing her lipstick ecstatically.⁴⁵ Justine has, thus far, asserted herself as a female spectator who possess an active gaze. However, in the mirror her gaze morphs through the lack of accessibility Doane described. As a female spectator, Justine is unable to fully confront her own gaze, and so instead becomes a site of a dangerous and sexual desire, she seems to be “locked within a mirror of narcissism.”⁴⁶ This scene in the mirror presents femininity as a “closeness,”⁴⁷ something Justine can be near through the song, her lipstick, and her clothing but is unable to fully possess, a distance resulting from her spectatorship.



Fig. 7. “Wide Shot From Mirror” Wild Bunch, 2016. Author’s screenshot

⁴¹ See fig. 7

⁴² “Plus putes que toutes les putes” by ORTIES

⁴³ See fig. 8

⁴⁴ See Doane, 32

⁴⁵ See figs. 9-10

⁴⁶ See Doane, 47

⁴⁷ See Doane, 31



Fig. 8. "Justine Looking in Mirror" Wild Bunch, 2016. Author's screenshot



Fig. 9. "Justine Putting on Lipstick in Mirror" Wild Bunch, 2016. Author's screenshot



Fig. 10. “Justine Smearing Lipstick in Mirror” Wild Bunch, 2016. Author’s screenshot

Gaze and Hunger

Justine’s arcs of gaze and hunger grow in tandem through the first half of the film, but remain rather disconnected. However, after Justine first tastes human flesh, gaze and hunger combine and grow exponentially in Justine, her newfound gaze and hunger becoming insatiable.

Justine’s first taste of human flesh is her sister’s finger. As Alex wakes up after fainting to her sister indulging uncontrollably on her body, she confronts her with only her gaze, saying nothing while a single tear slips down her cheek.⁴⁸ While this is happening, Alex’s dog starts to lap up blood, which Justine hurriedly shoos away. This is a reminder that this indulgence in human body remains taboo, whether for Justine or the dog. Dogs are often relegated to a quasi-human status; given names and treated as part of the family. Here, the dog serves to demote Justine to a quasi-animal status, something (rather than someone) with a hunger so uncontrollable that she can’t stop herself from eating her own sister’s finger. Not only does this break boundaries of raw food, escalating from her previous experience with chicken, but Justine is now actively participating in cannibalism, arguably the most taboo and “savage” eating habit.

⁴⁸ See fig. 11



Fig. 11. "Alex Sees Justine Eating Finger" Wild Bunch, 2016. Author's screenshot

Justine's gaze in combination with her hunger becomes more than just something she can control, it becomes a weapon. After eating Alex's finger, it is clear Justine's hunger is growing. She sacrifices any control she had over her hunger to control of her gaze, needing a way to find food. Her looking is utilized to show her hunting, as Justine watches Adrien play soccer with such intensity her nose begins to bleed. Adrien is shirtless and vulnerable, while the camera slices him into closeups of his body and disembodied parts,⁴⁹ a method Doane specifically cites as a way to form an actor into "sexualized, eroticized, and perfected surface."⁵⁰ While this method is typically used to break women into sexualized pieces, the power is flipped as Justine wields the gaze, both sexualizing Adrien with a subtext of looking him over as a piece of meat. Justine still remains sexually unfulfilled, amplified by her growing hunger since she has not eaten in days, and this scene illustrates her obsession with both sex and food. Justine is a threat, a woman with powerful gaze, on the hunt, and once again she is "defiled by bodily fluids"⁵¹ as

⁴⁹ See figs. 12-14

⁵⁰ See Doane, 56

⁵¹ See Freeland, 744

punishment for her gaze.⁵² Justine's nosebleed is a reminder that her active gaze is a transgression of the feminine, which both Freeland and Mulvey point out needs punishment in order to maintain patriarchal order.⁵³ However, unlike her past punishment of throwing up, this punishment does not interrupt her gaze, and does not cause her real harm. This weaker punishment shows that her gaze and hunger are morphing, moving her from feminine to monster, while also foreshadowing the pain that is yet to come.



Fig. 12. "Adrien" Wild Bunch, 2016. Author's screenshot



Fig. 13. "Adrien" Wild Bunch, 2016. Author's screenshot

⁵² See fig. 15

⁵³ See Mulvey, 837 and Freeland, 744



Fig. 14. "Adrien" *Wild Bunch*, 2016. Author's screenshot



Fig. 15. "Nosebleed" *Wild Bunch*, 2016. Author's screenshot

After the nosebleed, Justine and Adrien have sex. In a turn on typical film tropes, Justine has an "aggressive masculine gaze" while Adrien is more representative of a passive body.⁵⁴ This upsets the patriarchal order, and thus Justine's active looking and appropriation of the gaze must be ultimately punished in order to fulfill cinematic tropes and Mulvey's binary.⁵⁵ This punishment is shown by the ultimate betrayal of her sister, as they fight in front of the student body. Her sister, in her own weaponization of gaze, takes advantage of a drunk Justine by

⁵⁴ See Freeland, 755

⁵⁵ See Mulvey, 837

inviting people to see her try to eat a cadaver. When Justine sees a video of this, she finds Alex and they immediately begin to fight.⁵⁶ A crowd of mostly male students surrounds them, watching and filming as they bite and tear at each other, eventually pulling them apart.⁵⁷ Justine and Alex become female spectacles, the active gaze of the (mostly male) students penetrating the sisters connotes their “to-be-looked-at-ness,” their ultimate punishment existing as they are regarded as animals by their peers.⁵⁸ In their exposure, Justine and Alex once again are demoted to quasi-animals, their uncontrollable hunger rendering them unable to be tamed, forcing men to tear them apart so they don’t destroy each other. All the power they had gained through their appropriation of gaze is immediately sacrificed through their lack of control. Their obsession with hunger means they can never become more than empty stomachs, can never have any power. Ownership of their bodies is stolen by those watching, and preserved as they are filmed. Film within a film layers the complexity of gaze as the narrative is stolen from Justine and Alex, leaving them only as female spectacles.



Fig. 16. “Alex and Justine Fight” Wild Bunch, 2016. Author’s screenshot

⁵⁶ See fig. 16

⁵⁷ See fig. 17-18

⁵⁸ See Mulvey, 843



Fig. 17. "Students Watch" *Wild Bunch*, 2016. Author's screenshot



Fig. 18. "Breaking up the Fight" *Wild Bunch*, 2016. Author's screenshot

In the final scene of *Raw*, revelations abound. Alex is now in prison, likely convicted for the many murders she has committed, both on and off screen. Justine is home with her parents, who are forcing her to eat vegetables. Notably, Justine remarks "I'm full," a crucial progression showing an end to her seemingly endless hunger. However, as soon as her mother leaves the table, Justine's father begins to explain that he knows about his daughter's cannibalism, and that it mirrors their mother's. Showing off his scratches and bite marks down his chest, Justine's

father becomes a vehicle for her gaze.⁵⁹ However, Justine keeps her eyes down, not confronting her father with looks, but down at his chest, a look of sadness on her face.⁶⁰ Although in contrast to Mulvey's idea of "woman as image, man as bearer of the look," this scene cements Freeland's theory of a traditional hierarchy being imposed as the film offers Justine's father as hero of a noble tragedy; keeping his wife and children alive through the desecration of his body.⁶¹ Thus, although the majority of the film focuses what Freeland describes as a "nonstandard narrative centered on female characters", this scene is a reminder of the ultimate hierarchy that is perpetuated, both within the film and the mainstream.⁶²



Fig. 19. "Chest" Wild Bunch, 2016. Author's screenshot

⁵⁹ See fig. 19

⁶⁰ See fig. 20

⁶¹ See Mulvey, 837 and Freeland, 753

⁶² See Freeland, 753



Fig. 20. "Justine Looks at Father's Chest" Wild Bunch, 2016. Author's screenshot

Conclusion

Raw aims to be a progressive film, that challenges traditional notions of womanhood on screen, which it partially achieved. However, the relationships between hunger and gaze are so inexplicably linked that Justine remains unable to escape them. Although Justine's relationship with hunger is unconventional because of her cannibalism, *Raw* ultimately upholds patriarchal norms that are present in films where the relationship to hunger for women is much subtler, such as the media Bordo focused on. Similarly, Justine's relationship to gaze as a female spectator becomes problematic through her constant punishment for using gaze, which remains in line with the media Mulvey, Doane, and hooks analyzed as harmful depictions for women.

There are moments where the script is flipped, and Justine is able to weaponize her gaze as a female spectator and escape punishment, at least temporarily. Far more often, the women who possess gaze in *Raw* are ultimately punished, as Justine is almost immediately punished right after while Alex is punished more concretely by being sent to prison.

Further, the ending of *Raw* is the ultimate undoing of any feminist message. Having her father tell her the news of her problem, rather than her mother, supports a normalized hierarchy rather than upsetting the patriarchy. Justine's father confirms that he has essentially kept the family alive, bearing the burden of her mother's hunger. The feminist frameworks I utilized to analyze *Raw* have led me to the conclusion that it is not a feminist film, because it too closely follows patriarchal norms for gaze and hunger for women. Justine's hunger is always closely related to a carnal and sexual nature, reinforcing the idea that women cannot partake in food normally in media. Similarly, although the women in the film make notable transgressions of gaze, they are ultimately always punished for them, further maintaining patriarchal order of gaze and hierarchy. Thus, although *Raw* exists as a counterpoint of Hollywood cinema as an independent film, it does not offer effective counterpoints to the tropes associated with women, hunger, and gaze.

Although I attempted a comprehensive feminist analysis of the film, there is still further research to be done within *Raw*. Employing a queer framework to specifically analyze Adrien could be an effective next step in analyzing his relationship with gaze, and how that affects the movie as a whole. Further, there are scenes I neglected, in order to focus on Justine. Doing a deeper analysis of Alex using these same feminist frameworks could also be effective further research. Finally, it is important to acknowledge that *Raw* is by no means the only film attempting to be a subversive, feminist horror film. Although *Raw* deserves praise for taking many risks, as well as filming women in a non-objectifying way, it does contain a lot of conflicting messages that support a patriarchal agenda. However, *Raw* is able to achieve a depiction of womanhood that feels more true than so many of the women that I have seen on

screen. Extending a critical analysis to *Raw* allows for its flaws to be exposed and shows that there is a wide berth for improvement, but also shows how complicated the film is. Continuing to make films that at least attempt to subvert stereotypes and tropes is crucial to challenging the hierarchical order, even when there are flaws and missteps alongside progress.

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Raw. Directed by Julia Ducournau, performance by Garance Marillier, Wild Bunch, 2016.

**AP[®] RESEARCH
2018 SCORING COMMENTARY**

Academic Paper

Sample: C

Score: 4

The paper earned a score of 4 because it addresses a narrow topic: A feminist analysis of the film *Raw* (page 1, paragraph 2: “In order to explore how the film industry ...”), and situates this topic within a substantive literature review that identifies a narrow gap in the literature (see page 6, paragraph 2: “This is why it is necessary ...”). The paper uses a replicable method in order to conduct a feminist formal and thematic analysis of the film, focusing on “gaze” (pages 1–3) and “hunger” (pages 4–5); this method is continued on pages 6 and 7 and is supported by results that clearly accomplish what the student sets out to do, ultimately arguing for a new understanding that patriarchal structures that inform mainstream cinema also apply to this purportedly subversive work (pages 22–24).

The paper did not score a 3 because it mounts and defends its argument in a clearly-reasoned, detailed, and effective manner. The paper also uses sophisticated writing and graphics to present its evidence.

The paper did not score a 5 because it assumes the relevance and validity of the body of theory informing the research process and fails to fully explain the applicability of feminist theory to this particular film.

Haptic Implementation with Music and Negative Affect in High School Students

Word Count: 4392

Introduction

In the past few years, the introduction of haptic technology into our everyday lives has revolutionized the way people take in information and experience the world around them. Since then, the concept of haptics has been defined as “the study of touch and the human interaction with the external environment through touch” (Minogue and Jones, 2006). Haptic interfaces produce vibrations from auditory information that create physical sensations of low-frequency sounds. With the growth of haptic technology, its implementation into society and its uses for daily activities come into question. This gave rise to the question of how haptic technology enhances and affects teenagers’ perceptions of music. In this literature review, multiple studies are shown to enhance our understanding of haptic technology and its uses in the lives of musicians, those with visual or auditory disabilities, as well as the common consumer who wants to get more out of their experiences. It will show how even though there has been research conducted on haptic technology, the current understanding of haptics leaves out its effect on the musical perceptions of teenagers. With further research into this topic, haptic technology could potentially provide a whole new lens and perspective for media consumers to view musical experiences, adding additional observations to add to the complexity of music. This led me to question the extent to which haptic implementation increases the negative emotions felt when high school students listen to music. Thus, this study will focus on how haptic technology impacts the level of negative affect as compared to positive affect in students.

Literature Review

While the topic of haptic technology and its effect on those who listen to streamed or recorded music has not yet been studied, its effect on musicians who use their sense of touch

while physically playing instruments has been addressed in previous research. In 2018, Marcello Giordano, John Sullivan, and Marcelo M. Wanderley analyzed the different functions and implementations of haptic technology in improving the musical abilities of musicians. With their design of musical tactons to simulate the haptics of music and relay musical information, musicians used haptic information to direct the pace of their music. The study proved that haptic technology, in correspondence with the sense of touch and auditory aspects, can improve the synchronization between musicians by providing them with a better understanding of the melodies and rhythms in the music. Edgar Berdahl and Alexandros Kontogeorgakopoulos also supported this concept with their 2013 study “The FireFader: Simple, Open-Source, and Reconfigurable Haptic Force Feedback for Musicians.” In their research, they claim that their FireFader design effectively uses haptic technology to create a force-feedback device that can be used to enhance music. This research focused on designing an affordable haptic prototype that has been proven by musicians in other experiments to accurately portray the haptic vibrations from sounds and instruments of different frequencies and pitches. Overall, Berdahl and Kontogeorgakopoulos concluded that their FireFader design creates haptic feedback from instruments to help musicians create haptic feedback from their music and to personalize their haptic technology to create optimal conditions for themselves.

In addition to enhancing music quality, researchers have also shown that haptic technology enriches visual experiences. A study conducted by Hirotaka Shionoiri, Rei Sakuragi, Ryo Kodama, and Hiroyuki Kajimoto measured the haptic and vibration parameters used in virtual reality systems. They found that using vibrations of similar frequencies and lengths to those that would be made from the depicted materials in real life can make the experience feel more realistic and natural. For example, the study depicted visuals of collisions with rubber and

aluminum while simultaneously producing haptic vibrations similar to those made from rubber and aluminum. It evaluated the participant's responses to how natural the collision felt. This experiment showed how haptic vibrations, combined with visual information, can impact your perception of events and how realistic they appear. In addition, Suranga Chandima Nanayakkara, Lonce Wyse, S. H. Ong, and Elizabeth A. Taylor, in their 2013 article "Enhancing Musical Experience for the Hearing-Impaired Using Visual and Haptic Displays" reinforced Shionori, Sakuragi, Kodama, and Kajimoto's claims by developing a haptic device of their own to study the benefits it provides to our understanding of music. Their haptic chair provided haptic information while the participants viewed visual displays and measured their ability to follow the music without its audio, finding that combining visual and haptic information is optimal for obtaining a full understanding of the music. The purpose of this study was to evaluate new technology and its potential to assist hearing-impaired individuals by providing them with another way to comprehend visual and auditory experiences. This analysis of haptic implementation with hearing-impaired individuals further refined the scope of this current research as its conclusion that haptic technology can allow access to more information about an event led to the question of the impact of this new information on the emotions of an individual.

Similar to Nanayakkara, Wyse, Ong, and Taylor's research, other studies have also added the aspect of deafness to the implementation of haptic technology. However, by taking away the sense of hearing, haptics have a different effect as we rely solely on our senses of touch and sight for gaining an understanding of events. For instance, Doga Cavdir and Ge Wang, in their 2013 study, used gestures and haptic technology to appeal to the sense of touch and to convey musical experiences. The haptic technology transfers gestures and interactions made by the performers' hands to a subwoofer that translates the sounds to low-frequency vibrations which can then be

felt by the audience members. Finding a way to implement haptic technology for the purpose of aiding hearing-impaired individuals, this study proved that the sense of hearing is not an essential aspect of experiencing live performances. Supporting this notion that auditory information is not the only way to comprehend experiences, Jessica A. Holmes in their 2017 “Expert Listening beyond the Limits of Hearing: Music and Deafness” showed that, while tactile perceptions do improve the understanding of hearing-impaired individuals, the extent to which it is useful varies based on the conditions of the music, such as the type of instruments played, the physical properties of the room, amount of exposure to the music, and the level of amplification of the music and haptics. This study illustrates that haptic technology should be adapted to the surrounding environment in live performances to best appeal to those who are hard of hearing.

Ultimately, these studies show the effects of haptic technology when implemented for different purposes, including making music, enhancing visual experiences, and providing a supplement for musical sounds. However, there is no sufficient research on the impact of haptics on musical perception, specifically the negative emotions caused by the haptic information and how the haptics make the song as a whole appear when experienced with and without the audio from the song. Additionally, there needs to be more research on the age group studied, as the proposed studies measure participants in the average age group of twenty to forty-year-olds, possibly leaving out data from younger participants and skewing the collected data. This current research study will help close the gap in the study of haptics by focusing its purpose on measuring how high school students react emotionally to the haptics created by music and how their reactions differ from when they are exposed to only the auditory aspects of the music. With haptic technology, music can be translated into haptic vibrations that can be felt by the

participants, potentially revealing different emotions. Overall, this current study will test the ability of haptics to alter the emotions students feel when they listen to music.

Method

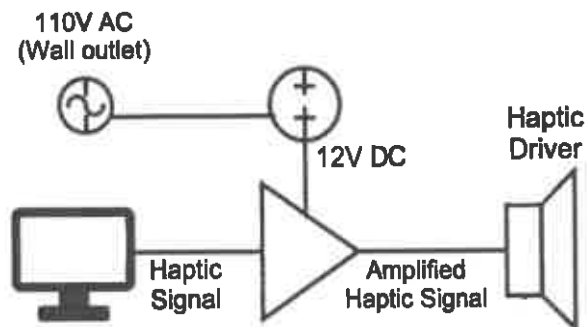
Variables

In order to test the impact of haptics on negative affect, the display of emotions, experienced by high school students, there will be two variables present throughout the study. The independent variable will be whether the participant is listening to the music with or without the addition of haptic feedback. The control group will listen to the music without haptics and the experimental group will listen to the same song with haptic vibrations. The dependent variable will be the extent to which negative affect and emotions are experienced by the participants. By studying how the implementation of haptic technology while listening to music affects students' levels of sadness, I will be able to conclude if haptic implementation increases the extent of the negative affect elicited from sad songs.

Experimental Design

To study the effect of haptic implementation on the feelings of negative affect, I will use a combination of an experimental method following with a survey to document the results. For the experiment, I created a haptics circuit to allow the participants to feel the haptic vibrations that follow the rhythm of the song. As shown in Figure 1, the haptics circuit connects to a computer, receives audio information, and translates the audio into haptic vibrations which are then felt by the participants. It does this by generating a magnetic field from the haptic signals from a computer program that causes the magnet inside the haptic driver to oscillate.

Figure 1. A System Diagram for a Haptic Setup



To begin the experiment, participants in the control group will fill out the first part of a survey asking about their demographics for further analysis of the study. Secondly, those participants will then listen to a sample of music. Finally, they will fill out the last part of the survey that will evaluate the extent of their emotions after listening to the song. Then, participants in the experimental group will also begin by taking the first part of the survey, listening to the music, and then filling out the second part of the survey. However, when they listen to the music, they will also be provided with haptic information by holding the haptic driver connected to the circuit.

The song I chose for this experiment is “Paralyzed” by NF. This song will provide an effective listening experience for the participants because the singer and songwriter write about their experiences and life while having a feeling of depression, combining sad, deep emotions with prominent rhythms and beats. This is important as, when streamed with haptic technology, its heavy, consistent rhythms translate to prominent vibration patterns, making this an ideal song to study in the field of haptics.

Survey

To keep a record of the participants in the study and the impact haptics had on their emotions, the students filled out a survey in Google Forms throughout the experiment (see Appendix). The first part of the survey will be solely to evaluate the background and demographics of the participants. The survey will begin by asking the participants about their age, race, gender, and education. In addition, the participants will be asked about their musical background, and history of playing instruments, singing, or listening to music. They will also be asked which study group they are a part of, group 1 or group 2. Group 1 will be the control group, who listen without haptic feedback, and group 2 those who listen with the addition of haptics.

After listening to and experiencing the music, the participants will fill out the second part of the survey. For this, I modeled the questions off of the Positive and Negative Affect Schedule (PANAS) method. With this method, participants will be asked to rate the extent of the different emotions they experienced on a five-point Likert Scale. The emotions evaluated will include both feelings of positive and negative affect, emotions that the experience leads them to display. These questions will have the participant rate their emotions from one to five, one being they feel a very slight connection with that emotion at that moment and five being they strongly relate to that emotion. This format will apply to multiple emotions, including the negative affect of feeling distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid, and the positive affect of feeling interested, excited, strong, enthusiastic, proud, alert, inspired, determined, active, and attentive. The Likert Scale is commonly used in studies that measure the level of emotions and perceptions of events and the extent to which the participants relate to the emotions or opinions proposed by the experiment, strengthening the effectiveness of this method.

In addition, being developed in 1988 by psychologists Dciavid Watson, Lee Ann Clark, and Auke Tellegen, the PANAS method has been proven to accurately measure the self-reported effect of experiences on emotions (Riopel, 2019).

Sampling Method

To obtain an accurate depiction of the effect of haptics on high school students, participants in each grade level from an Indiana high school will be used to represent the body of students in their age group. Half of the participants in each grade level will be the control group, and the other half will be the experimental group. This will allow for consistent results in the changes of emotions as participants of different grade levels may have differing views and tastes in music or topics.

Method

This experiment will work to answer the question, “To what extent does haptic implementation increase the level of negative affect experienced by high school students while listening to music?” From the surveys submitted by the participants, each individual will be scored by adding the number, in relation to the extent of the emotions, they selected to each affect. By determining the mean of the responses on the Likert Scale, I will be able to conclude the level of affect experienced by the individual. Overall, greater mean scores would suggest a higher correlation between haptics and negative affect, and lower mean scores would point towards a lower correlation. By studying the quantitative variables, the frequency of which haptic implementation increases feelings of negative affect, I will be able to determine how often the addition of haptic vibrations affects the emotions of high school students. By studying the

qualitative variables, the intensity of sad emotions, I can conclude if there is a relationship between the level of sensory feedback and the magnitude of negative affect evoked.

With this research process, I will be able to fill the research gap of haptic implementation with regard to negative affect on high school students. Since there is a gap in research of haptic technology and its effects of negative emotions and also of the age group of individuals studied, this research will be able to show how haptics impact emotions. By showing the relationship between haptic feedback and negative emotions, this research method will effectively prove if haptics have the ability to not only enhance our experiences but also to change the way we think and feel about musical experiences and interpret the emotional aspects that musicians put into their music. Overall, this will allow for a deeper understanding of and connection with the music we listen to.

Results

The data from this experiment was collected from 33 high school students, including freshmen, sophomores, juniors, and seniors from an Indiana school. This group consisted of 11 female students, 20 male students, and 2 students who identified as genderfluid. The sample for this experiment was collected at random and all of the students that submitted a complete response for the survey were counted in the collection of data. Figure 2 illustrates the grade levels of the participants, consisting mostly of sophomore students. Additionally, it shows that a lower percentage of the sample that participated in the experiment were junior students.

Figure 2. Grades of Participants

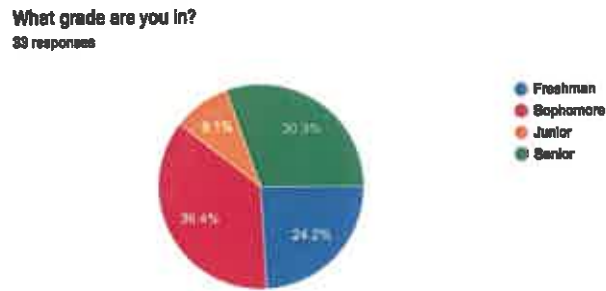
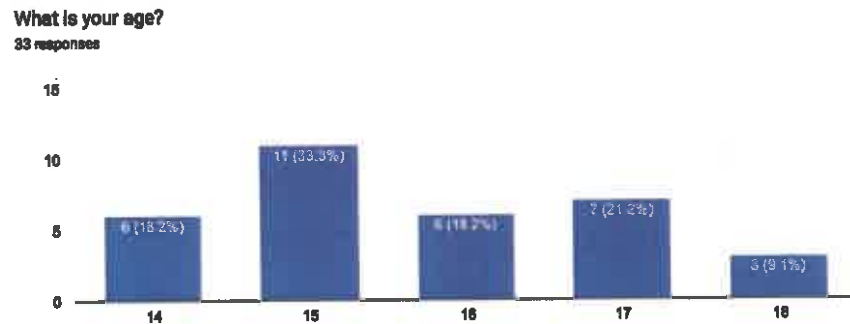


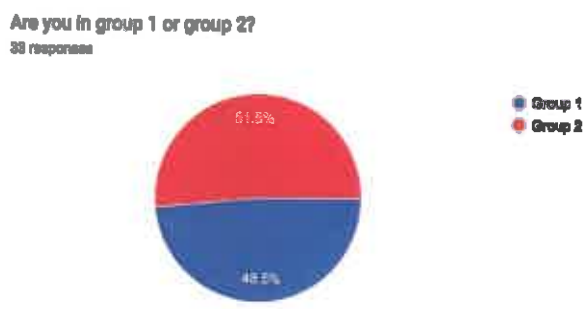
Figure 3 depicts the age group of the participants, ranging from ages 14 to 18, with the average participant being 15 years of age. Making up only 9.1% of the sample, the group of students of 18 years of age may be underrepresented, possibly leaving out different results from that age group.

Figure 3. Age of Participants



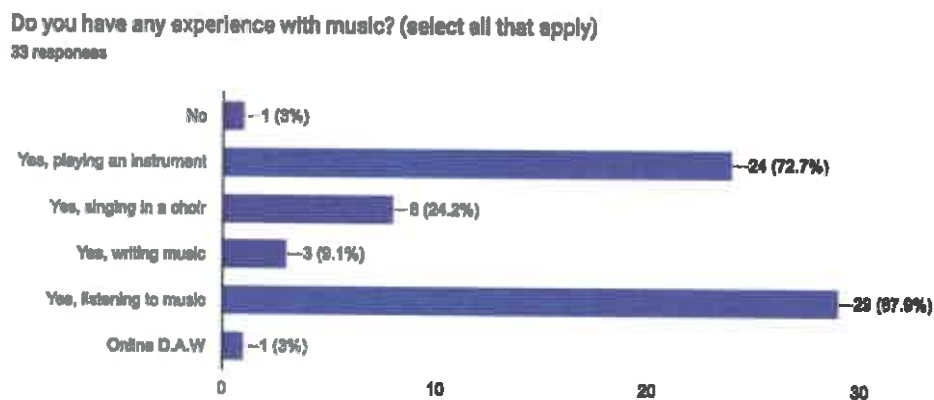
Roughly half of the participants, 16 students, were put into the control group, group 1, which did not receive haptic information during the experiment, and the other 17 were in the experimental group, group 2, and did receive haptic feedback for the duration of the experiment, as illustrated in Figure 4. Following the experiment, every participant in both the control and experimental groups filled out the same survey evaluating the strength of their emotions.

Figure 4. Group Number of Participants



The musical background of the participants was the last factor that was documented before the participants listened to the song. Their history with music was recorded because it could have the potential to influence the reactions to the music and haptic feedback. As depicted in Figure 5, the majority of participants, 97% of the sample, had a background in music, ranging from writing music or singing in a choir to having just listened to music before.

Figure 5. Musical Experience of Participants



The results from the survey that were evaluated on a five-point Likert Scale produced a score for both the positive and negative emotions that were evaluated for both group 1 and group 2. As shown in Figure 6, the average mean score for positive affect in group 1 is 17.6 and the

average score for the negative affect in group 1 was 16.1. For group 2, the average score for positive affect was 23.4 and the average score for negative affect was 14.7. The scores on this Likert Scale for each participant could range from 10 to 50 for negative and positive affect individually. Thus, a higher score would represent higher levels of the positive or negative affect and, conversely, a lower score would represent a lower level of the affect within the participants (Riopel, 2019). Even though the scores are not considered high scores when measured on the Likert Scale, the difference in scores between the control group and the experimental group is what shows the extent of the change in emotions when haptic vibrations are added to a musical experience. With an increase of 5.8 points from group 1 participants to group 2 participants in the extent of the positive emotions experienced, the results from the experiment show that haptic implementation increases the positive affect experienced while listening to music. On the other hand, there was a decrease of 1.4 points from group 1 to group 2, suggesting a negative correlation between haptic implementation and the expression of negative emotions. This implies that the addition of haptic feedback decreased the expression of negative affect in the participants.

Figure 6. Survey Response Averages

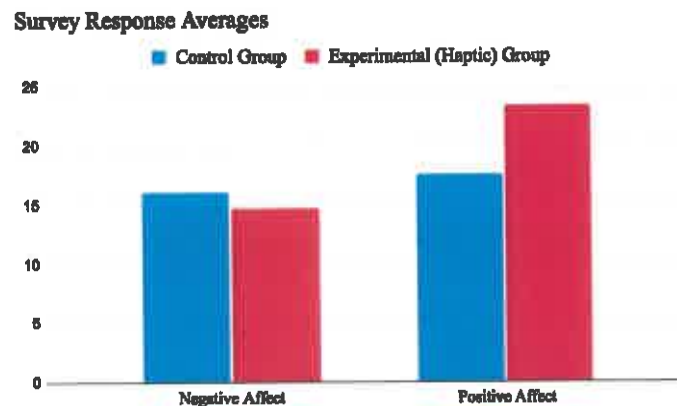


Figure 6 depicts the difference in average positive affect between the experimental and control groups. As described in the article “Analysing Likert Scale/Type Data”, published by the University of St. Andrews, the mean was used for this visualization because the Likert scale measures attitudes and emotions, so frequency or median would be a poor fit to understand the data.

Beginning with the null hypothesis, “haptic devices do not affect people’s emotions following their experience with music,” a Wilcoxon rank-sum test was used to analyze the data. To do this, a program was run in R, which produced a p-value of 0.942 for negative affect between the control and experimental group and a p-value of 0.125 for positive affect between the groups. Though not crossing the threshold for a significant value ($p < 0.050$), the p-value for the difference in positive affect is significantly lower than that for negative affect. We cannot reject the null hypothesis.

Discussion

The goal of this current study was to find if haptic implementation increases the level of negative affect experienced when high school students listen to music. While the findings were not considered statistically significant, with a p-value of 0.942 for negative affect and 0.125 for positive affect, this experiment did yield results that can be used to further investigate haptic technology in the future. This research shows that haptic implementation increases positive emotions while listening to music while slightly decreasing the negative emotions experienced. Additionally, the participants who had prior experience playing an instrument, on average, felt stronger negative emotions and weaker positive emotions, regardless of whether they were in the experimental (haptic) group or the control group.

Negative Affect

Another finding from this study was that haptic implementation into musical experiences with sad music decreases the level of negative affect in those who experience haptic feedback during their experience. The ability of haptic implementation to decrease the level of negative affect when listening to music shows that haptics could be used to improve the mood of someone who is displaying negative emotions. This finding has numerous implications as it shows that haptic technology combined with sad music can be used to improve the emotional state of someone who may currently be in a more negative mood. Even though there is only a slight correlation between the decrease in negative affect and the addition of haptic feedback, the increase in positive affect supports the conclusion that an increase in positive affect would also imply that negative affect would decrease.

Positive Affect

One of the major findings from this study is that haptics increase positive affect when listening to sad music. With a p-value of 0.125, the correlation between positive emotions and haptic implementation is not significant. However, the Likert data displays an average increase of 5.8 points for positive affect when haptic feedback was included. This means that when haptic technology is implemented into musical experiences, there is a greater chance that the individual will display a more positive expression of their emotions.

One of the implications of this finding is that haptics could be used selectively to elicit more positive emotions in someone who may already be experiencing a greater level of positive affect than negative affect. For example, this result has implications for musicians and live performers as this study shows that haptic technology can be used to enrich musical experiences

and alter the emotions of an audience. In live concerts or performances, haptic technology could be used to provide haptic information to audience members at different rates controlled by the musician in order to put the audience members in a more positive mood and make the experience more enjoyable for them. With this, the performer would have greater control over the influence of their show, allowing them to maximize the desired impact of their music.

Musical Experience

This study found that individuals with prior experience playing an instrument on average experienced a stronger negative affect and a weaker positive affect while listening to sad music, regardless of whether their experience also included haptic feedback or not. For negative emotions of those with experience playing an instrument, haptic implementation led to an increase of 2.71 points compared to those who did not have prior experience playing an instrument. Similarly, for those who did not receive haptic feedback, experience playing an instrument led to a 3.45 increase in score for negative affect. On the other hand, with haptic implementation and having had experience playing an instrument, on average, led to a decrease of 3.79 in scores for positive emotions on the Likert Scale. Similarly, without haptics, those with experience playing an instrument scored an average of 2.58 points lower for positive emotions than those who had not played an instrument before.

This finding agrees with that of Giordano, Sullivan, and Wanderley who also discovered that haptic implementation enhances musical experiences specifically with musicians. In their study, they found that their haptic technology led to an average of an 80% recognition rate after the participants interacted with the haptic systems for 20 minutes, but also that these recognition rates were dependent on the participants' musical expertise (Giordano et al., 2018). Additionally, Nanayakkara, Ong, and Taylor concluded that haptic feedback allows for a full understanding of

music. With this notion, as a better understanding of music would allow for a stronger connection to the music, haptic implementation would also increase the level of emotion expressed while listening to music, enhancing the overall listening experience of the individual.

Despite the conclusions that can be drawn from this study, the experiment and hypothesis were not proven to be statistically significant, and a limitation of this study was the small sample size that the data was collected from. As this study only covered a small sample size of thirty-three students, a larger sample size could have led to a stronger correlation between haptic implementation and the increase in positive affect while listening to sad music. Another limitation of this experiment was the nature of the school setting, in which the experiment took place, which could have presented a distracting environment for participants. Since the school setting did not always allow for a place where there were not any other students walking around or talking, these factors could have prevented a greater expression of emotion from the musical experience, resulting in a lower correlation between haptics and the expression of negative emotions. Despite this, other measures were used to attempt to counter this limitation, including the use of noise-canceling headphones to block outside noise.

Conclusion

Through the study of haptic implementation in musical experiences of high school students, this study worked to show how haptic feedback decreases the level of negative affect while also increasing the level of positive affect that the students experienced. Even though the results from the study were not significant, with a p-value of 0.942 for negative affect and 0.125 for positive affect, the results did yield a smaller p-value for positive affect. One of the major factors that this study found impacts emotions is the prior musical experience of the individual.

With the results of this current study, further research could be done in the future to expand upon the ability of haptic technology to enhance experiences in our daily lives. For example, by controlling the level and frequency of haptic vibrations that individuals receive during an experience, the effect of haptic implementation could be expanded upon. Enhancing our understanding of the effects of haptic technology would allow us to improve and control musical experiences by altering the impact of music to gain the desired outcome or emotion from the experience. Overall, this study on haptic implementation in music shows that haptics could have the ability to alter musical experiences and the effects they have on our emotions, highlighting its potential to revolutionize the way we interact with our environment and take in information.

Appendix: Survey Questions

1. This experiment will take about six minutes. If you agree, I ask that you confirm that you are willing to participate in this experiment and fill in the following information relevant to this experiment.
 - Yes, I agree to the terms of this experiment. I understand the nature of this experiment and agree to participate voluntarily. I give the researcher permission to use my data as part of their experimental study.
 - No, I do not agree to the terms of this experiment.

2. Are you in group 1 or group 2?
 - Group 1
 - Group 2

3. What is your age?

4. What grade are you in?
 - Freshman
 - Sophomore
 - Junior
 - Senior

5. What gender do you identify with?

6. What is your racial background?

7. Do you have any experience with music? (select all that apply)
 - No
 - Yes, playing an instrument
 - Yes, singing in a choir
 - Yes, writing music
 - Yes, listening to music
 - Other:

8. After experiencing this song I feel...

	Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely
Distressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guilty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hostile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ashamed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jittery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interested	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enthusiastic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Inspired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attentive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Active	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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