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## Perceptions of the motivational climate and gender class structure in physical education

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PERCEPTIONS OF THE MOTIVATIONAL CLIMATE AND GENDER CLASS  
STRUCTURE IN PHYSICAL EDUCATION

A Thesis

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Masters of Science

in

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by  
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## **ABSTRACT**

Many children do not engage in the recommended levels of physical activity, and they tend to become even less active during adolescence. Girls are less active than boys, and it is important to explore ways that physical education teachers can foster girls' motivation to be more physically active. The specific research questions for this study were: (a) How does gender class structure affect girls' perception of the motivational climate?; and (b) How do girls' views of the motivation climate in different gender class structures relate to intentions to participate in physical activity outside of physical education? A phenomenological framework guided the data collection and analysis when comparing and contrasting girls' perceptions of the motivational climate in single-sex and coeducational physical education classes. Two secondary physical education classes were observed one in an all-female setting and the other in a coeducational setting. Students were observed in their physical education classes and through emergent sampling fifteen students were chosen to interview. Findings illustrate that a teacher's personal qualities and teaching behaviors can have an effect on adolescent female motivation. Perception of the social environment was also an influencing factor on females' motivation level, including perception of relatedness, gender structure, and comfort level. The findings show that when students' source of comparison was internal, they were more likely to have an outside interest in an activity, enjoy physical education, state that they were likely to participate in physical activity outside of physical education, and find utility in an activity. These results highlight the importance of physical educators providing a positive environment through feedback and encouragement for adolescent females. They also show that adolescent female comfort levels can be threatened when participating in a coeducational setting. Finally, in order to cultivate high

motivational levels in adolescent females, goals established within physical education classes should be focused on internal rather than external goals.

## INTRODUCTION

Physical activity generally declines as children transition into adolescence (Hannon & Ratliffe, 2005). Severe declines in adolescent girls' physical activity are especially concerning during this transition. For example, in a cross-sectional study by Heath, Pratt, Warren, and Kann (1994), the percentage of active females declined from thirty-one percent of ninth graders to seventeen percent of 12<sup>th</sup> graders. In the same study, fifty percent of males met the physical activity criterion of at least twenty minutes of vigorous activity three days per week regardless of which grade they were enrolled in. In a more recent physical activity study utilizing a randomized control research design, Okely et al. (2011) reported that less than two percent of the adolescent girls in a sample of over a thousand were active for 60 or more minutes per day.

Physical education provides an opportunity for all student populations including adolescent girls to accumulate physical activity. Researchers have reported, however, that girls tend to be less active than boys in physical education (Gordon-Larsen, McMurray, & Popkin, 2000). The social environment created in schools can affect female participation in physical education (Olafson, 2002). For example, adolescent females reported physical appearance as a barrier to participate in physical education (Olafson, 2002) and physical activity (Dwyer et. al, 2006). These studies highlight the importance of the social environment in creating a motivational climate conducive to physical activity.

In 1972, Title IX was established and gave equal educational opportunities to females, including the right to participate equally in physical education and sport (Priest & Summerfield, 1994). While there steadily has become more opportunity for girls in terms of sport and physical education there is still a large percentage of adolescent females that continue to be physically inactive. To meet Title IX guidelines, physical education in many public institutions has been

changed from single sex to co-educational classes. With this change, a debate has emerged regarding which type of class is more suitable for today's adolescent. With the change from single-sex to coeducational physical education, adolescent females' physical activity levels continue to dwindle, while males' physical activity levels continue to remain constant (Heath, et. al., 1994).

There is a continued debate to whether secondary physical educational classes should be coeducational or single-sex. In McKenzie, Prochaska, Sallis, and LaMaster's (2004) study the system for observing fitness instruction time (SOFIT) was used to determine physical activity levels. The researchers found that for males there was no difference in physical activity level when participating in a co-educational or all-male physical education setting. Hannon and Ratliffe (2005) study used pedometers in order to determine physical activity levels in physical education classes, and found similar results when comparing female and male physical activity levels. They found that high school males on average get a greater amount of physical activity than females in physical education classes in both coeducational team-sport activity and single-gender settings. In the McKenzie et. al (2004) study, the researchers also found that females have higher levels of moderate to vigorous physical activity (MVPA) in coeducational physical education classes than all-female classes.

While females may be more physically active in coeducational settings, Treanor, Graber, Housner, and Wiegand (1998) found that both male and female students reported more preference for participating in same-sex physical education settings. The question then still remains, should female students be required to participate in coeducational settings set by Title IX where they are more physically active or given the choice to participate in an all-female setting that they prefer but are less active? Due to these findings, motivational environment

where female adolescent students are physically active needs to be investigated. Luke and Sinclair (1991) reported that the most influential factor of students' having positive attitudes towards both physical education and physical activity was enjoyment from their physical education class. Gill, Gross, and Huddleston (1983) found that enjoyment has also been linked to continued participation in physical education, physical activity and sport.

While there seems to be no difference in males' overall physical activity levels in coeducational or all-male physical educational classes (McKenzie et. al, 2004), some research suggests that boys who participated in coeducational classes were more self-confident than boys who participated in all-male classes (Lirgg, 1993). In a qualitative study performed by Thompson, Rehman, and Humbert (2005), physical self-confidence and physical ability were two factors that influenced the participants' leisure-time physical activity. Those participants with lower self-confidence and physical ability were seen to restrict their leisure- physical activity.

The perception that students have of the motivational climate in physical education is associated with a number of personal motivation factors such as achievement goal orientations, perceived ability, and overall motivational level (Ntoumanis & Biddle, 1999). Within a classroom setting, Ames (1992) addressed two dimensions of motivational climates based on the achievement goal theory: a task (or mastery) involving climate and an ego (or performance ) involving climate. In a task-involving climate, students focus on improvement of skill and the process of learning the skill. In other words, the focus is on developing personal or task competence. For example, a task involving climate occurs when a teacher reinforces students focus on trying to set a personal best time while running a mile in physical education. In an ego-involving climate, students reference their success in reference to others. If observing a



performance or ego involving climate in a physical education setting, a teacher might have students focus on running the mile faster than other students. Both of these motivational climates are often found in physical education settings. There are several key elements of each perceived motivational climate. “A focus on trying hard and improving skills, cooperating with other to learn skills, and reinforcing the important contribution of all individuals have been acknowledged as key components of a task-involving climate,” (Gano-Overway & Ewing, 2004, p. 316). Four key components that involve an ego-involving climate include: (a) significance in demonstrating high ability; (b) unequal recognition based on performance or ability; (c) use of punishment for making mistakes; and (d) creation of intra-team rivalry (Gano-Overway & Ewing, 2004).

According to the achievement goal theory, students who perceived their class to be a task involving climate were more likely to choose challenging tasks, more likely to enjoy their class, and more likely to use effecting learning strategies (Ames & Archer, 1988). Students who perceive a task involving climate also reported a relationship between effort as a cause of success. Those students who perceived an ego-involving climate were more likely to emphasize their ability; decrease judgment of their ability level when unsuccessful, and associate their ability as a reason for failure. In terms of gender, Bakirtzoglou and Ioannou (2011) found that adolescent male participants were more likely to perceive that they were in an ego- involving climate and more likely to show those characteristics of an ego goal orientation. In contrast to their male peers, females who participated in the same class were more likely to perceive they were in a mastery oriented climate and favor a mastery goal orientation. In a qualitative study by Constantinou, Manson and Silverman (2009) observations and interviews of 7<sup>th</sup> and 8<sup>th</sup> grade females were performed in order to get an in depth analysis of how they perceived their PE

teacher's gender-role expectations and how that affected their participation and attitudes toward physical education. Results indicated that when teachers put more focus on effort rather than skill it likely helped those lower skilled individuals to feel more integrated in physical education classes. Distinguishing the trends in achievement motivation by gender can in turn help teachers to develop a curriculum that will be designed to intrinsically motivate students to participate (Anderson & Dixon, 2009).

An additional aspect that has been found to influence participation in physical education especially in those coeducation classes was safety. Constantinou et. al (2009) found that a safe learning environment was a primary factor that influenced females' participation and attitude toward physical education. In terms of gender equity, Gibbons and Humbert's (2008) qualitative study found that adolescent females perceived their teacher to cater and attend more to their male peers, which in turn negatively influenced their perception of their environment. Dwyer et. al (2006, p. 81) found similar results when a participant stated "she wanted to play football but a teacher discouraged her from playing." Gibbons and Humbert (2008, p. 179) also received multiple responses from participants that had feelings of being "harassed, ridiculed, and intimidated," from their male peers. Conclusions from these studies reveals that while multiple factors can influence perceptions of the motivational climate in physical education, it is unclear what impact gender related variables and class structures have.

According to Bryan and Solmon (2007, p. 271), "if higher levels of motivation are developed, students will be more likely to engage in physical activity away from school and across their lifespan." There have been no in depth qualitative studies to date that we know of that look at the perception of the motivational climate created in both single-sex and co-educational classes. For this reason, the primary purpose of this study is to compare and contrast

girls' perceptions of the motivational climate in single-sex and coeducational physical education classes. The specific research questions for this study are: (a) How does gender class structure affect girls' perception of the motivational climate?; and (b) How do girls' views of the motivation climate in different gender class structures relate to intentions to participate in physical activity outside of physical education?

## **METHODS**

### **Participants & Settings**

Two classes from two different physical education settings were used in this study. The first setting was an all-female private secondary school in southeastern Louisiana that is mostly Caucasian and middle-to-upper class. Students in the all-female setting that were interviewed were between the ages of 15 and 16 years old and were enrolled in the tenth grade. Those students in the all-female class that were interviewed considered to be high motivation level and high skill level were Ronda and Bria. Students interviewed in the all-female class that was considered to have a high motivation level were Ava and Katie, Katie had a middle skill level and Ava had a low skill level. Hayley and Sophie were both considered to have low motivation level, Hayley was highly skilled while Sophie was low skilled. The final student interviewed was Avery, Avery was considered to have a middle motivation level and low skilled. The second setting was a coeducational secondary public magnet school located in southeastern Louisiana. Students interviewed in the coeducational setting that were considered to have a high motivational level and skill level were Olga and Keisha. Laurie was considered to have a high motivation level but a low skill level. Aleah and Jaime both had a middle motivation level and were also low skilled. Asha, Monica, and Courtney were all considered to have a low motivation level. Courtney was considered to have a middle skill level while Asha and Monica were low skilled.

All-female setting. Currently, each student enrolled at the all-female school was required to take four health and physical education classes (H & PE 1-4). Each class lasts one semester, and usually is taken once a year; some students must take two classes in one year due to scheduling conflicts. The class met every day and the average class is fifty minutes long. Each

nine weeks a class completed one indoor activity unit, one outdoor activity unit, and one health unit. The entire semester was made up of six units total and each unit lasts about three weeks. A tenth grade class was used because they already had one year experience with this specific physical education program and would be also more likely to recall their past experiences in coeducational physical education than students in older grades. This class contained twenty two students, with a demographic makeup of nineteen Caucasian students, two African American students and one Asian American. Most students were considered middle to upper social economic status.

Coeducational setting. At the co-educational school each student was required to take two physical education classes (PE I & II), and a half year of health. Each class lasted a full year and meets two to three days a week. The average class was ninety minutes long. Students in this setting had a choice on what type of activity they could take. The options are the following: Gymnastics, swimming, golf, rhythmic dance, tennis, basketball, weightlifting, and regular physical education. A ninth grade tennis class was observed in the coeducational setting. There were a total of twenty six students enrolled in the class observed, eleven males and fifteen females. The demographic makeup slightly different of that of the all-female setting, this setting contained eleven Caucasians, four Asian Americans, and eleven African Americans. The social economic statuses of the students were upper, middle, and low-middle class.

### **Role of Researcher & Qualitative Tradition**

The researcher took a non-participant role during observations in an attempt to reduce bias and subjectivity. Potential bias in this study included that the researcher was working at the all-females school during data collection and at the present time. In order to reduce this bias, the all-female class was selected because all students involved with the class had limited prior contact with the researcher. Other bias includes the researcher's limited experience with

qualitative research. Permission was granted from the university's institutional review board, school principal, and physical education teachers. Informed consent was received from students and parents. If a student in the class opted to not participate all details that may have involved that particular student were excluded from field notes.

In order to get a more in-depth focus on the perceptions of the motivational climate in all-female and co-educational physical education classes, a phenomenology approach was taken during this study. According to Van Manen (1990), a primary goal of phenomenology is to focus on acquiring a deeper understanding of the meaning of everyday experiences. In this case, physical education is an almost every day experience for the students. By using a phenomenological approach it allows the researcher to “work more from the participants statements and experiences rather than abstracting from their statements to construct a model from the researcher's interpretations” (Creswell, Hanson, Clark Plano, & Morales, 2007, p. 252). According to Creswell et. al, (2007, p. 252) phenomenology explains “what all participants have in common as they experience a phenomenon.” In this case, the phenomenon is how gender class structure impacts girls' perception of the motivational climate and intention to participate in physical activity.

### **Data Collection**

Observations, field notes, and interviews were the primary sources of data in this study. Observations of students' and teachers' behaviors within the physical education setting were used as a tool to gather description of the context in both physical education settings. The primary researcher visited each class setting eight times as a nonparticipant observer. Extensive field notes were taken during each observation. According to Patton (2002), field notes consist of descriptions of what is being experienced and observed, direct quotations from the people

being observed, the researcher's feeling and reactions to what is observed, and field-generated insights and interpretation.

Field notes and observations helped in guiding interview selection. Emergent sampling was used, which consisted of the researcher looking for students with a variety of skill levels, willingness to participate, and motivation levels. According to Patton (2002), an emergent sampling allows the sample to emerge during fieldwork. The teacher of each observed physical education class was also interviewed. Each interview was semi-structured and based on an interview guide developed from observations, field-notes, and motivational climate theory. Probes were used in order to gain a deeper understanding changed depending on the participants' responses.

At the start of each interview, it was explained to each participant that interviews were audio-recorded in order to ensure accuracy. Each participant was also reminded that when referring to "units" only physical activity units were being focused on and not health units. Finally, each participant was assured confidentiality, only the researcher would hear and see their responses.

### **Data Analysis**

According to Moustakas (1994), when conducting a phenomenological research study the following analysis procedures should be taken. The first step consists of identifying a phenomenon to study, bracketing out one's experiences and collecting information from several people who have experienced the phenomenon. In this case the chosen phenomenon is perception of motivational climate based on gender structure in a physical education setting. In phenomenology, there is an assumption that there is an "essence" or "essences to shared experiences (Van Manen, 1990, p. 10)" In order to find these "essences" of the phenomenon, the

experiences of different people were bracketed, analyzed, and compared (Van Manen, 1990, p. 10). The researcher then evaluated the data received and reduced the information to important statements; once this was finished the researcher combined the statements into themes that described how gender class structure impacts girls' perception of the motivational climate and how that related to their intention to participate in physical activity outside of physical education (Moustakas, 1994).

Data analysis began with the observation of the physical education classes. Following each observation, the researcher analyzed and typed field notes taken during the observation, in order to clarify and add on to interpretations taken while in the field. The researcher also transcribed all interviews verbatim within a week of interviewing. This allowed the researcher to ensure accuracy and include as much non-verbal data as possible on transcripts. The data analysis continued with reading observation field notes and the transcribed interviews several times. Interviews and observations were bracketed, analyzed and compared in order to code similarities and differences.

The final step of data analysis was the formation of themes. Bogdan and Biklen (1992) suggest putting data together in different ways such as writing lists or creating diagrams. These suggestions were noted and utilized in the data analysis. Significant portions of the observations and interviews that pertained to the phenomena of interest were analyzed for commonalities; these commonalities were made into lists. The lists containing key descriptions of observations and quotes and were sorted and placed into categories, these categories were then used in the formation of themes.

Trustworthiness in this study can be seen through rigorous interpretation of multiple perspectives on how perception of motivational climate can affect the motivation of adolescent



girls in a physical education setting. According to Lincoln and Guba (1986) trustworthiness and authenticity can be gained by being open, unbiased, and conscientious when taking into account multiple perspectives. According to Patton (2002) studies that use only one method of data collection are more likely to contain errors than those studies that use multiple methods.

“Studies that use multiple methods in turn allow “cross-data consistency checks” to occur (Patton, 2002, p.556). In this study triangulation was achieved by cross-analyzing the extensive field notes from observations as well as formal interviews of both teachers and students. Patton (2002) suggests following an interview the researcher should check back with participants for clarification. Therefore, the researcher met with each interviewee to perform a member check once all interviews were transcribed. Participants verified whether or not the themes that were developed correlated with the statements that were given to the researcher. If the participant did not feel that the researcher understood what was stated during the interview, changes were made.

## RESULTS

There were three main themes that emerged from data analysis related to girls' perceptions of how gender structure impacted the motivational climate in physical education. The first theme focused on students' opinions about the personal characteristics and instructional abilities of their teacher. The second theme highlighted students' views about how contextual factors influenced motivation in physical education. The final theme underscored the internal and external comparisons that girls used in physical education to shape beliefs about their physical ability.

**Art and Science of the Physical Educator.** Students discussed how important the teacher was in relation to their overall motivation in physical education. This included comments about both the personal characteristics (i.e., art) and instructional capabilities (i.e., science) of the teacher. Students had strong opinions about their teacher and highlighted the personal characteristics and instructional strategies that produced high and low levels of motivation. Students identified the teacher's attitude and personal interest in the students as the two most important personal characteristics. The science of teaching concerned the way students viewed their teacher's content knowledge in physical education as well as her ability to encourage the class and provide positive feedback.

**The art of teaching.** During interviews students reported the significance of their teacher's attitude. Those students interviewed who participated in the all-female class seemed to expressed that their teacher's attitude had a positive impact on their participation. This was supported by observations on the second day of observation in the all-female class the teacher, Leanne, could be seen beating a rhythm onto her clipboard as the students walked into the locker room to change into their physical education uniforms. Leanne said to the observer, "I'm just

trying to get them excited for golf!” On the third day of observation Leanne was noted telling Sophie, a student with low motivation and skill level, “smile a little bit you look too serious!” During the coeducational class most of those students interviewed felt the teacher, Jeanne, had a negative attitude. The observer also noted a few instances when the teacher seemed to have a negative attitude towards her students. For example on the first day of observations Jeanne was noted saying aloud to the observer, “These students are not coordinated at all.” Jeanne also stated during the second observation to the observer, “Be ready to see some bad tennis.”

During her interview Leanne talked about how important it was to model a positive attitude in physical education:

One of the first things I tell them at the beginning of the year is not everything that we are going to do everyone is going to like and I understand that. But it’s all about the attitude you bring to the class so if you come in with a positive you are probably going to leave with a positive even if you don’t really like that activity. So I think it’s really the method is just the way you are what you [the teacher] bring[s] to the classroom because if you come in, um very negative or not really excited that day then they (students) are going to pick up on that and they’re going to feed off of that. So whether you [the teacher] are in a good mood or not whatever is going on in your day you have to put that aside and go out and show them that they are the only class that you are teaching that day and they are the best class and we are excited to have that kind of thing.

This seemed to resonate with her students. For example, Sophie noted: “She (Leanne) like gets you excited about it (a sport) and she’ll talk about it before you like go play the sport. Even if you are kind of clueless or you are not good at it, her attitude makes it more fun.” On the other hand, many students in Jeanne’s class picked up on her negativity, which dampened the motivation of numerous students. A student in the coeducational class named Asha who was considered to have low motivation and skill level stated: “It discourages me [to participate] because she (Jeanne) is not enthusiastic about us having fun and so if she is more happy about it I guess we would be more happier so yeah.”

Students felt the teacher's interest in students had an impact on their motivation to participate in their physical education classes. During the all-female class observations the teacher could be seen being active and interested in the class and students. For instance on the first day of observing the all-female the observer noted, "Teacher (Leanne) walked around talking to students and relatively attentive." The observer also noted on the sixth day of observation, "The teacher (Leanne) complimented Kelli, a choir member on her performance in the Christmas concert the night before, you could tell Kelli appreciated it." It was also noted during coeducational observations many times the teacher did not seem interested in the class. On the second day of observation the observer noted, "Students were assigned a court to play on for their tournament, there was at least a two minute period where students were seen standing around on their courts not starting their games immediately, and teacher (Jeanne) paid no attention to it."

When asked, "In what ways, if any, does your physical education teacher influence you participation in your physical education class?" Avery, a student in the all-female class that was considered having low skill and a middle motivation level revealed:

I think she (Leanne) seems interested in what we are doing and wants us to learn so I guess that I like doing something she is interested in. She like motivates us and makes us interested. Not necessarily makes us but she um makes it more fun.

Ava a student in the all-female class that was considered to have high motivation and low skill stated:

She (Leanne) does support you I mean she's always like 'Oh go you can do it' or I mean she answers things if you have any questions um she's always there, she's around and she I mean if you call her she's right there to answer anything you have to say.

When asked about the methods she used to motivate her students Leanne mentioned: “Really I think getting to know them, talking to them (students), finding out what they are interested in, what they’re not interested in something that we are doing that day.

During all interviews students were asked, “If you had an opportunity in the future to change your physical education class how would you change it in order to increase participation level?” During the coeducational class, many students replied they would have the teacher become more involved. Jaime a member of the coeducation class was considered to be have a low skill level and a middle motivational level answered:

I would have it to where uh our teacher (Jeanne) would get (student pauses). Would do stuff with us and um show us how to do uh the stuff rather than us teaching ourselves. Interviewer replied, “Why would you do that?” Jaime says, Well ‘cause it kind of like... It’s kind of like, ‘Why do we have to do it?’ but you (Jeanne) don’t kind of like that. Its unbalanced or something.

The science of teaching. The ‘science’ of teaching referred to effective teaching behaviors within the classroom, which was broken into two different categories: (a) feedback and encouragement; and (b) knowledge and understanding. Students mentioned multiple times that one of the of the factors that led to their participation in physical education class was due to the feedback from their teacher and encouragement to keep with the activity even when challenged. Leanne was a teacher who was constantly encouraging her students. For example the observer noted during the first observation, before Avery bowls for a spare trying to knock a single pin down, Leanne can be heard telling Avery, “Get it Avery! Get it!” During the second day of observation the observer notes, “Katie is the last one to finish hitting her golf balls at her hitting station; all the other students are waiting for her to finish so they can go pick up the balls they have hit. Leanne encourages her to keep going.” Katie a student in the all female class revealed the following about her teacher Leanne:

She (Leanne) like she'll teach us like how to hold it, how to correctly hit it and before we did golf here I would not have, I did not have a single idea of how to hit ball and like she really helps with making you comfortable making sure you are doing what you are supposed to be doing and she'll like go to each person individually and she'll help them out one on one and it really like I've improved a lot like when we did the workouts I came in first day and I was exhausted and then by like our last day I was you know doing more then I was the first time and that's because she usually just goes around she helps us one on one and really explain and helps us out.

Leanne also commented the following about feedback during her interview:

Yeah, I think doing that just getting to know them (students) and prodding them along positively I think telling them what they are not doing well is um they are just keep doing that, you know so if you can always put. Just like with little kids if you can point out what you want them to do rather what you don't want them to do they'll see it in that positive manner so I think even with big kids (high school students) it's the same thing.

During the coeducational setting Jeanne was noted giving feedback to her students, most of the feedback she gave referred to behavior rather than ways students could improve their overall skills. For example on the first day of observation Jeanne was heard telling her students, "You will be graded on participation, if you do a good job [performing the exercise video] you will end early." On the fifth day of observation the observer noted, "After five minutes into arriving on the tennis courts, those on court #2 have not started their lesson. Jeanne tells those on court #2, "If you all are not started in the next thirty seconds you all are losing points."

Keisha a student in the coeducational class that was considered to have high motivation and skill level stated:

Oh she'll (Jeanne) sit there if we do this then we get to play or something like that, if we do this we get to go in earlier or if we do this right we don't have to run anymore so that's like pushing me to like do what I have to do to um get that grade, make her (teacher) happy, make us happy so we don't to have to... to give us somewhat some free time.

When Aleah a student in the coeducational class with a low skill level and a middle motivational level was asked, “what do you think your teacher would like you to learn in PE?” She revealed the following about her teacher Jeanne:

I haven’t really focused on that or like really seen what she want us to do because like I.. She is barely there on the court like when we play she doesn’t really give instruction other than [to] stay active uh, listen to the students, or you know do your tournaments, do this, like as in when you are not playing in a tournament ball run, stuff like that.

Students were more motivated when the teacher took the time to make sure they knew and understood the activity they were learning. Students wanted their teacher to create an environment where they developed understanding about an activity, sport, or game and knew how to execute skills correctly. When asked by the interviewer. “What are some things, if any, that discourage you to participate in your physical education class?” Ava a student in the all-female class replied: “The only time I didn’t want to participate is when I actually don’t know what I’m doing but mostly I ask like, ‘Oh how do you do this?’ or yeah but other than that.”

Ronda, a student in the all female class that had high skill and motivation level, stated:

When she (Leanne) motivates she’s really good at explaining rules which makes us all more into it, because if she just said go do whatever then we would just goof off but when she tells us what we should supposed to be doing and how we should be doing it, it influences me to like try to do what she says pretty much.

Jaime a student in the coeducational class stated:

I think I’ve learned a lot more like ‘cause when I first started tennis I just did it ‘cause um I thought tennis would be fun you know so um I learned a lot of new stuff like about how to play tournaments and stuff like that and different skills.

Olga a student in the coeducational class that was highly motivated and skilled was asked “What are some things, if any, that discourage you to participate in your physical education class?” She replied:

Basically the same thing whenever um we are doing the teaching with the other... The other students are teaching us because they don't really know it themselves. Because how are they going to teach us if they don't know it themselves.

Student in both gender contexts wanted the teachers to effectively teach content in ways advanced their understanding and performance and were more motivated when teachers were able to create this type of context.

**Perception of Social Environment.** Students' perceptions of relatedness and gender structure were two aspects of the social environment that greatly impacted physical education motivation.

**Perception of relatedness.** Relatedness was observed and discussed during the observations and interviews as an interaction between friends and effort. Throughout observations in both settings the observer saw students hanging out with the same student or group of students because they were friends. For example, on the seventh day of observation in the coeducational class the observer wrote, Jaycee a student with low motivation and low skill was seen trying more than usual; part of this may be because she is not distracted by her friends Aleah and Jaime who are absent. On the same day of observation it was also noted, Asha yells to her friend, "Go Jenna, you can do it!" Jenna smiles. They are on court three playing King of the Court. Jenna beats Keegan (a male student) out. Avery and Ronda both students in the all-female class were asked, "What are some things, if any, that encourage you to participate in your physical education class?" Avery responded: "To have other friends doing it with me and uh just I guess that it makes it more fun more interesting and uh (long pause) I don't know I don't like doing stuff by myself." Ronda replied: "The people around me I like when we pick our groups or our teams or our partners. They usually encourage me to do well because we like to compete together." Asha a student in the coeducational class commented:



What encourages me to participate is if I have my friends in my class 'cause doing stuff with people you know you like is more fun than just being alone and doing just by yourself. It encourages me because you get bored so you don't do anything but when you are with your friends you don't get bored so you are more active and if they're active you want to be active with them or else you get left behind and that's not fun.

Both the coeducational and all female students commented that if they felt other students were not trying as hard as they were, it often decreased their motivation to participate. Sophie stated in her interview: "If it's just you and everyone else is lazy, then it's kind of just like 'Ugh' you know you don't want to do it. But if everyone is like into it and you're like trying then it's fun." Keisha a student in the coeducational class stated:

It's people I'm not really cool with some people in this class, some people in this class just play around all the time and they don't really.. Sometimes they don't do anything and have no motivation to do anything they just trying to get the simplest points they can do and try to be active.

Gender structure. Students participating in the all-female class had been exposed to a coeducational physical education setting in elementary school before attending their present all-female high school. Those attending the coeducational high school had only been exposed to a coeducational physical education. Gender structure was made up of three different categories: (a) physical appearance, (b) aggressiveness and competition, and (c) comfort level.

While coeducational female students did not comment during interviews about having a feeling or need to "look good" in front of male students there was a few moments where their actions did showed otherwise. For example on the eighth day of observation in the coeducational setting after performing the PACER test students were allowed to either walk or play basketball, most girls chose to walk. It started to lightly rain this causes a group of girls to head back indoors. Aleah and Jaime are part of the group that heads back towards the gym. Jeanne asks Jaime and Aleah, "Change your mind?" They reply no, "It's starting to drizzle." Tammy and Desiree head back into the gym too, Jeanne asks them, "Why are you going back

inside?” Tammy replies, “It’s starting to rain and I just got a perm.” During the all-female class on the fourth day of observation the observer overheard Hayley say to Sara after they have finished hitting their golf balls on the driving range, “I’m so pasty and I need a spray tan.”

During her interview Ava stated:

It’s fun (participating in all girls physical education) because you don’t have to worry about looking good or oh a guy might think that oh I’m sweaty, oh I need to... You don’t worry about all that and then you are never being judged on what you do or how you do it and that’s mostly it.

Hayley agreed: “Uh it’s just ‘cause there no boys around and it’s like you don’t have to I don’t know try to impress anybody or anything like that”

Those students in the all-female class commented on how they enjoyed the all-female class more because they felt the males in their former coeducational classes were too aggressive or competitive with their female peers. In the coeducational class most female students enjoyed the male students because they felt the males brought on more competition and challenge that they could play against. One reason most of the females in the coeducational class may have felt this way was because those students in the male class were not highly skilled and had similar skill levels to those females in the class. When asked, “How do you feel about participating in an all-girls physical education setting?” Bria answered:

I like it because there’s not a lot of pressure from like the boys and like if we play dodgeball or mat ball the boys would kind of like throw it a lot harder and be more into it and get mean and girls like we get into it but we’re not so aggressive and it’s just it’s a more laid back setting and we can kind of be more ourselves because we don’t have to worry about getting embarrassed in front of the boys.

Ronda, a student in the all-female class was asked, “Can you think back to a time such as elementary or middle school, if any, that you did not want to participate in physical education?”

She responded:

Um yeah when we did um dodge ball I didn't like participating because the boys would just be really they'd be really good at it and they'd be really aggressive and none of the girls would want to play with them so I didn't enjoy that.

When asked, "How do you feel about participating in an all-girls physical education setting?"

Avery replied:

I think it's easier to get involved in the sports because like you don't have to worry about anything in all girls. Uh, you can be competit...cause usually guys are really competitive and it's easier to be competitive with someone who is around your... not age but abilities I guess.

Keisha a student in the coeducational class stated:

Well most... All of the boys are competitive and stuff like that and I can see them, I see them running to [level] ten when we do the beep test (PACER) and I want to see if I can run to get somewhere close to them or when we were running around just today I was mainly the first girl and I was seeing if I could keep up with them too. Or like when we are outside playing tennis they are really competitive and trying to go against competitive boys and when the ball is rolling most girls just let it roll but like they would go out and catch it and see if I like I want to push myself to do that too.

The final category that involved gender structure was students' overall comfort level.

During the observations at the coeducational setting there were a few instances the female students seemed to be uncomfortable. The first was during the first day of observation, the observer noted:

Teacher lets a student start teaching Zumba. Those girls who are not comfortable with Zumba and were fine with the workout video quickly slide to the back of the room. Some of the boys also slide to the back. The student teaching Zumba, turns off lights in order to make those uncomfortable more comfortable, this seems to help a little.

Asha, a student in the coeducational setting who felt different from her peers stated:

Um in a co-ed PE setting I don't really like it because when you are doing your exercises you're not that comfortable because there is other boys watching like I just don't like it." I feel if you are just with girls you are more comfortable, at least I am and with the boys it's just uncomfortable because you're doing your stretches and like you just feel someone is watching you they might now be but you know it just feels like that, like uncomfortable and I won't participate really.

Those students from the all-female class often commented on how participating in the all-female setting was more comfortable. For example Katie stated:

Everyone is really comfortable with each other I've grown up with some of these girls my best friend is in this class with me so I'm always partnered up with her usually and um like when we are all having a good time we are all we are a great class and we all get along with each other and it just makes everything a lot more comfortable more relaxing like so yeah its good.

Hayley responded: "I mean it's...They're all girls so they're not it's not like their trying to show off or anything and I don't feel the need to so, it's comfortable."

Internal and External Comparisons. The way students compare their performances had an effect on their motivation. Those students who compared themselves internally often referred to trying to improve themselves and often did not care about being better than other students. Students that used external comparison often commented how it was important to be better than other students or wanting to beat other students in a game or activity. Internal and external comparisons were broken into three different categories: (a) outside interest, (b) enjoyment, and (c) intention and utility.

Outside interest. Those students who internally compared themselves were more likely to have an outside interest in an activity. It was also found that those with some type of outside interest in an activity were more likely to be physically active outside of physical education. For example those students in the all-female class that were interviewed and were considered to use internal comparison were Katie, Ava, Ronda, and Bria. All four of these students were physically active outside of school. These students all had some type of outside interest in one of the activities they participated in in physical education class. For example Katie said the following:

I um I play a lot of a few contact sports with my brother like we'll go out and play football um I've I'll kind of like stretch a little bit sometimes I don't really have any more space now that I've recently moved and we used to have a workout room at my old house

and we had a treadmill and I kind of did a little bit of that and we had a big property too so I would run up and down the driveway a few times and go for walks um so I haven't really done a whole lot since I've moved but those are some of things I would do I would kinda run a little bit, stretch.

Ava, already had an outside interest in bowling and said the following:

"But in other sports probably like basketball and when we did bowling, because I bowl so I helped other people with scoring and if they didn't know how to score a spare or something I helped them and so I tried to help people learn how to bowl better."

When asked, "In what ways, if any, do you try to motivate your students to be physically active outside of physical education?" Leanne responded:

Um sharing what I do outside of school as far as fitness hopefully gets them a little motivated so they can be like "Oh I can do that if the old lady can do it maybe I can do it too and I keep, you know, keep going with it." Um, and then you know hopefully encouraging them those that we see would probably um love to do some kind of sport with our school um would be another way to encourage them to increase fitness.

Those students in the coeducational class that were considered to use internal comparison were

Aleah, Olga, Jaime, and Laurie. Laurie talked about her outside interest in tennis:

My dad was the first one that um started playing tennis with me when I was younger but when I was younger the tennis court was a lot bigger and um I couldn't I wasn't very good at it. But then he kept getting me to play every so often so whenever they offered it here I jumped on it 'cause I figured I'd like to do it then at least. My mom always walks with me.

Enjoyment. Enjoyment was a large factor when determining motivation. It was found that those that internally compared themselves often stated that they enjoyed physical education all together or at the very least enjoyed an activity they participated in. Leanne stated her main goal for her students was the following:

Movement while having fun, that's I mean that's it. We got to move and have fun doing because so many of them are sedentary and not doing other activities so you know from minimal to the fitness we are doing we or from the minimal of golf to the maximum of fitness levels that do just moving and having fun while moving, that's my goals.

When Ava a student in the all-female was asked, "Which activities if any did you enjoy participating in?" she stated:

I loved shuffleboard! Um, I liked bowling. Um.. (long pause) because I bowl and I felt that it was easy I like shuffleboard 'cause at first it was really hard so I didn't really um do well but as time went on I was like, 'Oh I can do it,' and I um learned how to hold the what is it called, not the stick. The cue and so it was easier for me to shoot and I start to score and it made me feel good about the game more than it did before.

Katie responded similarly:

I started kind of running maybe a little bit whenever my brother starting doing cross country and track for his high school and then I started do a little bit more working out when I came here and started. Especially this year, I became a lot more motivated this year because we actually got to do the workout equipment this year, versus last year we didn't so I kind of I enjoyed doing, I enjoyed working out here and I kind of would look forward to it at the end of the day because it's kind of just the end of the day, you know workout, go home, take a shower, do homework and it became a repetitive thing and now I kind of miss it, haha (student laughs).

Those students who externally compared themselves often said they did not enjoy activities due to their competence in the activity. Those students in the all female class that were interviewed and considered to use external comparison were: Avery, Sophie, and Hayley. Those in the coeducational class were: Keisha, Asha, Monica, and Courtney. On the third day of observation at the all female setting, Sara (who could just watch due to an injury) tells Hayley, "so far both Annie and Ronda have beat you." Hayley replies, "I'm sorry I'm not a golf expert." During the fourth day of observation at the all-female setting the students were practicing on the driving range, the observer wrote that, "Sophie told her friend Mary Catherine, 'I suck at this.'" Hayley a student in the all female stated the following during her interview:

Golf I feel like it wasn't I don't know just it wasn't like uh it wasn't like you were actually playing golf because the ball was plastic and it as outside on the field but... Uh shuffleboard I just didn't like it because I wasn't good at it.

The interviewer asked Sophie a student in the all-female class, "What about a time when you were unmotivated?" Sophie replied, "Golf, you just you don't do much you just sit there and swing a club and you're either really good at it or you can't even hit the ball. I wasn't good at it."

Courtney a student in the coeducational class was asked, “How do you feel about the activity you have learned in PE?” She replied:

I like it it’s not something I’m going to pursue again but it was a good chance because it just wasn’t.. It was fun at times but then it wasn’t like, I don’t know, well cause you had... .When we played tennis games for instance I’m not very good and my teammates were kind of like want to. It’s kind of a drag to put me on their team so I just I don’t want to put a burden on them.

Intention and utility. Almost all those students who stated their physical education class influenced their physical activity outside of physical education used internal comparison. They were also more likely to do so because they saw some type of utility in the activity. In the all-female environment the Leanne was constantly trying to point out why certain aspects of golf were important, for example on the third day of observation the observer wrote, “Teacher tells students, “the more swings you take the better you get at golf.” On the fourth day of observation the observer wrote, Leanne tells students to gather in, she then tells students about how the short game in golf is just as important as the long game, she goes on to explain to the students how to chip a golf ball. In the coeducational class Jeanne assigned a few projects to the students that made students think about different aspects of the tennis game. For instance, on the first day of observation, Jeanne assigned students an assignment focused on the conditioning aspect of tennis. The second assignment students completed on the fourth day of observation students worked on producing a practice plan in order to improve their overall skill levels in tennis. Jeanne demonstrated how to properly perform a lunge and said, “This helps your tennis skills because the stronger you are the better athlete you’ll be.” Leanne the all-female teacher also commented the following during her interview:

Um one thing if anything they have gained. That they just had, they had a good time. That’s the main thing because you want to see, make them understand that that activity is fun and that they had a good time so when they leave here they had so many options of

activities to choose from they will pick a few things and do that in their adulthood. That's what I hope.

Katie a student in the all-female class stated the following regarding utility:

But like some things are important because some are basic things that people just know how to do um and if you ever I guess plan on one day I guess working out you can know what the equipment is like, how to use it and things like that.

In terms of her how her physical education class influenced her intention to participate in physical activity outside of school, Katie said:

I've noticed all these girls who are into all the sports and they have the after school workout program and they are all in such great shape and I'm just like not really and um then being in class with Coach Fontenot she's just really in shape and I think she just looks so good and I'm just like I want to kind of be like that, so it kind of has influenced me a little bit more to workout and do more and like I started drinking protein drinks and trying to work out so it's really influenced me to try to do better.

Ronda a student stated the following: "It's pretty important [to improve at the skills and games in P.E.] I guess because maybe I might play. Maybe I might play later in life for fun." The interviewer later asked, "How, if at all, has your participation in this PE course influenced your decision to be physically active outside of physical education?" Bria answered the following:

It kind of made me want to be more active and start working out more outside of school because I realized I wasn't in as good of shape as I could be like when we were playing basketball last year and we were running up and down it kind of made me realize I wasn't in as good of shape as I could be so it made me want to like workout after school to get in better shape.

Aleah a student in the coeducational class stated: "My participation it makes me like sometimes when we do play fun games like tennis games it makes me want to do it outside of PE." Aleah said the following in her interview:

What encourage me to participate in PE is um like having fun and being active and like when you work together during the game or something kind of make, helps you learn cooperation skills with each other and I know I'll like learn something out of it.



Laurie had a similar reply:

It has definitely improved my um you know want to be more physically active 'cause I have more fun with it I have started to play tennis outside of school with my friends and with my dad and um I'll go walking with my mom more just because I like now that I it made me kind of like exercise doing this I like to do it more often.

Laurie also stated:

"Um I think that it's pretty important (learning new things) because the more you learn the more you can do."

Interviewer replied, "What do you mean the more you can do?"

Laurie said, "Like you learn new skills so the more you can try out the better you can do things um yeah. So the more you learn the better you can be active at those type of things."

Those students who commented that their physical educational class had no influence on their participation in physical activity outside of school most of those students used external comparison. Most of these students also found the activity they were participating in was useless. For example Hayley a student in the all-female class was asked, "How, if at all, has your participation in this PE course influenced your decision to be physically active outside of physical education?" Hayley replied: "It hasn't influenced it at all. Just cause PE is so laid back you just I don't know you're not trying your hardest and it's not like any of those games I would ever play in real life." Sophie was asked, "How important is it for you to improve at the skills and games in PE?" Sophie stated: "I mean it's not I don't plan on being an athlete or anything its not that important to me to other people it is." Courtney a student in the coeducational class was asked, "How important is it for you to improve at the skills and games in PE?" Courtney replied, "For me, it's not really important it's just a class I take um... Yeah but for some people it's important but for me I just need to take it." Keisha stated in her interview:

Well I'm not really physically [active]. Well um well during a short period she (Jeanne) wasn't here and I knew like we really didn't do anything and it was raining. I actually went outside once and rode a bike but other than that I don't get must exercise outside of

this PE class so I just try to get all exercise and try to work out um just during the three days a week I take this class.

Asha stated during her interview: “It’s not that important [to improve at the skills and games in PE] for me because I don’t want to do anything related to PE I guess when I grow up so I don’t care that much.”

## **DISCUSSION**

The primary purpose of this study was to compare and contrast girls' perceptions of the motivational climate in single sex and co-educational physical education classes. The specific emphasis of this research was to find out how gender class structure impacted girls' perceptions of the motivational climate and how girls' view of the motivational climate influenced their intention to participate in physical activity outside of physical education. Through observation and interviews the findings of this study provided insights about girls' views of the motivational climate when involved in an all-female setting versus a coeducational setting.

Teachers' personal and teaching behaviors can impact the motivational climate. The data suggests that adolescent girls, regardless if placed in a female or coeducational setting, believe teachers are an influential part of their motivation in physical education and teachers' personal qualities affect students' willingness to participate. In this study teachers' attitudes and interest were mentioned multiple times during interviews and observations. This is similar to those findings found in the Smith and St. Pierre's (2009) study on perceptions of enjoyment in physical education. From student interviews they found that a teacher's enthusiasm, caring, sense of humor, and outgoing personality, are all qualities that students' perceived made physical education class enjoyable. Smith and St. Pierre (2009) also found that if students' perceived that a teacher was actively participating in their class, activities they were more likely to say they enjoyed physical education. Enjoyment is an important factor in physical education and has been connected with intrinsic motivation (Deci & Ryan, 1985). A teacher's personal qualities can have a significant influence on a students' motivation in physical education as can teaching behavior.

The teacher's instructional behavior also had an impact on a students' motivation to participation in physical education. From this study two different categories of effective teaching behaviors were identified as factors influencing motivation in both the all-female and coeducational setting. Students identified the amount of feedback and encouragement they received from their teacher as an important aspect of the motivation they felt during physical education classes. Specifically, students that felt their teacher was providing adequate encouragement and feedback were more likely to have a higher motivational level then those that did not. According to Dagkas and Stathi (2007), a physical education teacher's support and encouragement not only influenced students to continue their participation in sporting activities at their school but also increase overall participation level. Koka and Hein (2003) found that perceived positive general feedback was associated with intrinsic motivation.

The second teacher behavior influencing students' motivation was knowledge and understanding. Grossman (1990) identified four subcategories of pedagogical content knowledge (PCK). Of the four sub categories, category two and three are of special interest. In the second category, PCK includes the teacher's knowledge of the students' understanding of the subject matter. Specifically, teachers should be mindful of what a student already knows, and also be aware of the subject matter that is likely to be challenging and need improvement. The third subcategory of PCK involves the teacher's knowledge of instructional strategies for teaching certain topics. According to a study by Creasy, Whipp, & Jackson (2012) teachers who displayed pedagogical content knowledge (PCK) were able to convey clear and applicable instruction that concentrated on the needs of students. Students are able to learn more adequately, when teachers describe to students what they are expected to learn and explain the steps in order to reach this achievement (Gusthardt & Sprigings, 1989). Teachers that demonstrated PCK were

able to give more verbal support to their students, demonstrative of stronger contextual knowledge and understanding.

Perception of social environment is influential in students' motivation. Students' perceptions of the social environment had an influence on their overall motivation level as well. In both the all-female and coeducational settings students identified the perception of relatedness as a significant factor influencing their motivation. Within the perception of relatedness students identified two factors, friends and effort. In both settings students identified that having the opportunity to participate with friends enhanced their experience in physical education and influenced their willingness to participate. The only difference between the coeducational and all-female setting is that at certain times those participating in the coeducational setting mentioned their male counterparts as friends. In Knowles, Niven, and Fawkner's (2011) qualitative study similar results were found when interviewing females in a secondary physical education. Specifically, social support from peers was a significant factor associated with school and leisure time physical activity.

There were a few significant contrasts about coeducational classes between the girls in an all-female setting and a coeducational setting. Physical appearance was one main component that was viewed differently across the two settings. Girls in the all-female setting mentioned physical appearance as a barrier to participation more often than girls in the coeducational setting. This may be because after experiencing an all-female setting the students realized that they did not have to worry about their physical appearance as much as if they were in a coeducational setting. In a qualitative study, Dwyer and colleagues (2006) found similar results to this study that female adolescent participants indicated physical appearance as a limitation to participate in physical activity in coeducational physical education classes. In this study while female students

in the coeducational classes never stated in interviews physical appearance as a limiting factor their action during observations showed otherwise. For example, on the final day of observation in the coeducational class students were given an option to walk around the track or play basketball, most females chose to walk, as it started to lightly rain most students start heading back towards the gym. Tammy one of the students is heard saying, “It’s starting to rain and I just got a perm.”

The female students’ perception of the male students being aggressive and competitive was a second contrasting factor found within gender structure. Female students in the coeducational setting often found the presence of their male peers as an opportunity for more competition and challenge. Constantinou, Manson, and Silverman (2009) study found that girls viewed boys as more competitive and the presence of boys increased perceptions of the competitive environment, which was perceived as interesting and fun. Students in the all-female class in this study suggested that males could often be too aggressive and competitive based on their previous experience in middle school coeducational physical education classes.

The final aspect to gender structure was overall comfort level. Females interviewed in the all-female setting mentioned multiple times how they felt more comfortable when participating in an all-female setting. In Osborne, Bauer, and Sutcliffe’s (2002) study participants had participated in both a coeducational and single sex setting and reported greater displeasure with the coeducational setting compared to the single sex setting. Those students found that when participating in the coeducational setting the presence of the opposite gender presented personal issues with comfort levels.

Internal Comparison vs. External Comparison. In this study outside interest, enjoyment, and intention and utility tended to have a relationship with students’ source of comparison.

According to Ames (1984a, 1984b) students' self-assessment of ability and self-directed affect are often more negative if students are focused on winning, outperforming others, or exceeding a normative objective than when they are concentrated on effort, participation, or improving their performance. In this study those student who had outside interest in an activity were more likely to use internal comparison. Those with outside interest were more likely to also be physically active outside of their physical education class. According to a study by Chen and Shen (2004) in their study when comparing students who participated in an organized outside school physical activity with students who did not, those that did participate were more likely to have a stronger ego-goal orientation, more likely to display interest in contact sports (and other activities), and had a higher physical intensity in physical education lessons. According to Chen and Shen (2004) participants and nonparticipants did not vary in the task-goal orientation.

Students who used some form of internal comparison were more likely to identify that they enjoyed physical education as a whole or at the very least identified a certain activity that they participated in. Wang and Liu (2007) found that students that believed their ability changed with effort were more positive associated with a task orientation (internal comparison), higher perceived competence, and reported higher levels of enjoyment in their physical education classes. In the present study, students who externally compared themselves to others were more likely to state they did not enjoy an activity due to their incompetence in the activity. This is similar to findings in Cairney and colleagues (2012) study highlighting that females with lower levels of perceived competence were more likely to have decreased levels of enjoyment over time in physical education.

The final factor that was related source of comparison was intention and utility. Findings revealed that if a student used a source of internal comparison, they were more likely to state

their physical education class influenced their participation in physical activity outside of physical education. Standage, Duda, and Ntourmanis (2003) reported that those students more intrinsically motivated were more likely to participate in physically active during their leisure time. In terms of usefulness of activities, Gibbons and Humbert (2008) had similar findings with their study on middle school girls. They found that activities with little relevance to current or future lifestyles were most often disliked.

One limitation of this study was the sample size. Only one class within each setting was observed and a few students from each class interviewed it gives a limited view within a coeducational and all-female setting. Also, both teachers within each setting were very different. The all-female teacher created a more positive atmosphere for her students while the coeducational teacher created a more negative atmosphere. Future studies need to take in account the class climate and attempt to find class climates that are more similar. The experience of each teacher was different. The all-female teacher, Leanne, had seventeen years of experience in the field of physical education while the coeducational teacher, Jeanne, had nine years of experience. Also, the coeducational teacher had not been present the entire school year because of a recent sabbatical. A recall bias was also present for all students but especially those students in the all-female class due to the fact that they were sophomores and had not been in a coeducational class for two school years.

Findings from this study cannot confirm which setting is more beneficial to the motivation of adolescent girls. From this study it can be advised that certain aspects when teaching adolescent girls may need to be emphasized in order to foster a higher motivational level. These aspects include being sure that students understand the activity being taught while at the same time understand the utility of the activity. Another aspect would be when making



goals for students to be sure to focus on internal goals rather than external goals. From this study it was found that those students with an outside interest in an activity were more likely to use internal comparison and be more physically active outside of physical education. With this information if it would be possible to allow students to express their outside physical activity interests and highlight some of these interests within curriculum it may in turn increase their motivation in physical education. The final aspect that may help especially in the coeducation setting would be possibly separating physical education classes by skill level. While this is most likely not very feasible, the all-girls school setting had made a step toward this idea prior to this study by offering an advanced physical education class to those students in eleventh and twelfth grades.

## **CONCLUSION**

The goal of this study was to compare and contrast girls' perceptions of the motivational climate in single sex and co-educational physical education classes. With specific focus on how gender class structure influences girls' perceptions of the motivational climate and how girls' view of the motivational climate influenced their intention to participate in physical activity outside of physical education. Students made it clear that their teacher has a large impact on their motivation. The teacher's personal characteristics and teaching styles also influences participants' motivation across both settings. In reference to gender structure, students voiced that at times participating with the opposite sex can influence their overall comfort level in physical education class. Finally if students' source of comparison was internal rather than external the student was more likely to have an outside interest in an activity, be more physically active outside of physical education, enjoy physical education, more likely to find an activity useful, and state that their physical education class influenced their participation in physical activity outside of school.

## **Implications and Recommendations**

The implications of these findings highlight the importance of physical educators to facilitate a positive environment through feedback and encouragement. Teachers should also display personal interest in students as well as the content they are teaching. When teaching in a coeducational setting, teachers should be mindful of the comfort levels of adolescent females, specifically emphasizing that physical appearance is not important. Finally, physical education teachers should also attempt to focus on internal goals rather than external goals in order to foster motivation in adolescent females. Future studies should consider exposing participants to both coeducational and single sex climate. While most females in the coeducational class found that

participating with males was “normal” and the boys often brought about a more competitive atmosphere this may have been because the boys’ skill level was similar to their own. For this reason future studies may want to investigate whether or not grouping by similar skill level in coeducational physical education classes can be beneficial and a more motivating atmosphere for adolescent females.

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## **APPENDIX A**

### **STUDENT INTERVIEW GUIDE**

1. If I were to go to your physical education class describe what a motivated student would be doing? What else? Anything else?
2. Describe what an unmotivated student would be doing in your PE class. Anything else?
3. How motivated are you in PE? Why?
  - a. Can you give me an example when you were really motivated? What factors made you so motivated?
  - b. What about a time when you were unmotivated? What factors made you so unmotivated?
4. What are your goals in PE?
  - a. How important is it for you to do better than other students in your physical education class?
  - b. How important is it for you to improve at the skills and games in PE? Why?
  - c. How important is learning new things in PE? Explain.
5. In physical education there are different reasons that influence why students participate. What are some things, if any, that encourage you to participate in your physical education class? Discourage you?
  - a. Why do these things encourage/discourage you?
6. How do you feel about participating in an all-girls (OR CO-ED) physical education setting?
  - a. What are some reasons that you feel that way?
  - b. How do these reasons influence whether or not you choose to participate in physical education?

Transition – Okay, now let's talk a little bit about your PE Teacher

7. In what ways does your physical education teacher influence your participation in your physical education class?
  - a. Would you elaborate on that?
  - b. Are there any specific aspects your teacher emphasizes while you are playing in PE?
8. What do you think your teacher would like you to learn in PE?
9. What do you think is the one thing your teacher would like You to take away from PE after finishing the course?



**Transition:** We've been talking about your different opinions concerning physical education in general. Now, I'd like to ask you some questions concerning the actual physical activities you participate in while in physical education class.

10. When you finish with a physical activity unit (ex= flag football, badminton, golf), in what ways, if any, do you believe your skill level within the sport has changed?
- a. How does that make you feel?

11. How do you feel about the activities you have learned in physical education?

*Depending on response* - What are some reasons you like or enjoy those activities? OR  
I am sensing you do not like those activities, am I correct?  
What are some reasons you dislike those activities?

Transition: So please allow me to clarify that you enjoy/dislike activities such as \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_.

12. Can you think back to a time (ex= elementary or middle school), if any, that you did not want to participate in physical education?
13. How, if at all, has your participation in this PE course influenced your decision to be physically active outside of physical education?
- a. (Depending on response) Describe what kind of physical activity you do outside PE?
  - b. Where did you get introduced to those activities?
14. If you had an opportunity in the future to change your physical education class how would you change it in order to increase participation level?
15. Closing question: Well that covers all the things I wanted to ask, is any else you would like to add?

## **APPENDIX B**

### **TEACHER INTERVIEW GUIDE**

1. If I were to walk in to your physical education class describe what you believe a motivated physical education student would be doing. What about an unmotivated student?
2. In physical education there are different reasons that influence why students participate. What are some things, if any, that you have observed that seem to affect your students' participation?
3. What methods do you use to help motivate your students in physical education?
  - a. What methods, if any, do you feel work best?
  - b. What are the reasons you feel these work better?
4. How do your students react to a challenge in the PE setting?
5. How do your students react to competition in the PE setting?
6. What are your main goals for students in your PE classes?
  - a. How important is competition to you? Why?
  - b. How important is student improvement? Why?
7. When you finish a physical activity unit, in what ways, if any, do you feel their skill level has changed?
  - a. How does that make you feel?
8. How do you feel about the activities you teach in your physical education classes?
9. Over the years, which activities, if any, have you found that students like to participate in the most?
  - a. Activities, that they dislike to participate in?

**Transition:** Is there anything else about activities that you would like to add before moving on to a different subject?

10. In what ways, if any, do you try to motivate your students to be physically active outside of physical education?
11. Pretend you find a student that is unmotivated and does not want to participate in a physical activity, what do you do?

12. When students are finished with your course, what is the one thing, if any, you hope they gain from the course?
13. I know the program that you are involved with has set-up guidelines and ways to run the specific units. If you had an opportunity in the future to change your program what would you change in order to increase participation?
14. Closing question: Well that's all I have to ask is there anything else you would like to add?

## APPENDIX C IRB CERTIFICATION

### Application for Exemption from Institutional Oversight

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/ projects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This Form helps the PI determine if a project may be exempted, and is used to request an exemption.

-- Applicant, Please fill out the application in its entirety and include the completed application as well as parts A-F, listed below, when submitting to the IRB. Once the application is completed, please submit two copies of the completed application to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can be found at <http://research.lsu.edu/CompliancePoliciesProcedures/InstitutionalReviewBoard%28IRB%29/item24737.html>



Institutional Review Board  
Dr. Robert Mathews, Chair  
131 David Boyd Hall  
Baton Rouge, LA 70803  
P: 225.578.8692  
F: 225.578.5983  
[irb@lsu.edu](mailto:irb@lsu.edu)  
[lsu.edu/irb](http://lsu.edu/irb)

-- A Complete Application Includes All of the Following:

- (A) Two copies of this completed form and two copies of parts B thru F.
- (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
- (C) Copies of all instruments to be used.  
\*If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
- (D) The consent form that you will use in the study (see part 3 for more information.)
- (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (<http://phrp.nihtraining.com/users/login.php>)
- (F) IRB Security of Data Agreement: (<http://research.lsu.edu/files/item26774.pdf>)

1) Principal Investigator:  Rank:   
Dept:  Ph:  E-mail:

2) Co Investigator(s): please include department, rank, phone and e-mail for each  
\*If student, please identify and name supervising professor in this space

Ms. Lauren Delgado, graduate student, 225-388-2325, [ldelga1@tigers.lsu.edu](mailto:ldelga1@tigers.lsu.edu), Supervising professor  
- Alex Garn

IRB# <u>E7020</u>	LSU Proposal # _____
<input checked="" type="checkbox"/>	Complete Application
<input checked="" type="checkbox"/>	Human Subjects Training

3) Project Title:

Study Exempted By:  
Dr. Robert C. Mathews, Chairman  
Institutional Review Board  
Louisiana State University  
203 B-1 David Boyd Hall  
225-578-8692 | [www.lsu.edu/irb](http://www.lsu.edu/irb)

4) Proposal? (yes or no)  If Yes, LSU Proposal Number

Exemption Expires: 9/20/2015

Also, if YES, either ☐ This application completely matches the scope of work in the grant  
OR ☐ More IRB Applications will be filed later

5) Subject pool (e.g. Psychology students)

\*Circle any "vulnerable populations" to be used: (children <18; the mentally impaired, pregnant women, the ages, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature  Date  (no per signatures)

\*\* I certify my responses are accurate and complete. If the project scope or design is later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action: Exempted X Not Exempted \_\_\_\_\_ Category/Paragraph 2a

Signed Consent Waived?: Yes / ☒ No

Reviewer Landia Signature Landia Date 9/21/12

## **VITA**

Lauren Delgado received a degree in Bachelor of Science from Louisiana State University in 2008. In 2008, the Louisiana State University department of kinesiology awarded Lauren with the premier scholar award for physical education. Upon graduation, she began to work as a secondary physical education teacher. During this time in 2009 she enrolled in graduate school at Louisiana State University. She was awarded the American Kinesiology Association's Graduate Scholar award in 2013. She is a member of the Louisiana Association for Health, Physical Education, Recreation and Dance. Lauren also coaches soccer and track and field. She has an interest in motivation in physical education and plans to continue research following her graduation.