4-2022

The Potential Growth of Synchronized Skating in the Midwestern Section of US Figure Skating

Hanna Marie Fussman
Western Michigan University

THE POTENTIAL GROWTH OF SYNCHRONIZED SKATING IN THE MIDWESTERN SECTION OF US FIGURE SKATING

Hanna M. Fussman, M.S.

Western Michigan University, 2022

Synchronized skating, a sport in which eight to twenty skaters perform a program in unison as a team, is the fastest growing yet least known and recognized discipline of figure skating in the United States. Skaters do not have control over whether they are exposed to synchronized skating due to their location not having a team, or due to a coach who has tainted the perception of their students to believe that synchronized skating is not as "worthy" of a discipline, causing them to have little to no interest to take advantage of the exposure and opportunities they may have. The main purpose of this research is to understand how perceptions of synchronized skating are formed for skaters and how that effects the potential growth of the sport, specifically in the Midwest region as determined by the United States Figure Skating Association (henceforth referred to as "USFSA" or "US Figure Skating"). Awareness and perception data has been collected using three specially designed questionnaires (one for skaters involved in synchronized skating, one for skaters not involved in synchronized skating, one for coaches) and distributed via email to figure skating clubs and synchronized skating teams in the Midwest. Coaches, both synchronized and non-synchronized have been interviewed. Survey data have been analyzed using the appropriate statistical tests. This research found that oftentimes, most skaters and coaches (both in and out of synchro) have positive perceptions of synchro and most coaches agree that geographic location effects the opportunities available to both skaters and coaches alike.

THE POTENTIAL GROWTH OF SYNCHRONIZED SKATING IN THE MIDWESTERN SECTION OF US FIGURE SKATING

by

Hanna M. Fussman

A thesis submitted to the Graduate College
in partial fulfillment of the requirements
for the degree of Master of Science
Geography, Environment, and Tourism
Western Michigan University
April 2022

Thesis Committee:

Dr. Lucius Hallett, IV, Ph.D.
Dr. Lisa M. DeChano-Cook, Ph.D.
Dr. Gregory Veeck, Ph.D.

ACKNOWLEDGEMENTS

First, I would like to thank my parents for every single opportunity they have ever given me. Without them and everything that they have done for me, I would never be doing what I am today. I would like to thank my fiancé, Noah, for having to listen to me talk about this research far too often for far too long. I would also like to thank all of the friends who have endured the highs and lows with me, especially Gabby, Jenna, and Kate. I also need to thank all of the coaches I have worked with throughout my time in figure skating, but a special few in particular have really helped shape me into both the skater and coach I am today: Ginni Phillips, Jessica LaPorte, and Amy Yuengert. Without their unwavering support and their ability to push me to be my best, I would not be the person I am today. The life lessons I have learned through skating and though them have stuck, whether they know that or not. My skating friends and family also deserve a huge thank you for all of their help, advice, and ideas along the way. Thank you to Mount Pleasant Figure Skating Club for starting my adventure into this amazing sport, thank you to Greater Kalamazoo Skating Association for giving me so many opportunities as a coach, and thank you to Western Michigan University Skating Club for reigniting my passion for skating and making me fall in love with synchro. I would also like to thank US Figure Skating for their help throughout various portions of this research and for being the organization that I have put so much of my heart and soul into. Lastly, I need to thank the members of my thesis committee. Dr. Veeck is one of the most wonderful professors I have ever had the honor of learning from and without his help, I could not have finished this thesis. Dr. DeChano-Cook is one of the most inspirational professors I have ever met and her passion for geography and sports is one of the reasons I chose this as my research topic; I knew I would have someone who cares as deeply as I do about this research in my corner from start to finish and beyond. As for Dr. Hallett, I do not

think there are enough words out there for me to properly thank him for everything he has done for me during my time at Western. He has been my professor, advisor, mentor, and he has pushed me and believed me every step of the way. The support of these three amazing people means more to me than they will ever know and no matter how many times I thank them, I do not think it will ever be enough to truly cover it.

Statement from the Author

I have been in the figure skating world for a long time. In fact, it is safe to say I live and breathe skating and I live at the rink. I still am actively skating and also coaching some very amazing skaters to be their best in skating and in life. Skating has defined me as a person, it has seen me through my highest highs and lowest lows. Sometimes, it has been the cause of those moments. Due to my direct involvement in this sport and in this research, you may see me refer to myself throughout. I may be the researcher, but I am also directly involved in so many aspects of this sport and this research. While I have done my best to keep the research and analysis as unbiased as possible. I firmly believe synchronized skating should be included in the Olympics and that may shine through as you read on. That said, you should form your own opinions on the matter.

Hanna M. Fussman

TABLE OF CONTENTS

Table of Contents - continued

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Introduction to Synchronized Skating

When a member of the general public thinks about figure skating, they are likely thinking about singles skaters (men's and women's) doing triples or quads (jumps where you rotate three to four times in the air before landing back on the ice). Some probably think about pairs skaters, where the male skater will throw the female skater high into the air, catch her, and help her land safely on the ice. A more seasoned skating fan might think about ice dance, which utilizes traditional ballroom dancing to create magical patterns on the ice. When you ask a member of the general public about the Winter Olympics, they will probably tell you they mainly watch the figure skating events. But what they all are missing is the hidden away fifth discipline of the sport: synchronized skating. This discipline is not limited to one or two skaters on the ice at a time. Instead, there are anywhere from eight to twenty skaters on a team, with eight to sixteen of those skaters on the ice at a time, skating a program as a team.

This discipline of figure skating is unknown to the general public, but also much of the skating world itself. While synchronized skating (commonly known as "synchro" to those who live in the "synchro bubble") is the fastest growing discipline of skating in the United States (US Figure Skating, 2021), it still is not commonly publicized to the general public and has only been publicized to the skating community via social media and *The Skating Magazine* in recent years. A large reason synchro has gone unnoticed is it is not included as an Olympic sport. The fight to become an Olympic sport has been ongoing for years but synchro is still a relatively new discipline and so various reasons have been given between the International Olympic Committee (IOC), the International Skating Union (ISU), and previous Winter Olympic Games host

countries to not include it as an Olympic sport. It is common knowledge among synchro skaters that we have been pushed out of Olympics opportunities due to the sport being less well known and requiring too many athletes. That said, the synchro world has its sights set on the 2026 Olympic Games being hosted in Italy and will find out by July of 2022 if they have made the cut or not (Klaussen, 2021).

Introducing the Thesis

With synchronized skating only recently becoming known to many figure skaters who have not been previously exposed to it, there is much for one to wonder about how those in the skating community view the discipline. A person's location can oftentimes determine the opportunities that they are afforded and that sentiment can easily be applied to sports. This is especially true for sports like figure skating that are costly due to the required equipment, coaching costs, ice time costs, cost to upkeep the facilities, and so on. Skaters do not have control over whether or not they are exposed to synchro because it is only available in some areas for a myriad of reasons, such as figure skating clubs not having coaches who are trained in synchronized skating or smaller figure skating clubs not having enough skaters to field a team. Synchro began in Michigan and then spread as a sport through the Midwest. Even so, there are many areas in these states where skaters have never experienced synchronized skating in any capacity. How do the opportunities available to a skater and the disciplines they have been exposed to paint their perceptions of synchronized skating specifically?

The purpose of this research is to determine the perceptions of synchro that synchro and non-synchro skaters alike, as well as coaches, have about synchronized skating in the Midwest region of the US to determine the possibility of growth for the sport. This research uses a baseline set of data from the Midwestern region of the country (determined by US Figure

Skating, the governing body of figure skating in the United States, which is as follows: Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Missouri, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee (excluding Chattanooga), Texas, and Wisconsin). This will help to better understand the awareness of synchro and what opportunities are available within the skating world to increase the awareness and participation of synchro across the country.

The hope is that this research will help teams across the country better understand what skaters views on the sport are and how they can actively work together with USFSA to continue to the growth of the sport, especially in areas or regions where synchro is unknown and untouched.

In chapter two, the reader will encounter a brief literature review covering an important study that brought attention to sports geography in the 1970s. There have been many studies done in the realm of sports geography, but this research is unique in the fact that no one has looked at figure skating in quite this way before, especially through the lens of geography. In addition, this chapter will cover a brief yet important history lesson about synchro as a discipline of figure skating. Then, important figure skating terminology will be covered, which will include some important notes and history from the other four disciplines of figure skating.

Chapter three will focus on the methodology approaches taken to gather data for this study. Data for this research was mainly collected via questionnaires that were made available to all synchronized skating teams and figure skating clubs located in the Midwestern region of the United States. Coaches were also able to partake in interviews. Data collected were both quantitative and qualitative as open-ended questions were asked to allow for more in depth

answers and scales were used to allow interviewees to rank their answers to certain questions on Likert-type scales.

Chapter four covers the results and discussion portion of this research. The reader will learn about the number of participants and their responses to questions from both the questionnaires and interviews. While this was a smaller study in terms of those who participated, a lot of valuable information was collected among synchro skaters, singles skaters, and coaches alike. Results are broken down to look at the comparison of synchro and singles skaters demographic information, synchro skaters results, singles skaters results, coach questionnaire results, and coach interview results.

Lastly, chapter five consists of further discussion of these results and a conclusion to review the main points of this research. This section also discusses how these results could help grow and further synchro as a sport and continue its reach not only across the Midwest, but hopefully the rest of the US as well.

CHAPTER II

LITERATURE REVIEW

At the time of this research, there are no other studies that have been done quite like this one in terms of a focus on synchro and geography within the US. There is definitely a gap the within sports geography literature. In fact, the only similar research regarding synchro is a historical and ethnographic study with more of a focus on discussing what synchro is in terms of politics, society, and the musical aspects of the sport (Hall, 2009). Due to this, the literature review will first focus on a general overview of sports geography research and touch on the importance of sport in human history and culture. From there, it consists of a history of synchronized skating and reviewing important figure skating terminology and certain structures within US Figure Skating.

There are many kinds of studies that are happening in both geography and sport, such as research done by Wise & Kohe (2018) that examines how peoples interaction with sport can vary based on geography or a study from Grundstein et al. (2017) that shows how climate plays such an important role in players' health in outdoor sports. Some of these studies are intertwined, but some are separated. Sports, of course, has many interested stakeholders and so there are many studies that have been done in other disciplines outside of the realm of geography such as a study from White & Bennie (2015) looking at how sport and resilience go hand in hand. While studies of both kinds can be found in this literature review, the main focus will be looking at studies in sports geography. Additionally, a few research articles for figure skating will be touched on, as there is research being done on the sport in other areas of academia.

Rooney's (1974) *A Geography of American Sport* highlights the spatial variation of sports and the spatial organization of sports. It was the first publication of its kind and offers

quite a bit of information for main stream sports such as football, basketball, and baseball. Rooney (1974) researched where collegiate football was strongest across different time spans, the spatial distribution of teams, and the migration of players and coaches. Most of those data consists of male-centric sports, though a short section at the end does cover women's sports at the high school, collegiate, and professional levels. There is a mention of figure skating being one of the main opportunities for girls and women at the time the book was written, but there are no statistics included for figure skating (Rooney, 1974). DeChano (2000 detailed hockey players in the NHL in a similar way as Rooney. This research looked at the origins of NHL players and how those origins have shifted over time.

An important note that Rooney (1974) makes towards the beginning of his book is that there are great regional differences among where sports are popular within the US, and this certainly does not exclude figure skating. Figure skating is an elite sport (meaning it requires high level specialization at nearly all levels and is not as easily accessible as sports like football and soccer due to location, availability, and price). Figure skating is regularly ranked as one of the most expensive sports, even for beginners in terms of the cost of equipment, ice time, coaching fees, competition costs, testing costs, annual fees, dresses, and so on (Bukszpan, 2013) and simply by using US Figure Skating's "Find a Club" function on their website, it is easy to see there are many more opportunities for figure skating in states that have cold winters with snow versus states that have warmer winter with little to no snow (US Figure Skating, 2021).

Many people do not put sports and geography together as one term, yet they go hand in hand. Geography can influence sport in major ways, as mentioned by Wise & Kohe (2018) in *Sports Geography: New Approaches, Perspectives and Directions.* Sport plays an important role in the lives of many people, but the way they think of and interact with sport can all come down

to their location. Politics, culture, language are all effected by society, so why would sport be any different?

According to Ahmed & Memish (2019), humans are unique in their ability to come together for events and that some sports have created their own religion in a sense due their mass gatherings and followings. With this being the case, sports are going to see differences based on their location, whether those differences come from culture, politics, economics, and so on. A study done by Lin (2011) discusses how regional culture and international culture come together to create a special type of sports culture in Sichuan. DeChano-Cook & Shelley (2006) further this idea by discussing how sports are not only effected by geography, but also by the environment. They say that "sport transcends culture" in that popular sports are recognizable to almost anyone across the globe, bringing people together in the same way that Ahmed & Memish mention, yet a sport will still have its own unique intricacies born from location and environment.

Continuing with the idea of sports being tied to geography, DeChano & Shelley (2004) point out that teams often are associated with their location through their name. In fact, this is even common in the figure skating world with clubs and synchro teams often noting their location in their names, such as the Lansing Skating Club located in Lansing, Michigan or Team Delaware Synchronized Skating Teams.

Of course, not all sports geography studies are looking at the origins of players of how cultures and regions can change the landscape of a sport. A study from Grundstein et al. (2017) discusses an American football player who passed away from exertion heat stroke by looking at the environment. Climate plays a large role in outdoors sports, plus potential climate change issues, such as sea-level rise, impacts the location of arenas and parking facilities. Rubio & Andersen (2016) discuss how the politics of a country effect sport, especially for global events

such as 2016 Rio Olympics. The state of the country the games are being hosted in environmentally, politically, and economically are always hot topics, as well as the infrastructure that already exists and that needs to be built, and how that will affect those who live there, especially for families who are illegally displaced in favor of the event. A good example of politics playing a role in global level athletics is Russia being unable to send athletes to events such as the figure skating World Championships and from the 2022 FIFA World Cup due to the ongoing invasion of Ukraine. Chatzigianni (2018) looks at how globalization has affected sports, especially in terms of large scale events such as the Olympics, tying into political issues in the same vein as Rubio & Anderesen as well as the regulations that are placed on modern sport, especially at the top most levels of sports.

An important part of this research is looking at how figure skaters perceive synchro and currently, there are no other studies that do this with a sport and focus on the geographical aspects of the perceptions. There are studies that look at coach and athlete perceptions regarding topics like resilience in gymnastics. A study from White & Bennie (2015) looks at exactly that through the lens of mental health and life skills. This study, while not oriented to be sports geography specifically, does discuss how the environment does effect athletes specifically in Western Sydney, Australia via qualitative methods.

In terms of research regarding synchronized skating specifically, there are published studies out there covering various different fields and looking at the sport through many different perspectives. Kowalczyk et al. (2021) looked at injuries in skaters between ages 9 and 19 to find that the most common injuries among them was overuse injuries. Unfortunately, figure skaters have more to worry about than only physical injuries; mental stressors are common for most athletes but issues such as eating disorders are dominant for aesthetic sports such as figure

skating (Krentz & Warschburger, 2011). Scoffier et al. (2011) discusses the very issue of eating disorders within figure skating and looks at how skaters perceive themselves based on the standards of the sport as well as the standards of their coach. A well-known figure skater, Gracie Gold, discussed her own issues with mental health and an eating disorder caused by the harsh standards of figure skating in 2017 (Kimble, 2019). She has since returned to competition and has become somewhat of a spokeswoman for figure skaters and other athletes everywhere to bring attention to mental health issues among athletes, even participating in a documentary in 2020 that directly addresses these issues (McCarvel, 2020).

One study, mentioned at the beginning of this chapter which looks at synchro in Canada (*Synchronized Skating in Canada: Historical and Ethnographic Perspectives*), discusses some similar ideas to what is seen in this research. The study covers both the local and national level of synchro briefly. Hall (2009) mentions that figure skating is often overlooked in terms of research but is special due to the nature of it requiring far more than athleticism. This research included interviews with skaters, parents, and coaches. Many of these interviews focused more on the perception interviewees had about different aspects of synchro such as the musical aspects or political aspects of the sport, rather than a focus on location. One of Hall's conclusions about where synchro stands as a discipline of the sport are similar to a conclusion found in this study. She concluded that Canada's national governing body of skating has not promoted synchro in the same way it promotes other disciplines, which is similar to the situation with US Figure Skating. If national governing bodies of figure skating are not promoting synchro, that leads to the question of how do skaters (and the general public) even know of its existence? This study will discuss that very question later on.

A Brief History of Synchronized Skating

Synchronized skating was created by Dr. Richard Porter, a professor at the University of Michigan, in 1956. Originally called precision skating (changed to synchronized skating in 1998 by the ISU to have better appeal), he created the team for his daughters and their friends to have a team sport in which to participate, as girls' team sports were lacking at the time. The team was called the Hockettes Precision Skating Team and they performed at University of Michigan hockey games (a tradition that has lasted a long time, with many modern day teams still performing at local hockey games). Dr. Porter's contributions to the sport have been upheld over the years in many ways including the Ann Arbor Figure Skating Club's annual synchro competition being named for him (the Dr. Richard Porter Classic, also simply known as Porter to those in the synchro world) and him being inducted into the World Figure Skating Hall of Fame in 2018 and the Professional Skaters Association Hall of Fame in 2020 (SkateLog, n.d).

By the late 1960s, there were teams in Michigan, Illinois, Wisconsin, Ohio, and Indiana in the US, in addition to multiple teams in Canada. The aforementioned Dr. Richard Porter Classic was the first synchro competition, originally named the International Precision Team Competition and began in 1976, being hosted by the Ann Arbor Figure Skating Club. Teams from both the United States and Canada competed (SkateLog,n.d).

The first country to host a national championship was Canada in 1983. The following year in 1984, US Figure Skating hosted their first national championship in Bowling Green, Ohio (Jura Synchro, 2017; SkateLog, n.d). In 1989, the first international competition hosted outside of North America took place in Sweden, where seven different countries competed (SkateLog, n.d). In 1994, the ISU recognized precision skating as the fifth discipline of competition figure skating and would change the name only four years later to synchronized skating, as mentioned

earlier. There were 15 different countries that participated in sanctioned competitions the first year allowing synchro to be included as a recognized discipline within figure skating (SkateLog, n.d). In 1996, the first unofficial world championship was hosted in Boston, Massachusetts (Kura Synchro, 2017; SkateLog, n.d). The first recognized world championships took place in 2000 in Minneapolis, Minnesota with teams representing 17 different countries (Jura Synchro, 2017). At the 2002 Winter Olympics, hosted in Nagano, Japan, synchronized skating was a demonstration sport (SkateLog, n.d). Synchronized skating has not since been included as a demonstration sport for the Olympics since (Wood, 2010).

Synchronized skating has made attempts at becoming an Olympic sport, but has yet to achieve that goal. In 2017, the ISU made a proposal for the sport to be included in the 2022 Winter Olympics in Beijing, China (SkateLog, n.d). According to the chair of the synchronized skating technical committee for the ISU, the IOC voted against synchronized skating being included in the 2022 Olympics due the amount of athletes on the ice, meaning the number of athletes on each synchro team, as well as the additional amount of athletes at one time and others who are associated with these teams and the competition such as coaches, judges, and officials. All of these people would need to be housed in the Olympic village. Due to this and some teams struggling to find 16 skaters for their senior level teams each year, the ISU created a new competitions category in an attempt to successfully become an Olympic sport. This category is called the Elite 12 (Jura Synchro, 2021). According to a communication released by the ISU in February of 2021, the Elite 12 was also created to allow teams at the Junior and Senior levels to skate their programs for the Synchronized Skating Technical Committee in lieu of the World Synchronized Skating Championships, which were canceled due to the COVID pandemic (International Skating Union, 2021).

Figure Skating Terminology

In order to understand many vital parts of this research, a working understanding of figure skating terminology is necessary. For those who have been in the figure skating world for a long time, much of this is common knowledge. But for those who are new to it or have never experienced it, there is a lot to understand. Figure skating is a highly sanctioned sport between US Figure Skating, which is the United States' national governing body for the sport, and the International Skating Union (ISU), which is the international governing body of the sport. Many decisions US Figure Skating make rely on the ISU, especially for higher level skaters who are competing at the national and international levels.

All skaters in US Figure Skating start through a Learn to Skate USA program, also referred to as basic skills. As the name suggests, this is where skaters learn the basics and fundamentals of figure skating, typically in group lessons. Each Learn to Skate USA program handles skaters "graduating" from the basics differently. For example, Greater Kalamazoo Skating Association requires that all skaters have passed Basic 4 (or Adult 4) in order to become a member of the club and take private lessons. Most Learn to Skate USA programs are housed by a figure skating club, which is US Figure Skating sanctioned groups that skaters are able to join, train on the club's ice, and take lessons from the coaches available there. Skaters can be members of multiple clubs, but their main club is their home club. They represent their home club when they compete or test.

Testing is an important portion of what skaters work towards in their training. US Figure Skating has a testing structure that includes five different branches (Figure 1). Test sessions are hosted by figure skating clubs. Skaters will perform the tests they signed up for in front of a

panel of judges and those judges will decide if they move on to the next level or if they must retry. If a skater does not pass a test, they must wait 14 days before attempting to take it again.

The first branch is Moves in the Field, which is focused on footwork. There are eight levels that skaters can test through, from Pre-Preliminary to Senior. The second branch is Freestyle (also known as Free Skate), which focuses on elements like jumps and spins, as well as a skater's ability to perform a program that flows together through the use of footwork between required jumps and spins. The eight Freestyle levels directly correspond with the eight Moves in the Field levels. In order for a skater to take a freestyle test, they must pass the corresponding Moves in the Field test first. The levels for Freestyle also share the same names, from Pre-Preliminary to Senior.

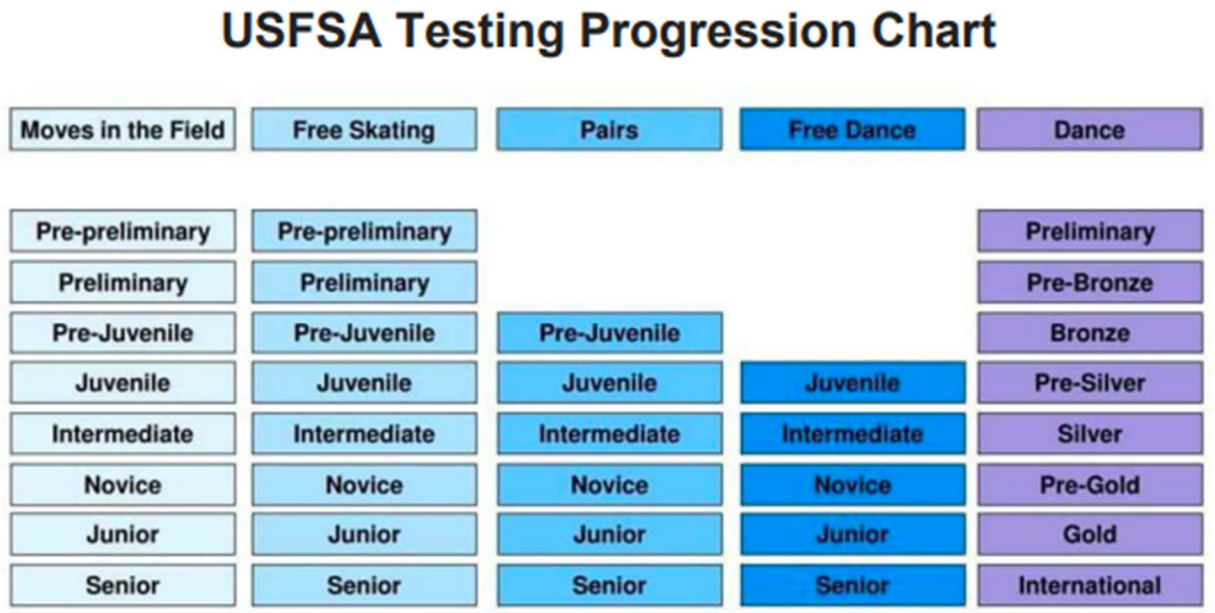

Figure 1. Testing structure for US Figure Skating. From Marshfield Silverlaces.

The third branch in the testing structure is Pairs. Pairs is freestyle, but with two skaters who are partners. Not only must these skaters be strong freestyle skaters on their own, they must

also be able to partner well, which includes lifts, side by side jumps, partner spins, and more. There are six levels to test in pairs skating.

The fourth branch is Free Dance. Free dance utilizes the skills learned from Moves in the Field and Pattern Dance, although there is no requirement to test any of those before testing Free Dance. There is no jumping in free dance, but some skaters may use hops or half rotation jumps (rotating your body one half time in the air from take off to landing) as embellishment. Spins, however, are required in Free Dance. Free Dance can be tested either solo or with a partner and there are five levels.

The fifth branch is Pattern Dance (referred to as Dance in Figure 1). Pattern dances are inspired by ballroom dance and have specific steps and timing. The dances must be performed with the proper steps, timing, and expression to pass. Skaters can test solo or test with a partner. If a skater decides they want to test solo after testing with a partner, they can switch to testing solo and continue moving through the levels. However, if a skater is testing solo and decides they would like to test with a partner, they must retest any dances they have taken solo. There are seven levels of dance, with each level having three to four dances that skaters must test to pass the overall level. There is an eighth level, known as international dances, are used worldwide. These are the dances that are used for the Rhythm Dance at the Junior and Senior levels of international competition, including the Olympics.

In figure skating, there are five different disciplines of skating for skaters to compete in. Skaters can start competing from the lowest levels or skating all the way up to senior, the highest level of skating. The first two disciplines go hand in hand. They are women's freestyle and men's freestyle. As mentioned before, Freestyle tests are focused on jumps, spins, and flow between those two things via footwork. The focus is the same for freestyle as a discipline. Men's

and women's freestyle require the same elements (jumps, spins, certain footwork or moves) at the lower levels, but the requirements are different at the higher levels. Competitive levels correspond with test levels.

In the past, it was commonly known that women's figure skating was the event to watch, especially during the Olympics. In recent years, freestyle has become a "jumping game", meaning the main focus of freestyle skating has shifted from a focus on the overall program (looking at jumps, spins, connecting steps, flow, and artistry) to focusing on jumps specifically. Women landing quads has been a much slower process than it has for men, so men's skating has become more popular over the last two Olympics as a result of the exciting action. Women are catching up, but there is controversy over whether or not this is a good thing. After all, the "women" landing these jumps are usually teenage girls who have not gone through puberty (or even delayed puberty) and are using methods that purposefully injure the body to fully rotate (Mitra, 2022).

The third discipline of figure skating is pairs skating and the fourth is ice dance. They follow the same format as their test levels and ice dancers can compete both solo and/or with a partner. At the Olympic level, there is no solo dance, only partnered dance. Competitive levels correspond with test levels for both of these disciplines as well. The United States is not well known for pairs, but has recently made history at the 2022 Winter Olympics. Alexa Knierim and Brandon Frazier not only placed in sixth at the recent winter games, but this is only their second season skating together and this is the best placement at the Olympics for a US Pairs team since the 2002 Salt Lake City Olympics (NBC Olympics, 2022).

However, the United States has been big on the dance scene in recent years. Dance becoming popular in the Olympics for the US has influenced the lower levels of the sport,

causing the creation of the National Solo Dance Series. This series allows any skater to compete at the national level in dance, but also allows for girls to compete dance if they are unable to find a partner as boys are hard to come across in figure skating. Notable American ice dancers include Meryl Davis and Charlie White were the first to bring home a gold medal for the US at 2014 Sochi Winter Olympics with their stunning artistry and ability to stay completely in synch throughout their programs (Fitzgerald, 2014).

The fifth and final discipline of figure skating (and the main focus of this research) is synchronized skating. As mentioned in earlier sections, synchro teams can consist of up to 20 skaters, typically with eight to 16 skaters on the ice at a time. Competitive levels do not correspond with test levels, since synchronized skating teams do not test together. Skaters are placed on teams based on their individual skating skills and their test levels. Most levels have a requirement for Moves in the Field tests passed, but teams might raise the requirement set by US Figure Skating to a higher level or require additional tests in Freestyle or Ice Dance. There are nineteen different levels available for skaters who are on synchronized skating teams in the US. Many teams will select which levels they have each year based on the skills of the skaters available to them, though some teams have fixed levels they always offer so long as they are able to field a full team.

CHAPTER III

METHODOLOGY

Data were collected for this study via questionnaires and extensive freeform interviews. Data collection was both qualitative and quantitative because open-ended questions were also included in the questionnaires to allow for more in depth answers, as well as questions where interviewees were asked to rank different items using Likert-type scales. In order to collect these necessary data to understand skaters' geographic perceptions of synchronized skating, two separate questionnaires were made for different groups within the skating community, with a third questionnaire created for coaches, regardless of their status as a synchronized skating coach. The questionnaires, once approved by WMU HSIRB (Appendix E), were distributed using Qualtrics Survey Software (2021 version). Given that at least a portion of each questionnaire targeting different respondents was different from the others, the following section will discuss each questionnaire version independently. A copy of all questionnaires used in the study may be found in sequence as Appendices A-D.

An important point of departure is the fact that this study only collected survey or interview data from those who are 18 and older. Minors were unable to participate in this research since this research was asking for location information. Had minors been able to participate, the results may have varied greatly. While collegiate skating is very popular and adult skating has been gaining popularity, the majority of skaters are usually under 18, so a major portion of the skating population is missing from this research. The next sections introduce each of the surveys developed for this research

Synchronized Skaters Questionnaire

The first questionnaire was for synchronized skaters located in the Midwest and was sent to every synchronized skating team in the US by Kyleigh Gaff, manager of synchronized skating programs for US Figure Skating. The questionnaire was sent to the head coach of each program and they were asked to distribute them to anyone who was currently or had previously skated on their team that fit the eligibility requirements.

Synchronized skaters were asked a series of questions to determine some basic demographic information (age, gender), geographic information (current state of residence, team the skater most recently skated for, travel time to and from the rink, if the skater has ever relocated specifically for skating), and skating information (when the skater started skating/synchro, levels passed including all testing types in US Figure Skating's testing structure: Moves in the Field, Freestyle, Pattern Dance, Free Dance, and Pairs).

The final two questions ask skaters opinion-based questions focused specifically on synchronized skating. The first of the two questions asks skaters how strongly they agree or disagree with four different statements regarding the current status of synchronized skating. The second asked skaters to select up to three different words to describe their feelings on being unable to represent Team USA at the Olympics due to synchro not currently being an Olympic sport. This question is important to help understand where synchro skaters stand with their current situation and perception of themselves as a highly competitive sport.

Non-Synchronized Skaters Questionnaire

The second questionnaire was made for skaters who participate in any of the other four disciplines (men's singles, women's singles, ice dance, and pairs), but not synchronized skating.

This questionnaire was sent via email to the main contact listed for each club in the Midwest using US Figure Skating's "Find a Club" function.

The initial questions respondents had to answer were the same as those included on the synchronized skater questionnaire, such as demographic information (age, gender), geographic information (current state of residence, location of more recent home club in place of location of current/most recent team, travel time to and from rink, if the skater has ever relocated specifically for skating), and skating information. The section collecting information on skating "demographics" asked nearly all of the same questions as well (year the skater began skating, levels passed including all testing types in US Figure Skating's testing structure: Moves in the Field, Freestyle, Pattern Dance, Free Dance, and Pairs); however, in this instance, it did not ask skaters to disclose the year they began synchronized skating as this questionnaire was designated for skaters who specifically are not and never have been involved in synchronized skating.

The final seven questions of the questionnaire are aimed at collecting information related to singles skaters' understanding and awareness of synchronized skating. Skaters are asked to disclose if they have ever seen synchronized skating before and are asked how familiar they are with synchronized skating on a Likert-type scale.

Singles skaters' were then asked to assess the same four statements as those provided to the sample population of the synchro skaters to gauge their sentiments regarding the current status of synchronized skating. In addition, they were asked to imagine not having the opportunity to represent Team USA at the Olympics due to synchronized skating not currently being an Olympic sport by selecting up to three words from a predetermined list. This is needed to understand how non-synchro skaters perceive the situation synchro skaters are in and to see if singles skaters feel the same way, regardless of how much awareness they have of synchro. In

addition, respondents were then asked to watch a video of Skyliners Senior's Long Program from the 2019-2020 season and re-answer the final two questions to see if their opinions had changed directly after watching synchro.

Coach Questionnaire

The third questionnaire was made for figure skating coaches, with two different subsets of questions based on their initial responses (whether or not they coach synchronized skating). This questionnaire was sent in two different ways. In order to reach synchronized skating coaches, the link to this questionnaire was also sent with the link to the synchronized skater questionnaire by US Figure Skating to all teams registered in the Midwest. To reach coaches of other disciplines, the link to this questionnaire was sent along with the non-synchronized skaters emails to each club located in the Midwest.

Similar to the previous two questionnaires, coaches were asked if they consent to the research and to provide their age range. If they did not consent, or if they were under 18 years old, they were automatically thanked for their participation and unable to view or complete any other portions of the questionnaire. Coaches were asked early on to disclose whether or not they have coached synchronized skating and their response to this question determined the specific questions they were asked to complete within the questionnaire.

Coaches who responded "yes" to coaching synchronized skating were asked a series of eight questions, including if their team was affiliated with a club or not (some synchronized skating teams are attached to local figure skating clubs. For example, the Western Michigan University Synchronized Skating Teams are housed by the Western Michigan University Skating Club. Some teams are not part of a club for various reasons, for example if no local clubs are available to host a team, and those teams are listed as Individual Members of US Figure Skating

instead. Coaches were asked if they coach any other disciplines (singles, ice dance, and pairs), how they encourage skaters to try synchro, if their team has a high number of returning skaters year after year, and how synchronized skating can be more publicized to the general public. Lastly, they are asked to select up to three words from a predetermined list ("neutral", "happy", "lonely", "frustrated", "angry", "excited", and "lonely") to describe synchro in their personal opinion. This question was included to determine how synchro coaches perceive the sport to compare to non-synchro coaches to see if there is a difference in their opinions regarding synchro.

Coaches who responded "no" to coaching synchro were asked a series of six questions. They were asked if their club has a synchronized skating team or not and if they do, do they encourage their skaters to try synchro despite not coaching it. If their club does not have a synchronized skating team available, they were asked if they would be interested in a synchro program at their club. Coaches were asked if they have watched synchronized skating in the last five years. This is because synchro has changed so much in recent years as it becomes more competitive, tries to become more interesting to the general public to gain more airtime on TV, and attempts to become an Olympic sport. Similar to the synchro coaches, non-synchro coaches are asked to select up to three words from a predetermined list to describe synchro in their personal opinion. Lastly, coaches were asked if they encourage skaters to travel to participate in synchro (and why they do not if they are not encouraging it) and if they believe synchro should be an Olympic sport.

Coach Interviews

Additionally, coaches were given the option to participate in interviews if they were interested. Due to the COVID-19 pandemic, as well as the seemingly never-ending skating

season, coaches who consented and provided their contact information were sent questions via email. Contact information was stored separately from coaches' responses so their responses would remain anonymous. These questions were the same for all coaches, regardless of their own involvement in synchronized skating.

The initial three questions of the interview were to help determine where coaches are currently located and where they have been previously located. This information is vital in understanding what opportunities were available to them when they were actively skating for themselves (or if they still are actively skating for themselves) and understanding what opportunities are available to their skaters based on their location. Questions four, five, and six continue this by determining what disciplines coaches work in, as well as more specialized fields within the skating world such as Moves in the Field (listed as MIF), which is the main series of tests that figure skaters work through during their career; Freestyle, which is made up of the typical jumps and spins people think of when they think about figure skating; power skating, which focuses on core work and creating stronger, more efficient skaters; etc.

Question seven is related to how their location may limit the range of skating activities and disciplines they offer or not. Most figure skating clubs will be able to offer Learn to Skate (US Figure Skating's basic skills program), where all skaters begin learning the basics of skating. This program is the backbone of many clubs across the country and precedes additional training programs such as Moves in the Field and Freestyle. Even then, smaller clubs might not have the resources to elevate a skater to the senior levels, especially in any specialty outside of Moves in the Field. Larger clubs are limited by the number and skill sets of the coaches that are available to them. Even if they have a staff of 25 coaches, there will still likely be specializations that are not covered such as power skating, hockey skills, speed skating, adult skating, etc.

Question eight asked coaches to discuss what they see US Figure Skating promoting across all of their platforms, from social media to *The Skating Magazine* to determine their thoughts on how well US Figure Skating has done to promote synchronized skating as the fifth discipline in comparison to the other four disciplines. Lastly, question nine asked coaches to think about how US Figure Skating could bring synchronized skating to locations where it is not currently available to skaters. There are many considerations to make here for coaches; they must consider how many skaters are needed to make up a team and if the club in question has enough skaters (and are they the correct age and have they passed the appropriate tests?), can the facilities support the needs of the team (ice time, rink size, locker rooms, etc.), can the club support the needs of the team (financial costs, qualified coaches), and if there are competitions nearby or will the team have to travel far for each competition (which results in costs for hotels, team bus, team meals, etc.).

CHAPTER IV

RESULTS

Results of this research provide interesting insight into how synchronized skaters, singles skaters, and coaches perceive synchronized skating. Some of these results are what might be expected given the geographic distribution of teams in the Midwest, but other results came as a surprise. In the end, there were 30 synchronized skaters, 43 singles skaters (meaning singles in freestyle, ice dance, and/or pairs skaters), and 47 coaches (including both synchro coaches and non-synchro coaches) participating in the research. Of the 47 coaches who responded, 15 provided their contact information at the end of their questionnaire, expressing agreement to participate in an interview and seven of those coaches completed the interview. In addition, the author would like to state that the skater section of this research (both the synchro and non-synchro skaters alike) could be considered a sample of convenience as many of my teammates indicated that they filled out the questionnaires.

Synchronized skating started in the Midwestern US and is the most popular in the Midwest and East Coast regions of US Figure Skating, with some popularity in the Pacific region of the United States. All regions are determined by US Figure Skating and only partially follow what is actually considered the Midwest, East Coast, and Pacific Coast such as in the US Census. Geographically, this research only covered the Midwestern region of the United States according to US Figure Skating. This was decided as synchro began in the Midwest. The states included in the official Midwestern region of US Figure Skating will likely be surprising to many readers. Skaters and coaches assigned to the Midwest region could come from the states of Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Missouri, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee (excluding

Chattanooga), Texas, and Wisconsin. See participation by state in Table 1. There were some participants who did not leave their geographic information, so their locations are unaccounted for within these numbers. Additionally, only coaches who participated in the interview had the ability to disclose geographic location. Of 80 participants who could disclose their location, only 47 chose to do so.

Table 1. Participation of skaters and coaches by state. Derived from questionnaires

State	**Number of Skaters and Coaches**
Illinois	4
Michigan	32
Missouri	1
New Mexico	1
Ohio	7
South Dakota	1
Texas	1

Synchronized Skaters & Singles Skaters Demographic Results Compared

Both synchro and non-synchro skaters were asked questions regarding their age, test levels, and other skating information. The following figures and tables are comparing the results of the questionnaires for synchronized skaters and singles skaters. Of the skaters who participated, most respondents were between the ages of 18 and 24 and identify as female (Figure 2).

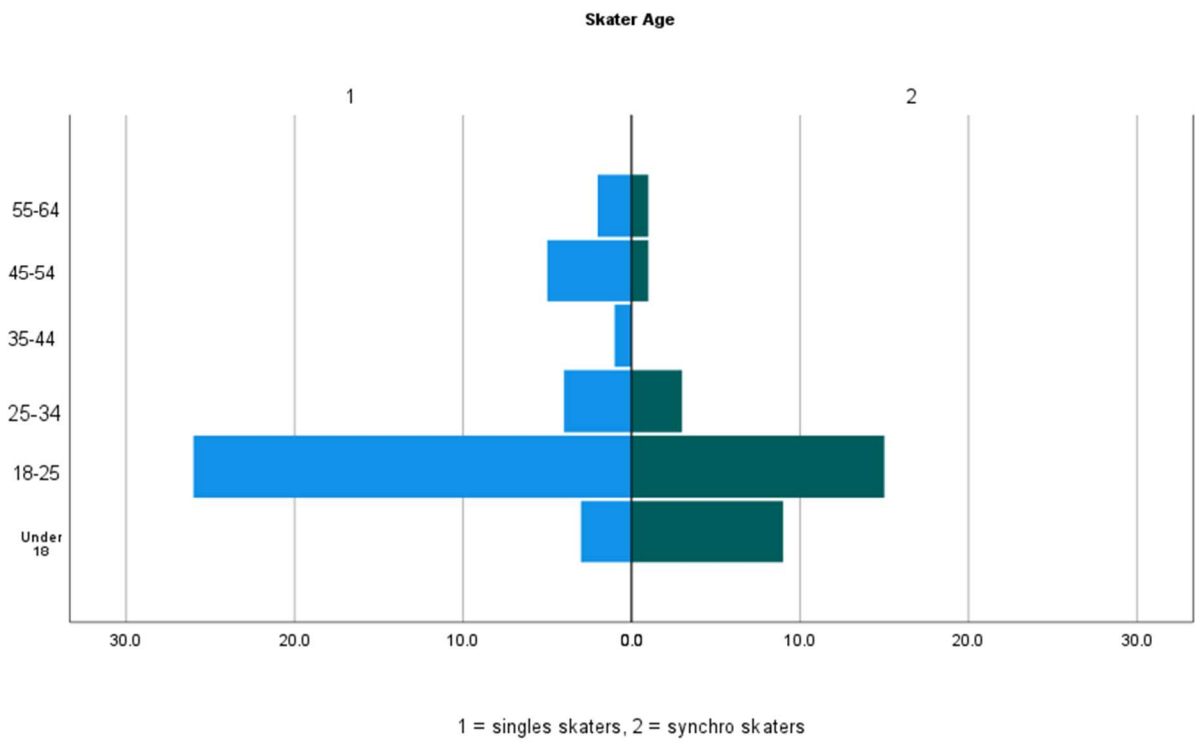

Figure 2. Ages of singles and synchro skaters. Derived from questionnaire

None of the skaters who participated, synchro or not, indicated that they had passed any Pairs tests, but there were skaters who had passed tests in Moves in the Field, Freestyle, Pattern Dance, and Free Dance. There is a "borderline" significant difference (n=35, t=1.448, p=.07) between tests passed in Moves in the Field, 93% of time singles skaters self-reported at higher skill levels than synchronized skaters in Moves in the Field. This could be due to the fact that singles skaters are likely pushed harder by coaches to pass their senior moves tests, but synchro skaters might not be equally encouraged to do so unless their goal is to skate at a highly competitive level.

Table 2. Independent Samples Test results for highest passed MIF test between synchro and singles skaters. Derived from questionnaires.

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Significance Two-Sided p	Mean Difference	Std. Error Difference
What is your highest passed MIF test? (select if applicable)	1.568	.219	-1.448	35	.156	-.640	.442

The majority of skaters, both synchronized skaters and singles skaters, reported that they travel thirty minutes or less to reach the main rink where they practice (Figure 3). More synchronized skaters admitted that they relocated for skating (Figure 4). This includes some skaters relocating for collegiate level teams (twelve relocated, six have not) while fewer singles skaters have relocated for skating (ten relocated, twelve have not). In addition, skaters were asked what year they began skating. As seen in Figure 6, the majority of skaters who provided this information started skating somewhere between 2005 and 2010.

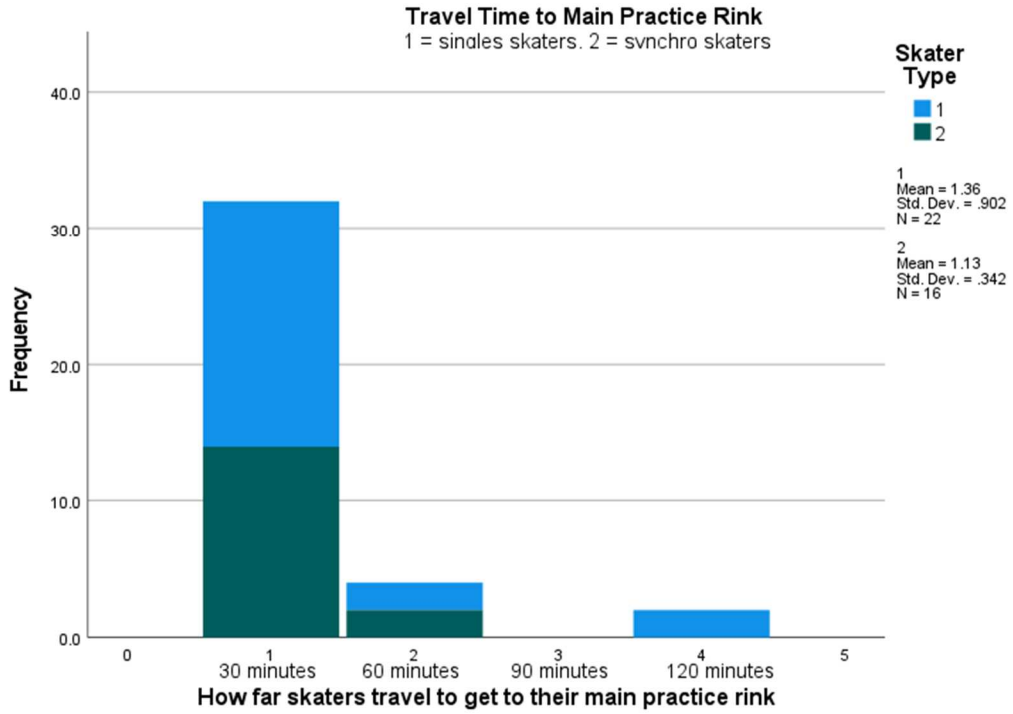

Figure 3. The required travel time to main practice rink with 1 being singles and 2 being synchro skaters. Derived from questionnaires.

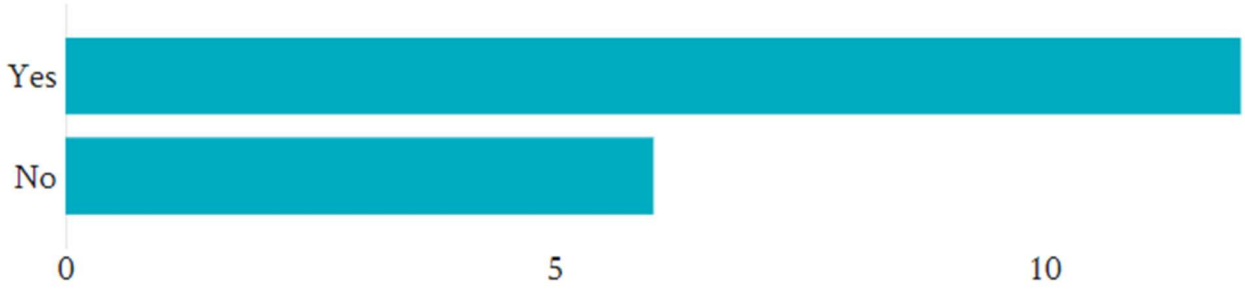

Figure 4. Indication of relocation for synchronized skaters. Derived from questionnaire.

Figure 5. Indication of relocation for singles skaters. Derived from questionnaire.

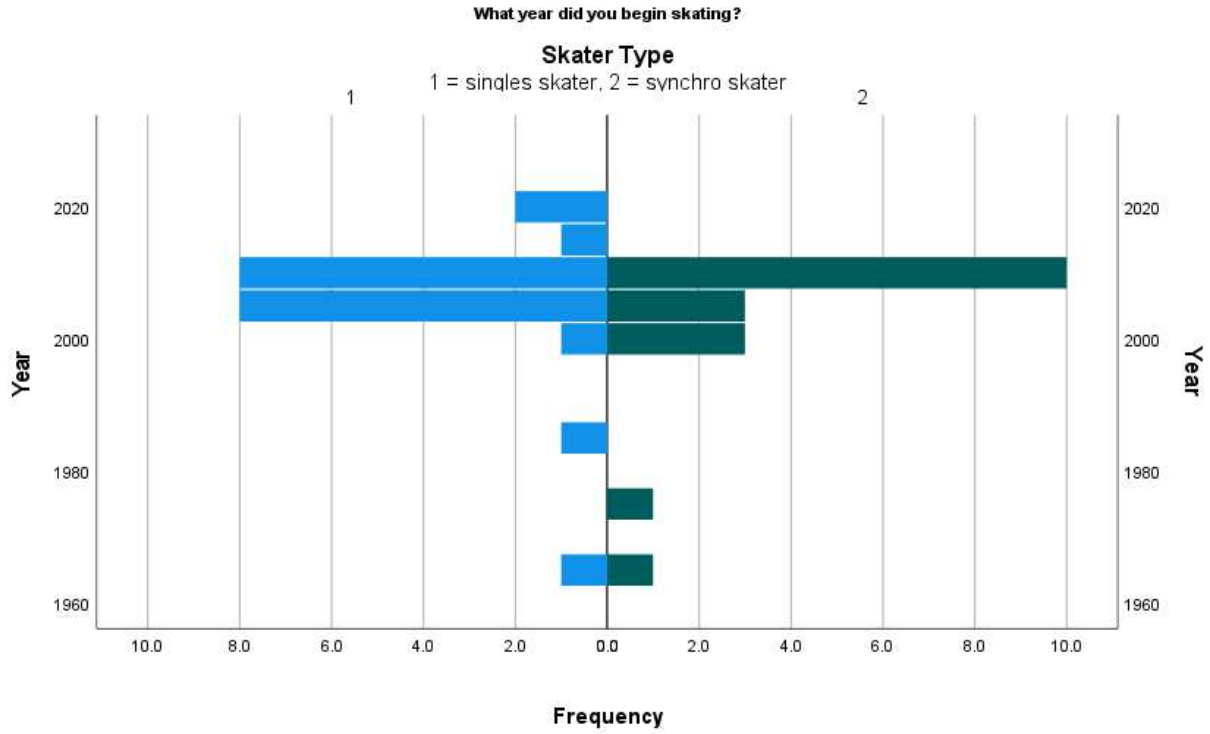

Figure 6. The year singles skaters (1) versus synchro skaters (2) began skating. Derived from questionnaire.

Synchronized Skaters Results

30 synchro skaters from across the Midwest opted to fill out the questionnaire in some capacity. Nine respondents were under 18, which resulted in Qualtrics ending their questionnaires, as minors were unable to take part in this research. Additionally, respondents had

to give consent in order to complete the questionnaire and one did not give consent; therefore, they had no other recorded responses. These questionnaires were omitted from analysis.

Synchro skaters were asked to respond to a series of statements on a Likert-type scale (found in Appendix A) regarding whether or not they strongly disagreed, disagreed, were neutral, agreed, or strongly agreed. The statements included if they think synchro is the fifth discipline of the sport, if synchro should be an Olympic sport, if synchro is well known to the figure skating world, and if synchro is well known to the general public. Figure 7 displays the results of the questions from the questionnaire.

Most skaters selected neutral, agree, or strongly agree categories regarding their opinions about it synchronized skating should be considered the fifth discipline of the sport. The majority of skaters strongly agreed that synchronized skating should be in the Olympics. No skaters felt strongly that synchro is well known to the skating world, with most skaters selecting either agree or disagree. Most skaters selected neutral, disagree, or strongly disagree to synchronized skating being well known to the general public.

Synchro skaters were also asked to select up to three words to describe their feelings related to knowing that currently these skaters cannot currently represent Team USA at the Olympics on a synchronized skating team. The most selected words included “sad” and “frustrated” by 14 skaters each, and “angry” at nine skaters. The word “neutral” was selected by seven respondents, and the terms “lonely” and “excited” were selected by one each.

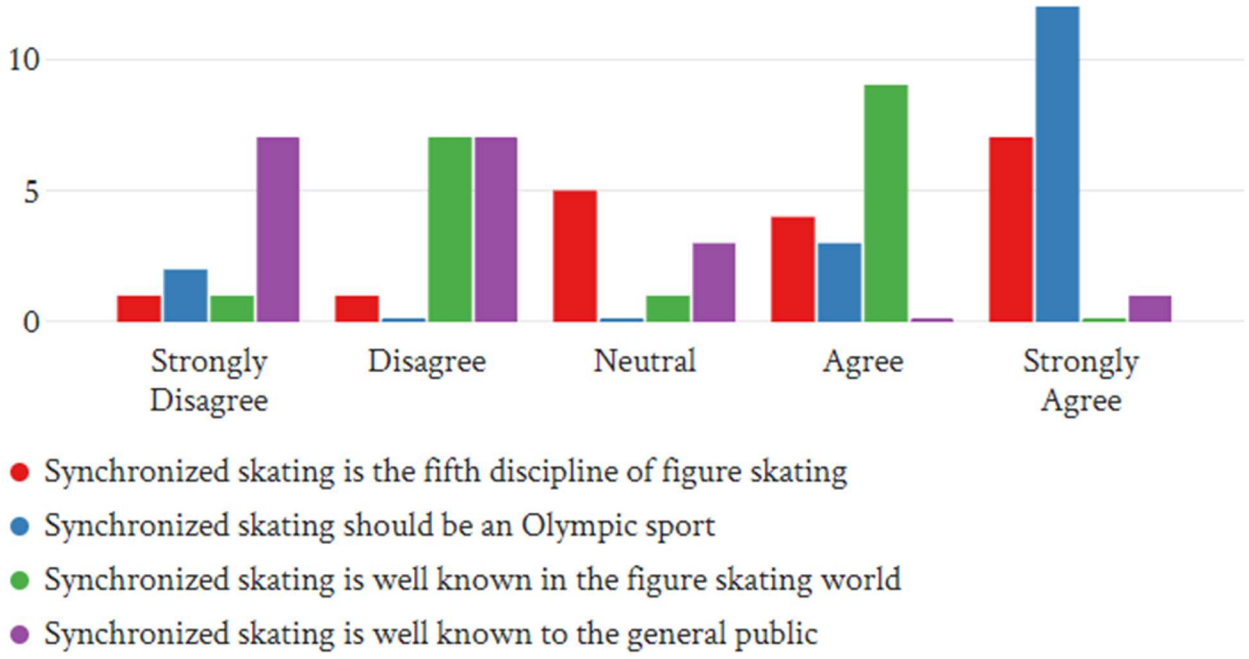

Figure 7. Synchronized skaters responses to the mentioned statements. Derived from questionnaire.

Figure 8. Synchronized skaters selected words in response to the Team USA question. Derived from questionnaire.

Non-Synchronized Skaters Results

The main focus of this portion of the research was to look at singles skaters' perceptions of synchronized skating, as they are being used to understand where the general skating community's awareness lies. There were 43 responses to the singles skaters questionnaire and all parties consented to taking part in this research, though there were three respondents who were unable to complete the questionnaire due to being under the age of 18. These questionnaires were omitted from analysis.

Singles skaters were asked how familiar they are with synchronized skating. The results varied significantly, however all respondents reported being familiar with synchronized skating. When respondents were asked if they had previously seen synchronized skating before, only one skater responded no.

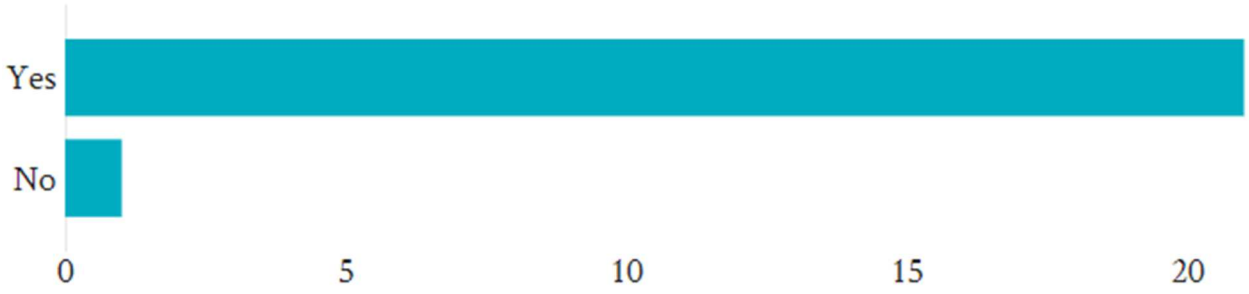

Figure 9. Singles skaters' responses to having seen synchro before or not. Derived from questionnaire.

Following this, singles skaters were asked the same questions as synchronized skaters; however, they were asked to answer these questions once before viewing a video of a senior team performing their long program, and once after watching the video. The results of these questions from before singles skaters viewed the video are in Figure 10.

Singles skaters were asked to answer a series of statements and whether or not they strongly disagreed, disagreed, were neutral, agreed, or strongly agreed. The statements included if they think synchronized skating is the fifth discipline of the sport, if synchronized skating should be an Olympic sport, if synchronized skating is well known to the figure skating world, and if synchronized skating is well known to the general public.

All skaters were neutral, agreed, or strongly agreed that synchronized skating is the fifth discipline of the sport. All skaters either agreed or strongly agreed that synchronized skating should be an Olympic sport. Most skaters agreed that synchronized skating is well known in the figure skating world. The majority of skaters disagreed that synchronized skating is well known to the general public.

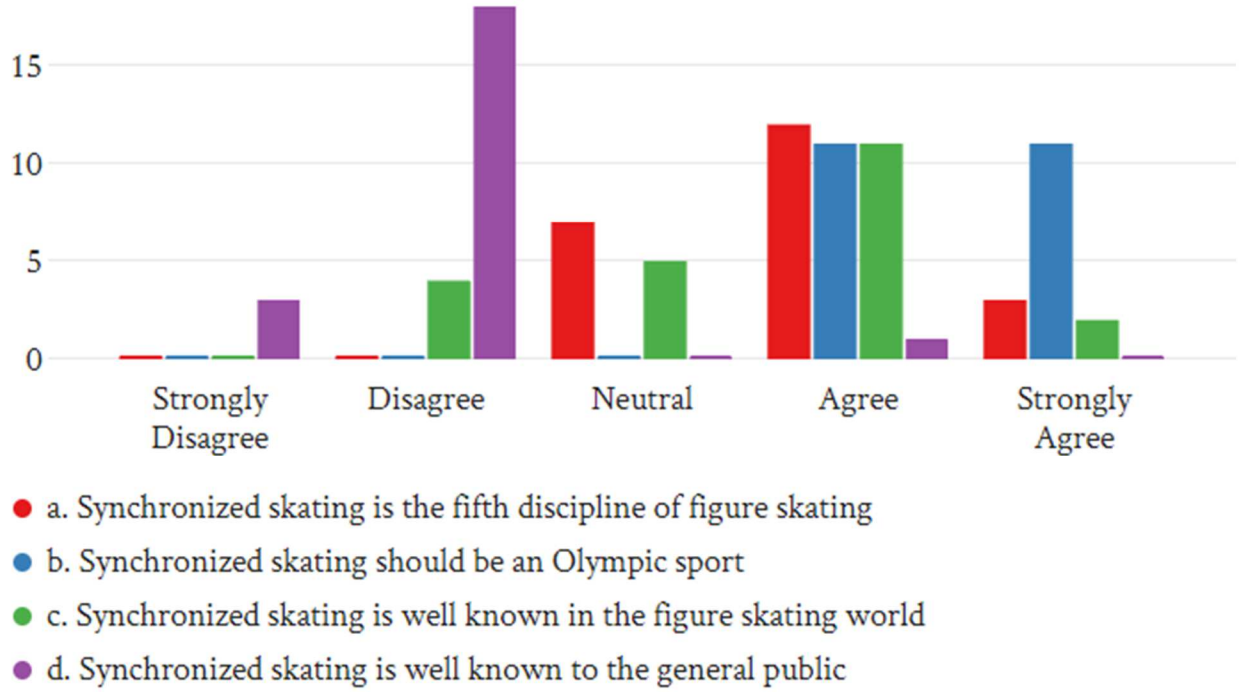

Figure 10. Singles skaters responses to the mentioned statements before viewing the video. Derived from questionnaire.

After watching the video, skaters were asked to rank the same statements again. While all neutral, agree, and strongly agree were still all selected for synchronized skating is the fifth discipline of the sport, less skaters selected neutral and more skaters selected strongly agree (Figure 11). More skaters also strongly agreed that synchronized skating should be an Olympic sport. The results for the third statement, synchronized skating is well known in the figure skating world, stayed almost identical. The only difference is that strongly agree lost one skater while agree gained one skater. Similarly, the final statement, synchronized skating is well known to the general public, also has nearly identical results but disagree lost two skaters and strongly disagree gained two skaters.

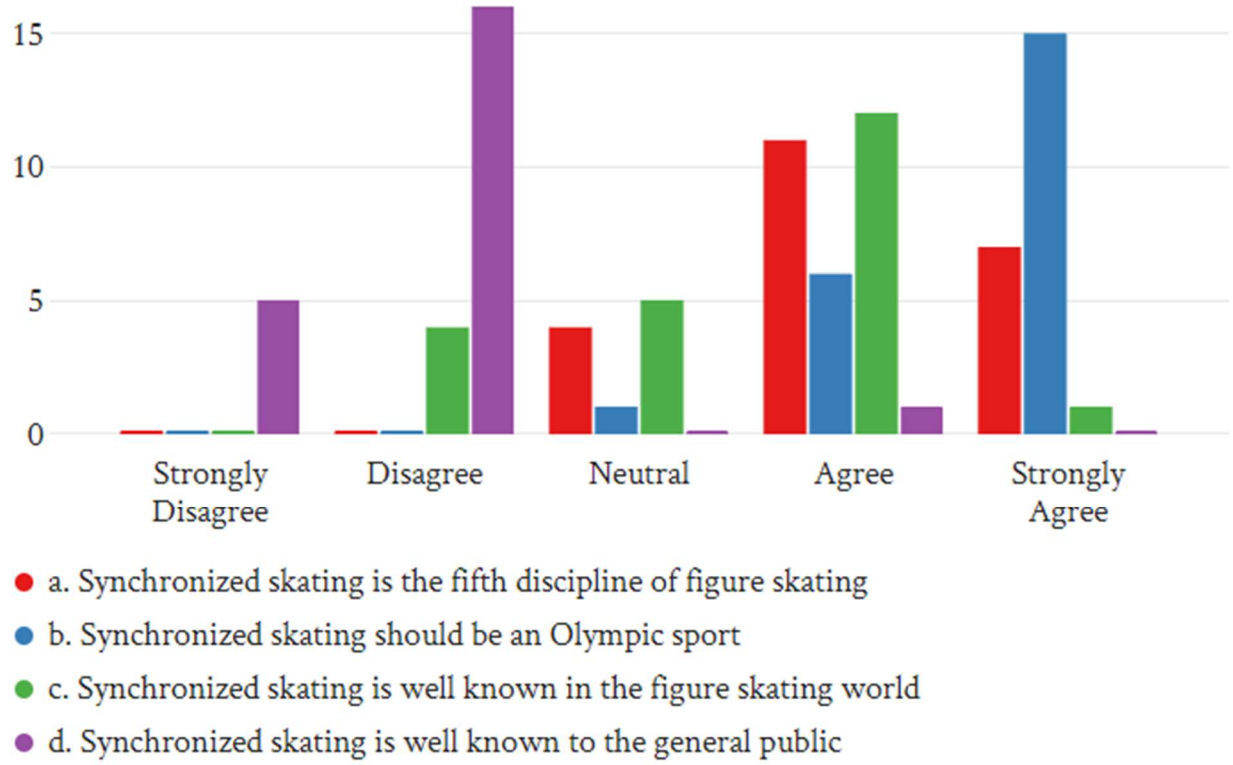

Figure 11. Singles skaters new responses to the statements following the video. Derived from questionnaire.

Before viewing the video, singles skaters were also asked to imagine being unable to represent Team USA at the Olympics and select up to three words that best described their feelings. Nineteen skaters selected “frustrated”, 15 selected “sad”, 10 selected “angry”, five selected “neutral”, and two selected “lonely” (Figure 12).

Figure 12. Singles skaters word selections regarding the Team USA question. Derived from questionnaire.

After viewing the video, singles skaters were once again asked to select up to three words to describe their feelings towards imagining not being able to represent Team USA at the Olympics. 18 skaters selected “frustrated”, 16 selected “sad”, 13 selected “angry”, two selected “neutral”, and both “lonely” and “excited” were selected once (Figure 13). “Happy” was the only option never selected by any skaters, both before and after viewing the video. Less skaters felt neutral after viewing and mostly selected terms like “sad”, “frustrated”, and “angry” to represent their thoughts right after viewing the video.

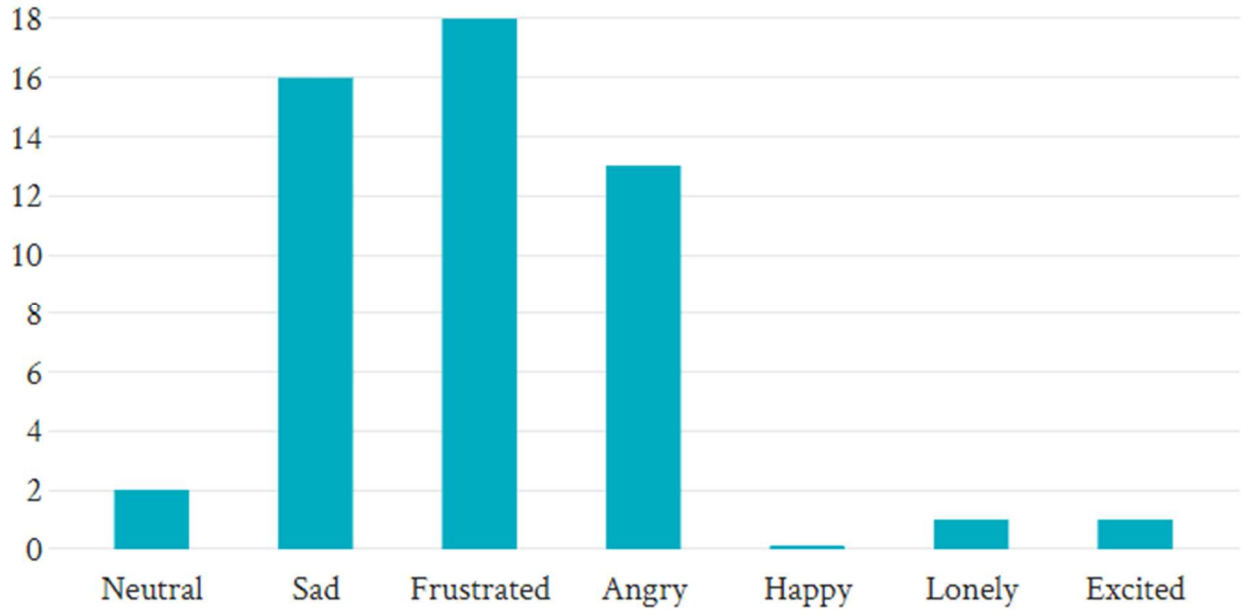

Figure 13. Singles skaters word selections regarding the Team USA question following the video. Derived from questionnaire.

Coach Questionnaire Results

The questions that coaches were asked on their questionnaire were different from those asked of the two groups of skaters. In addition, the questionnaire also presented two different versions based on if the coach indicated they synchronized skating either at present or in the past. The only question asked before the questionnaire split was how old coaches are, with the majority being between 25 and 34 (Figure 14). After that, coaches were asked to disclose whether or not they coach synchronized skating, with 29 responding yes while 14 responded no (Figure 15).

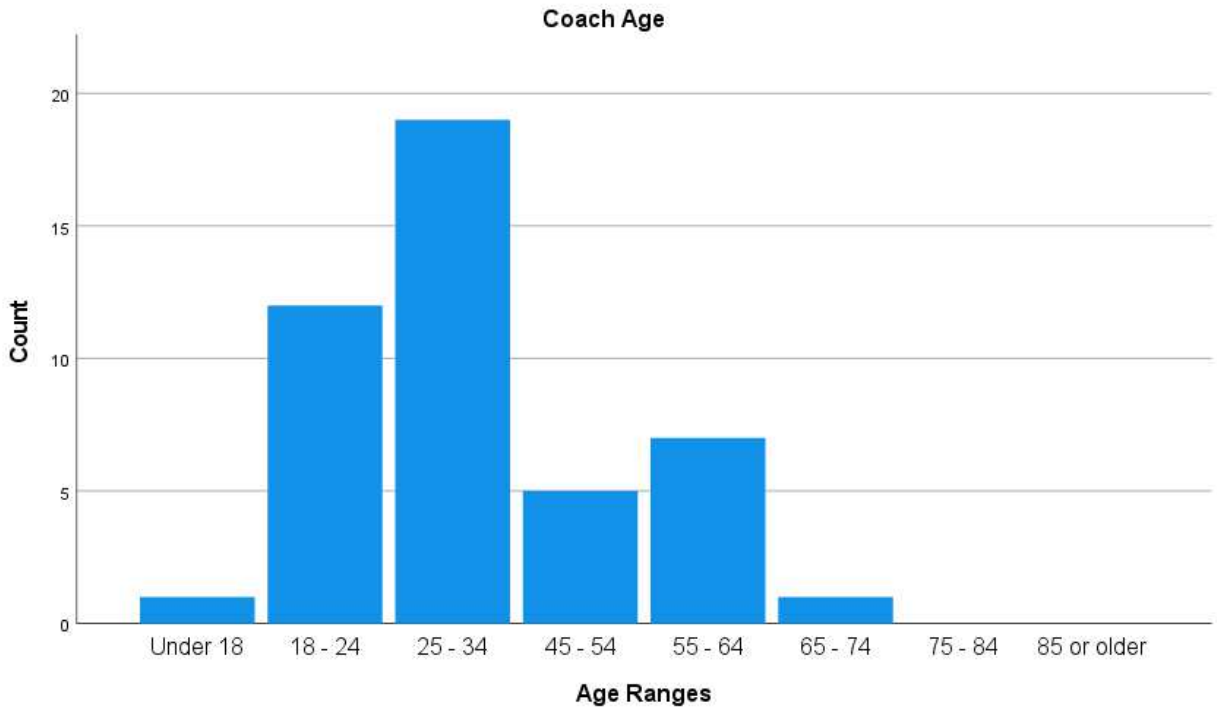

Figure 14. Age ranges of all coaches. Derived from questionnaire.

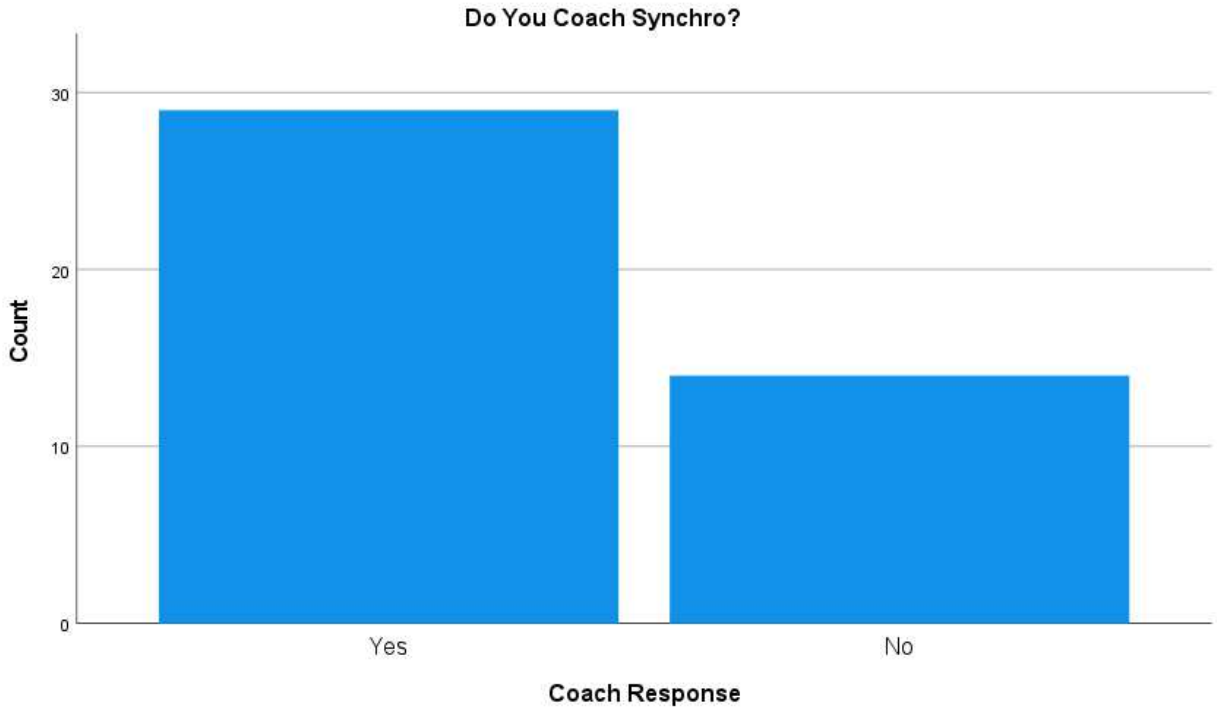

Figure 15. Coaches responses to whether or not they coach synchronized skating. Derived from questionnaire.

Synchronized Skating Coaches

Synchronized skating coaches were also asked if their team is affiliated with a club or if their team is an individual member of US Figure Skating. Sixteen said their team was affiliated with a parent skating club while five said they were not. Of those five, several said they are instead affiliated with a Learn to Skate USA program or university. Coaches were asked how long they have been coaching. Answers ranged from one to thirty years experience. Nine coaches indicated that they coach singles, zero coach pairs, and five coach ice dance in addition to synchro.

Coaches were asked to discuss how they encourage their skaters to try synchro. There were a variety of answers, though many of them referred to open houses, exhibitions, and recruitment as common ways to recruit skaters to try synchro. There were also mentions of teaching synchro during Learn to Skate to encourage skaters to join the team. Coaches were also asked if their teams see a high amount of returnees each year and twenty responded yes. No coaches selected no.

When asked what can be done to better publicize synchronized skating to the general public, the main response by far was more televised competitions. Social media was also mentioned by many coaches, and especially synchro being advertised and posted about by US Figure Skating and their various committees. There were also responses to have it included in the Olympics, as well as for US Figure Skating to follow in Canada's footsteps and have synchronized skating nationals be part of "regular" nationals. (Currently, US Figure Skating has nationals for the other four disciplines in January, while synchronized skating nationals take place separately in March).

Lastly, the synchro coaches were asked to select up to three words to describe synchro in their personal opinion. 14 coaches selected “unique”, 12 selected “bonding”, 11 selected “beautiful”, nine selected “amazing”, and eight selected “effort”. “Boring”, “uninteresting”, “old”, and “unnecessary” were not selected at all.

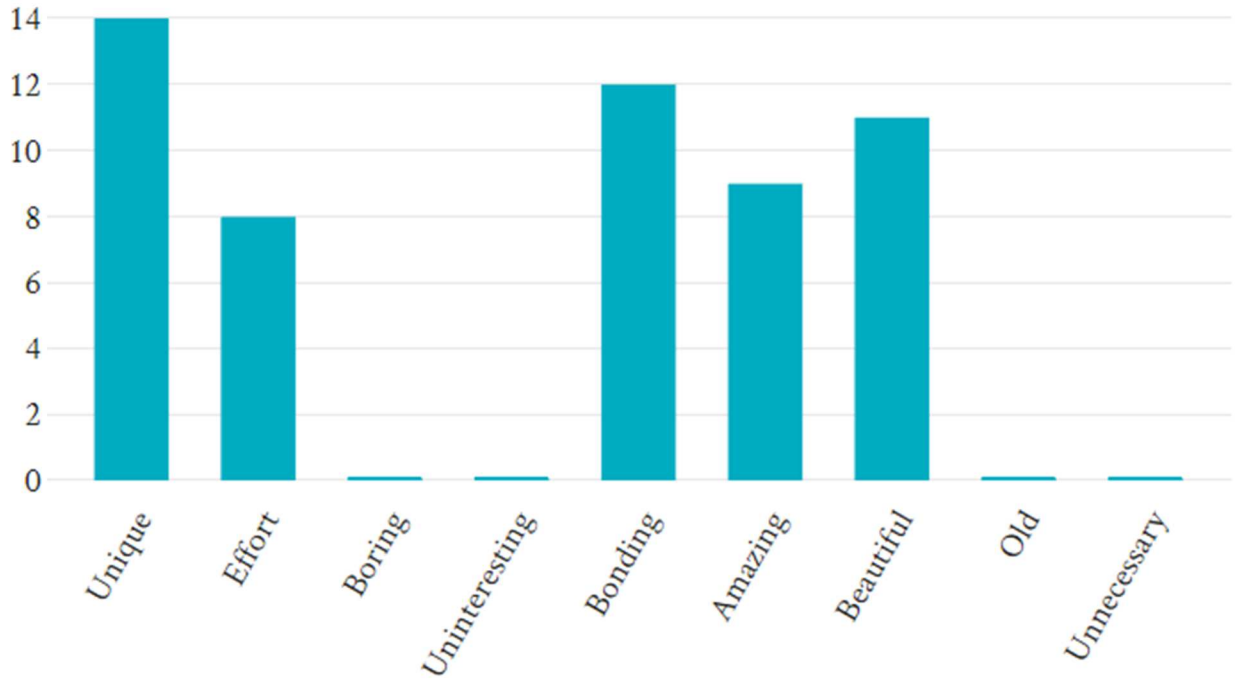

Figure 16. Synchro coaches word selections to describe synchro. Derived from questionnaire.

Non-Synchronized Skating Coaches

Non-synchronized skating coaches were asked if their club has synchro. Two selected yes, while seven selected no. If coaches selected yes, they were asked if they encourage their skaters to try synchronized skating. Four responded yes and one responded no. For those whose club does not currently have a synchro program, they were asked if they would be interested in their club starting a team. Five said yes, but two said no. Coaches were asked if they encourage skaters to travel to try synchro if their club does not have a team and most of them said yes. Two

said no. Their reasons were synchro is not a first thought in their area and that they do not have any nearby teams. To gauge how current coaches are with synchro, as it is a rapidly changing discipline, coaches were asked if they have watched synchro in the last five years. Seven responded yes and two responded no. Non-synchro coaches were asked if they think synchronized skating should be an Olympic sport. Eight coaches responded with yes while only one responded no.

Non-synchro coaches were also asked to select up to three words to describe synchro in their personal opinion. Eight selected “unique”, six selected “bonding”, five selected “effort”, four selected “beautiful”, three selected “amazing”, and one selected “boring”.

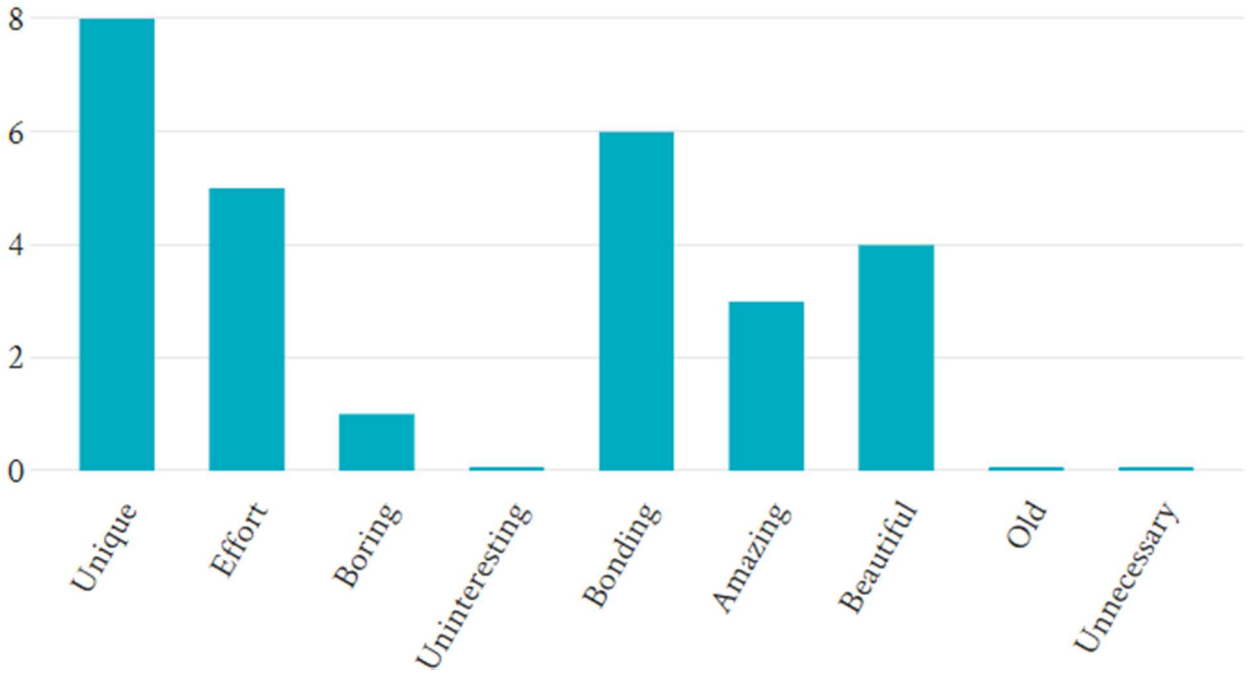

Figure 17. Non-synchro coaches word selections to describe synchro. Derived from questionnaire.

Coach Interview Results

Both synchro and non-synchro coaches were asked if they would like to be interviewed and were prompted to leave their name and email if they were interested. Of forty seven coaches,

fifteen agreed to be interviewed and seven actually responded to the call for an interview. Interviews were initially planned to be done over zoom, but all coaches decided email was the best option for them given the interviews took place during synchro season and at the start of multiple different series for singles skaters.

All of the coaches who replied currently coach for clubs and/or teams located in Michigan. One coach indicated she is new to US Figure Skating and previously coached high level Canadian teams as well.

Coaches were asked what disciplines their coaches encouraged them to do while they were actively skating. Many said they were pushed to do Moves in the Field, dance, freestyle, and theater on ice, though none of them mentioned being encouraged to do synchro. When asked what other areas they coach in and what they encourage their skaters to try, the responses included Moves in the Field, dance, freestyle, synchro, and theater on ice.

All coaches responded yes to the disciplines they participated in and their skaters participate in are determined by your location and the opportunities available. One coach mentioned this is especially important for skaters who are looking to take dance tests with a partner as they can be difficult to come by and expensive to work with. Another mentioned her club is quite small and is lacking in what they can offer skaters, especially since there are no other nearby clubs that can offer what they currently do not. One other mention was that pairs skating is nowhere to be found in Michigan and they wish this is something they could offer to their skaters.

The responses to how well US Figure Skating has done promoting synchronized skating in recent years compared to other disciplines had varied responses, but a general consensus that they do seem to be promoting it more actively now, but still not as much or as often as other

disciplines. One coach mentioned they only see promotions around large competitions and another said she only sees promotion for synchro due to a close friend getting involved. One coach said she never sees any promotion for synchro from US Figure Skating, only from other skaters who are directly involved in synchro. On the other hand, a few coaches said they believe US Figure Skating has done well. One coach mentioned the DREAM program being a big promotion that has helped US Figure Skating advertise synchro more on social media.

Lastly, when asked what else US Figure Skating could do to bring synchronized skating to clubs that do not currently have it, responses from coaches included sponsoring clubs to establish programs, webinars and training for coaches who are interested in coaching synchro but do not know where to start, younger competitive categories, creating camps for skaters and coaches alike, easier accessibility to important IJS and ISU documents, grants, and better promotional materials.

CHAPTER V

CONCLUSION

This research is the first of its kind for synchro in terms of geography, involving both questionnaires and interviews. There is not another study that has been done quite like this one, which means much of this research was done through my own knowledge of skating and geography. Synchronized skating is growing tremendously as a discipline and currently those who love it are waiting for July of 2022 to arrive to find out if synchro will be added to the 2026 Olympics or if synchronized skaters will have to wait and try again for 2030.

US Figure Skating is currently doing much better in promoting different aspects of the sport overall. This can be linked to the use of social media becoming so popular in the last decade, making it easier for them to highlight different parts of the sport that usually would not see much attention. In terms of synchro, it has made the cover of *The Skating Magazine* on multiple occasions, the main page of US Figure Skating's website, and is being more actively promoted on US Figure Skating's main social media channels. That said, there still does seem to be a disconnect that many skaters and coaches feel is prominent enough to leave synchro behind the other four disciplines.

Through this research, the author found that most skaters (both synchronized skaters and singles skaters) and coaches want to see synchronized skating continue to grow. They want to see more synchro on their TVs and they want to see synchronized skating be recognized as an Olympic sport. Synchronized skating is not accessible in many ways to many skaters. In most cases, it seems that skaters miss out on synchro not because they have little to no interest, but due to a lack of opportunity. Geographically, there are often no nearby teams or coaches/clubs that have the ability to start a team. Skaters have not been exposed at all, or they have not been

exposed in a way that matters. Most skaters agree that the general public does not know about synchronized skating. Synchro is often not televised, and instead most competitions are streamed to either the US Figure Skating Fan Zone or streams are locked behind Peacock Premium. All of the other disciplines have airtime that is not solely online or locked behind a paywall, so synchronized skating needs to be aired along with the other disciplines to help its exposure to the general public.

Coaches, synchro and non-synchro alike, want to see more promotion not only on social media, but to coaches specifically to help expand where synchronized skating reaches. Camps, workshops, webinars, and even sponsorships are a few potential ways to help coaches break into synchronized skating and/or start a team for their club. In general, this study found that most Midwestern skaters and coaches have a positive perception of synchronized skating and are aware of the lack of opportunity due to geographic issues and other issues ranging from lack of coaches or skaters to lack of a proper facility house a team of that nature.

Overall, it seems that most people who are involved in figure skating have heard of synchro and have a connection with it in one way or another, whether they are actively involved in the sport or they know of another skater who is, even if their rink has never offered synchro or they have never seen it in person. Synchro faces many issues in becoming an Olympic sport, from proper exposure to the general public, too many people who would need to be housed in the Olympic village (including the athletes themselves, coaches, and other officials such as judges who are qualified to judge synchro at such a high level), and the issue of how to handle synchro on TV (how does one camera handle two lines of skaters on opposite ends of the ice?). The results of this research link back to Hall's (2009) study regarding synchro as a discipline of figure skating in Canada and how Skate Canada is seemingly doing more to promote synchro,

but skaters and parents alike found that is still was not on the same level as the other four disciplines. Despite being newer compared to the other disciplines, the community seems to feel strongly about seeing synchro continue to grow.

In the meantime, US Figure Skating should consider suggestions from coaches on how to make synchro reach all corners of the Midwest and beyond. Clinics, webinars, grants, and so on could be helpful in kickstarting programs across the country. Synchro is the fastest growing discipline in skating right now and US Figure Skating has the chance to seize this opportunity. While some clubs will not be able to sustain a team, there are many that could. Skaters should have these opportunities available to them if possible. After all, no one know what one little thing could make a skater fall in love with the sport but if it is synchro, then they need to have that chance.

Skating is hard sport. It requires grace, power, expression, time, money, and so on. The phrase "it takes a village" is often used when referring to raising children, but the same can be said for skaters. It takes more than the skater on their own, it takes a coaching staff, parents who are willing and able to pay, people who are available to volunteer, a facility that is willing to offer time to figure skating. An entire community is required to raise a skater up from the lowest levels to the highest. This is why synchro has such a pull on so many people and many skaters remain in the so-called synchro bubble for the majority of their lives. It takes that community and makes it a family that experience those highs and lows all together at the same time, on and off the ice. It makes synchro special. In figure skating, this is the only opportunity a skater has to truly skate with a team. Synchro can make skaters stronger in their other pursuits in skating and they can learn skills that are unique to only synchro. Synchro has the ability to be a life changing experience. Skating as a team with your friends is a huge draw to synchro alone that I have seen

as both a skater and coach. Synchro could be a way for clubs to build more participation and teamwork in all aspects of skating that stem from their synchro program. I would love to see US Figure Skating pushing for as many skaters as possible to have that opportunity in the same way they do for singles skating as well as for the unique components that synchro offers.

If I had the chance to do this research again, I think I would have pushed to have more involvement from each group, especially in the states that had no participation. Unfortunately, it can be difficult to have people participate in studies such as these, even if the questionnaire requires no personal information and does not take too long to fill out. Being more persistent with reminder emails, as well as asking US Figure Skating social media accounts to post about the opportunity and asking competitions to allow me to advertise with small cards with QR codes to the various surveys could have increased participation (unfortunately, this research was mostly concluded by the time synchro season had started). I also wish I would have been able to include skaters under 18 in this study. Including young skaters may have been possible, but getting permission from parents was a large barrier, especially since this study was asking for geographic information. I think, assuming parents told their child about the questionnaire and allowed them to fill it out, that there might have been much higher participation with more varied results, especially in terms of the level of each skater who would have participated. I also think I would have allowed coaches to disclose their location in the questionnaire and not only in the interview in order to collect more data, since not nearly as many coaches decided to participate in the interview portion of this research.

If I were to continue this research, I would like to expand it further. I want to look deeper at the states with little to no participation, look at where teams across the Midwest are actually located to determine zones with no synchro (and determine facilities with clubs but no synchro

program), how far skaters would be willing to travel to skate on a team, and eventually, expand this study to the Eastern Coast and Pacific Coast regions. The Eastern Coast region is home to many synchro teams and would add much to the study in terms of successful teams and how they promote and recruit skaters. The Pacific Coast is interesting in the fact that they currently lack any collegiate or open collegiate synchro teams, and I believe most of the participants thus far has come from college aged students.

Appendix A

Synchronized Skater Questionnaire

1. How old are you? (Select One)

Under 18 18 – 24 25 – 34 35 – 44 45 – 54 55 – 64 65 – 74 75 – 84 85 or older

2. What state do you currently live in? (Select One):

Alabama Arkansas Illinois Indiana Iowa Kansas Kentucky Louisiana Michigan Mississippi Missouri New Mexico North Dakota Ohio Oklahoma South Dakota

Tennessee (excluding Chattanooga) Texas Wisconsin

3. What is your gender? (Select One)
Male Female Non-binary / third gender Prefer not to say

4. What year did you begin skating? (Fill in the blank, enter as xxxx)

5. What year did you begin doing synchro? (Fill in the blank, enter as xxxx)

6. What level did you skate when you first started synchro? (Select One)

Snowplow Sam Synchro Skills 1-3 Preliminary Pre-Juvenile Open Juvenile Juvenile Intermediate Novice Junior Senior Collegiate Open Collegiate Adult Open Adult Masters Open Masters

7. What level did you most recently skate in synchro? (Select One)

Snowplow Sam Synchro Skills 1-3 Preliminary Pre-Juvenile Open Juvenile Juvenile Intermediate Novice Junior Senior Collegiate Open Collegiate Adult Open Adult Masters Open Masters

8. What is your highest passed MIF test? (Select One if applicable)

Pre-Preliminary Preliminary Pre-Juvenile Juvenile Intermediate Novice Junior Senior

9. What is your highest passed Freestyle test? (Select One if applicable)

Pre-Preliminary Preliminary Pre-Juvenile Juvenile Intermediate Novice Junior Senior

10. What is your highest passed pattern dance test (solo or partnered)? (Select One if applicable)

Preliminary Pre-Bronze Bronze Pre-Silver Silver Pre-Gold Gold International

11. What is your highest passed free dance test (solo or partnered)? (Select One if applicable)

Juvenile Intermediate Novice Junior Senior

12. What is your highest passed pairs test? (Select One if applicable)

Pre-Juvenile Juvenile Intermediate Novice Junior Senior

13. What team did you most recently skate for? (Fill in the blank)

14. How far do you have to travel to get to the rink your team trains at?
30 Minutes Or Less 1 Hour or Less 2 Hours or Less Over 2 Hours

15. Have you or your family relocated for skating? (This includes relocating for college level teams.) Yes / No

16. Answer the follow statements to the best of your ability on a scale of Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)

a. Synchronized skating is the fifth discipline of figure skating
b. Synchronized skating should be an Olympic sport
c. Synchronized skating is well known in the figure skating world
d. Synchronized skating is well known to the general public

17. How much does knowing you cannot represent Team USA at the Olympics currently affect you? Select up to three words to describe your feelings.
Neutral Sad Frustrated Angry Happy Lonely Excited

Thank you for your participation in this research study.

Appendix B

Non-Synchronized Skater Questionnaire

1. How old are you? (Select One)

Under 18 18 – 24 25 – 34 35 – 44 45 – 54 55 – 64 65 – 74 75 – 84 85 or older

2. What state do you currently live in? (Select One):

Alabama Arkansas Illinois Indiana Iowa Kansas Kentucky Louisiana Michigan Mississippi

Missouri New Mexico North Dakota Ohio Oklahoma South Dakota

Tennessee (excluding Chattanooga) Texas Wisconsin

3. What is your gender? (Select One)

Male Female Non-binary / third gender Prefer not to say

4. What year did you begin skating? (Fill in the blank, enter as xxxx)

5. What is your highest passed MIF test? (Select One if applicable)

Pre-Preliminary Preliminary Pre-Juvenile Juvenile Intermediate Novice Junior Senior

6. What is your highest passed Freestyle test? (Select One if applicable)

Pre-Preliminary Preliminary Pre-Juvenile Juvenile Intermediate Novice Junior Senior

7. What is your highest passed pattern dance test (solo or partnered)? (Select One if applicable)

Preliminary Pre-Bronze Bronze Pre-Silver Silver Pre-Gold Gold International

8. What is your highest passed free dance test (solo or partnered)? (Select One if applicable)

Juvenile Intermediate Novice Junior Senior

9. What is your highest passed pairs test? (Select One if applicable)

Pre-Juvenile Juvenile Intermediate Novice Junior Senior

10. What club is currently (or most recently) your home club? (Fill in the blank)

11. How far do you have to travel to get to the rink your home club mainly practices at?
30 Minutes Or Less 1 Hour or Less 2 Hours or Less Over 2 Hours

12. Have you or your family relocated for skating? (This includes relocating for college level skating.) Yes / No

13. How familiar are you with synchronized skating? (Scale of 1-5, 1 being not at all familiar and 5 being very familiar)

14. Answer the follow statements to the best of your ability on a scale of Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)

a. Synchronized skating is the fifth discipline of figure skating
b. Synchronized skating should be an Olympic sport
c. Synchronized skating is well known in the figure skating world
d. Synchronized skating is well known to the general public

15. If you were a synchro skater, how much does knowing you cannot represent Team USA at the Olympics affect you? Select up to three words to describe your feelings.
Neutral Sad Frustrated Angry Happy Lonely Excited

16. Have you ever seen synchro before? Yes / No

Skaters will be prompted to watch the following video of Skyliners Senior's 2019-2020 Long Program: https://www.youtube.com/watch?v=gEwuKfFE_eo and will then re-answer the following questions.

17. Answer the follow statements to the best of your ability on a scale of Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)

a. Synchronized skating is the fifth discipline of figure skating
b. Synchronized skating should be an Olympic sport
c. Synchronized skating is well known in the figure skating world
d. Synchronized skating is well known to the general public

18. If you were a synchro skater, how much does knowing you cannot represent Team USA at the Olympics affect you? Select up to three words to describe your feelings.
Neutral Sad Frustrated Angry Happy Lonely Excited

Thank you for your participation in this research study.

Appendix C

Coach Questionnaire

1. What is your age?

Under 18 18 – 24 25 – 34 35 – 44 45 – 54 55 – 64 65 – 74 75 – 84 85 or older

2. Do you coach synchro? Yes / No

If Yes:

3. Is your team affiliated with a club? Yes / No
4. If it is not, why? (Fill in the blank)
5. How many years have you been coaching? (Fill in the blank
6. Do you coach any of the other disciplines? [check all that apply: singles, pairs, ice dance]
7. How do you encourage skaters to try synchro? (Fill in the blank)
8. Do your teams have a high amount of returnees each year? Yes / No
9. What do you think can be done to publicize synchro more to the general public? (Fill in the blank)
10. Which three words best describe synchro in your personal opinion?

Unique Effort Boring Uninteresting Bonding Amazing Beautiful Old Unnecessary

11. Would you be interested in being interviewed? Yes / No
    If yes, coaches will be prompted to enter their name and email.

If No (to coaching synchro):

1. Does your club have synchro? Yes / No
2. If yes, do you encourage your skaters to try synchro? Yes / No
3. If no, would you be interested in your club starting a synchro program? Yes / No
4. Have you watched any synchro in the last five years? Yes / No
5. Which three words best describe synchro in your personal opinion?

Unique Effort Boring Uninteresting Bonding Amazing Beautiful Old Unnecessary

6. Do you encourage skaters to do synchro, even if they have to travel to participate? If not, why? (Fill in the blank)
7. Do you think synchro should be an Olympic sport? Yes / No
8. Would you be interested in being interviewed?
   If yes, coaches will be prompted to enter their name and email.

Thank you for your participation in this research study.

Appendix D

Coach Interview Questions

1. What club(s) do you currently coach for (or have most recently coached for)?
2. If applicable, which synchro teams do you currently coach for (or have most recently coached for)?
3. Which clubs and/or synchro teams have you skated for during your time as a member of US Figure Skating?
4. What disciplines of skating do you coach (singles, pairs, dance, synchro)? Do you coach MIF, freestyle, power, etc? Are there any areas you focus on more than others?
5. In your time as a skater, what disciplines did your coach(es) encourage you to do?
6. Which disciplines do you encourage your skaters to participate in?
7. Do you think the disciplines you participated in and the ones you encourage your students to participate in are determined by your location and what's available?
8. Do you think US Figure Skating has done well in promoting synchro in recent years compared to the other disciplines?
9. How do you think US Figure Skating could take steps to make synchro more readily available in locations where it isn't popular?

Appendix E

HSIRB Approval Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: July 9, 2021

To: Lucius Hallett, Principal Investigator
Hanna Fussman, Student Investigator for thesis

From: Amy Naugle, Ph.D., Chair

Re: IRB Project Number 21-07-02

This letter will serve as confirmation that your research project titled "Geographic Perceptions of Synchronized Skating in the Midwest" has been **approved** under the **exempt** category of review by the Western Michigan University Institutional Review Board (IRB). The conditions and duration of this approval are specified in the policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may **only** be conducted exactly in the form it was approved. You must seek specific board approval for any changes to this project (e.g., ***add an investigator, increase number of subjects beyond the number stated in your application, etc.***). Failure to obtain approval for changes will result in a protocol deviation.

In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the IRB for consultation.

The Board wishes you success in the pursuit of your research goals.

A status report is required on or prior to (no more than 30 days) July 8, 2022 and each year thereafter until closing of the study. The IRB will send a request.

When this study closes, submit the required Final Report found at https://wmich.edu/research/forms.

Note: All research data must be kept in a secure location on the WMU campus for at least three (3) years after the study closes.

251 W. Walwood Hall, Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293, FAX: (269) 387-8276

Appendix F

HSIRB Thesis Name Change Approval Letter

WESTERN MICHIGAN UNIVERSITY

Human Subjects Institutional Review Board

Date: March 17, 2022

To: Lucius Hallett, Principal Investigator

Re: Modification - 210702

Geographic Perceptions of Synchronized Skating in the Midwest

This letter will serve as confirmation that the change(s) requested to your research project titled Geographic Perceptions of Synchronized Skating in the Midwest has been approved by the Western Michigan University Institutional Review Board (WMU IRB).

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below.

In addition, if there are any unanticipated adverse reactions, unanticipated events, or expected problems associated with the conduct of this research, you should immediately suspend the project and contact the Associate Director Research Compliance for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: July 8, 2022

Appendix G

Informed Consent Letter

Western Michigan University

Department of Geography

Principal Investigator: Lucius Hallett, IV
Student Investigator: Hanna Fussman

You are invited to participate in this research project titled "The Potential Growth of Synchronized Skating in the Midwestern Section of US Figure Skating"

STUDY SUMMARY: This consent form is part of an informed consent process for a research study and it will provide information that will help you decide whether you want to take part in this study. Participation in this study is completely voluntary. You may choose to not answer any question. The purpose of the research is to: assess the perceptions of synchronized skating in the Midwest among synchronized skaters, non-synchronized skaters (singles, pairs, and/or ice dance), and coaches by asking skaters and coaches their thoughts on synchronized skating and their experiences in figure skating. This will also serve as Hanna Fussman's thesis for the requirements of the MS in Geography at Western Michigan University. If you take part in the research, you will be asked to complete a survey regarding perception and awareness of synchronized skating based on your role in skating. Your replies will be completely confidential, so do not put your name anywhere on the survey. Your time in the study will take 15 minutes to complete the survey. Coaches may also leave contact information if they wish to be interviewed at a later date. Contact information will be stored separately from responses and not used within the research. Interviews will be 30-60 minutes long. Possible risk and costs to you for taking part in the study may be no financial costs but a cost of time to complete the survey (and interview, should you decide to participate) and potential benefits of taking part may be creating more opportunity for synchronized skating to grow. Your alternative to taking part in the research study is not to take part in it. The de-identified (confidential) information collected for this research may be used by or distributed to investigators for other research without obtaining informed consent from you.

Should you have any questions prior to or during the study, you can contact Lucius Hallett, IV at (269) 387-3442 or lucius.hallett@wmich.edu or Hanna Fussman at (989) 560-1711 or hanna.m.fussman@wmich.edu. You may also contact the Chair, Institutional Review Board at 269-387-8293 or the Vice President for Research at 269-387-8298.

This consent has been approved by the Western Michigan University Human Subjects Institutional Review Board (HSIRB) on 07/11/2021.

Participating in this survey online indicates your consent for use of the answers you supply.

REFERENCES

Ahmed, Q.A., & Memish, Z.A. (2019). From the "Madding Crowd" to mass gatherings-religion, sport, culture and public health. *Travel Medicine and Infectious Disease,* 28, 91-97. https://doi.org/10.1016/j.tmaid.2018.06.001

Bukszpan, D. (2013, August 28). Sports for the one percent. *CNBC.* https://www.cnbc.com/2012/08/28/Sports-for-the-One-Percent.html. Accessed March 7, 2022.

Chatzigianni, E. (2018). Global sport governance: Globalizing the globalized. *Sport in Society, 21*(9), 1454-1482. https://doi.org/10.1080/17430437.2017.1390566

DeChano, L.M. (2000). The changing geography of NHL player origins. *Sport Place, 10*(2), 21-24.

DeChano, L.M., & Shelley, F.M. (2004) Using sports to teach geography: Examples from Kansas City. *Journal of Geography, 103,* 185-191.

DeChano, L. M., & Shelley, F.M. (2006). The role sports can play when teaching geography. In L.M. DeChano & F.M. Shelley (Eds.), *The geography-sports connection: Using sports to teach geography*. *Pathways in geography series title no. 33* (pp. 1-4). National Council for Geographic Education.

Fitzgerald, M. (2017). Meryl Davis and Charlie White win gold medal in Olympic ice dancing. *Bleacherreport.* https://bleacherreport.com/articles/1962055-meryl-davis-and-charlie-white-win-gold-medal-in-olympic-ice-dancing. Accessed February 28, 2022.

Grundstein, A., Knox, A.J., Vanos, J., Cooper, E.R., & Casa, D.J. (2017). American football and fatal exertional heat stroke: a case study of Korey Stringer. *International Journal of Biological Macromolecules, 61,* 1471-1480.

Hall, L. (2009). Synchronized skating in Canada: Historical and ethnographic perspectives. *MUSICultures,* 36, 83-109.

International Skating Union. (2021, February 24). *Communication No. 2378.* https://www.isu.org/synchronized-skating/rules/sys-communications/25549-isu-communication-2378/file

Jura Synchro. (2017, July 25). *8 things you should know about the history of synchro.* https://www.jurasynchro.com/?page=article&id=258

Jura Synchro. (2021, February 25). *All about the new "elite 12" category.* https://www.jurasynchro.com/?page=article&id=1040

Kimble, L. (2019). *Figure skater Gracie Gold opens up about depression, eating disorder: 'I was suicidal for months'*. People. https://people.com/sports/gracie-gold-on-depression-eating-disorder-suicidal/. Accessed March 29, 2022.

Klaussen, K. (2021, March 2). Synchronized skaters balances Babson academics with Olympic dreams. *Babson Thought & Action.* https://entrepreneurship.babson.edu/synchronized-skater-olympic-dreams/

Kowalczyk, A.D., Geminiani, E.T, Dahlberg, B.W., Micheli, L.J., Sugimoto, D. (2021). Pediatric and adolescent figure skating injuries: A 15-year retrospective review. *Clinical Journal of Sport Medicine, 31*(3), 295-303. https://doi.org/10.1097/jsm.0000000000000743

Krentz, E.M., & Warschburger, P. (2011). Sports-related correlates of disordered eating in aesthetic sports. *Psychology of Sport and Exercise, 12*(4), 375-382. https://doi-org.libproxy.library.wmich.edu/10.1016/j.psychsport.2011.03.004

Lin, C. (2011). The research on the development mechanism of Sichuan leisure sports under the influence of regional culture. *Future Computer, Communication, Control and*

Automation, 119, 259-263. https://link-springer-com.libproxy.library.wmich.edu/chapter/10.1007/978-3-642-25538-0_38

Marshfield Silverlaces. (n.d). *USFSA testing.* https://www.marshfieldsilverlaces.net/page/show/622504-usfsa-curriculum-levels-and-resources

McCarvel, N. (2020). *Gracie Gold: 'There's no Olympic medal' for suffering in silence.* Olympics. https://olympics.com/en/news/gracie-gold-weight-of-gold-hbo-mental-health-awareness. Accessed March, 29, 2022.

Mitra, M. (2022). Opinion: Why the quad revolution in women's figure skating is a tragedy. *Washington Post.* https://www.washingtonpost.com/opinions/2022/02/10/kamila-valieva-quad-jump-figure-skating-women-controversy-unsustainable/. Accessed March 7, 2022.

NBC Olympics. (2022). *Pairs recap.* https://www.nbcolympics.com/news/pairs-figure-skating-olympics-sui-wenjing-han-cong-china-tarasova-morozov

Rooney, J.F. (1974). *A geography of American sport.* Addison-Wesley Publishing Company.

Rubio, K., & Andersen, J.S. (2016). IOC and Brazil: A mutual need for hope. *International Council of Sport Science and Physical Education, 70*, 9-12.

Scoffier, S., Woodman, T., & d'Arripe-Longueville, F. (2011). Psychosocial consequences of disordered eating attitudes in elite female figure skaters. *European Eating Disorders Review, 19,* 280-287. https://doi-org.libproxy.library.wmich.edu/10.1002/erv.1107

SkateLog. (n.d). *History of synchronized ice skating.* http://www.skatelog.com/disciplines/ice-sports/synchronized/articles/history.htm

US Figure Skating. (2021). *Find a club.* https://www.usfigureskating.org/skate/find-a-club

US Figure Skating. (2022). *Ice skating disciplines.* https://www.usfigureskating.org/skate/ice-skating-disciplines

White, R.L., & Bennie, A. (2015). Resilience in youth sport: A qualitative investigation of gymnastics coach and athlete perceptions. *International Journal of Sports Science & Coaching, 10*(2-3), 379-393.

Wood, R. (2010). *Demonstration winter Olympic sports.* Topend Sports. https://www.topendsports.com/events/demonstration/winter-sports.htm