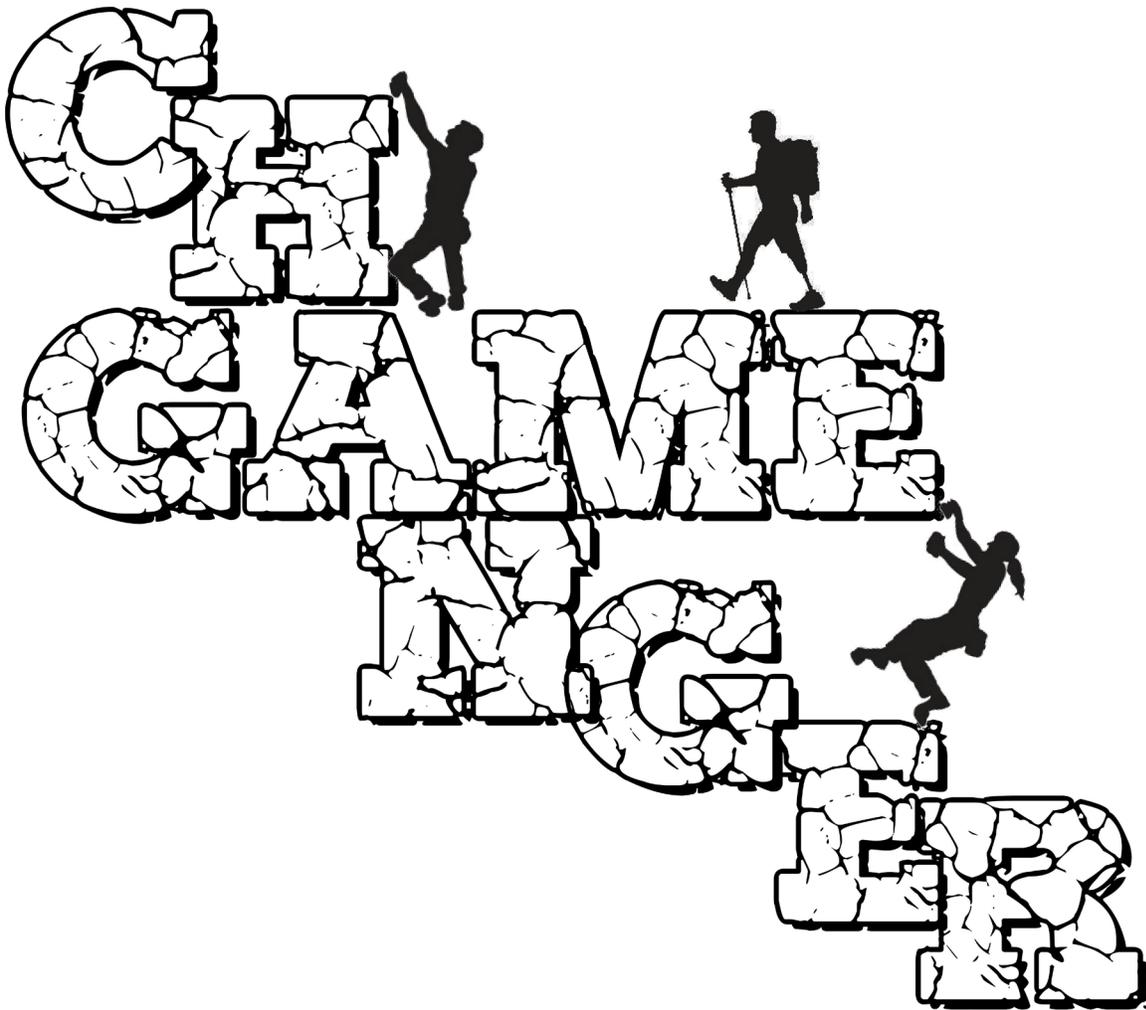




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About the Cover

GameChanger, this year's theme selected by President Penny Edwards, challenges everyone to not only be *in the game* but to be a GAMECHANGER by making a difference for the children of Alabama. Now, more than ever, is the time for individuals in our profession to step up and change the game by providing quality physical activity opportunities in our schools, fitness facilities, recreation programs and sports leagues for ALL children.

Policy Statement

The *ASAHPERD Journal*, a refereed and blind peer reviewed journal, is the official publication of the Alabama State Association for Health, Physical Education, Recreation and Dance and is published two times annually in the fall and spring. Manuscripts, photos, and news items are invited and should be submitted in accordance with the Author's Guidelines found in this *Journal*. The authors' opinions are their own and do not necessarily reflect the attitude or views of ASAHPERD, its officers, or the editors of the *Journal*.

Message from the President

Penny Edwards, National Center on Health, Physical Activity and Disability

ASAHPERD Members,

Greetings to the ASAHPERD membership. I hope you are having a restful summer, due to your hard work the past school year, transitioning into virtual learning amid a pandemic. I know you deserve some much-needed relaxation and rejuvenation before the 2020 school year begins.

I am grateful to all of you for the time, dedication, and commitment you provide to our profession. Whether you are a physical education teacher, health teacher, coach, or outside of the schools working in the recreation field or other avenues that support physical activity, we are all working toward the same goal - teaching about the importance of living an active, healthy lifestyle. My theme this year is *GameChanger*. Since we are GameChangers, I challenge you to maintain your passion for physical education, physical activity and use your expertise to change the game in your classrooms, health facilities, recreation facilities or wherever you work or play. I hope that you can see the progress you are making to change the world by making it a priority to be healthy and physically active. We have so many opportunities to make a positive impact on children and their families. Let's all explore the future with confidence and be creative in our programs to help all individuals see that being physically active can save lives.

When thinking about the upcoming school year, we know there is anxiety, stress and fear because of the uncertainty surrounding what our jobs as educators, recreation coordinators, fitness specialists and what it will look like. I understand the world we are living in is full of a roller coaster of emotions. As always, the ASAHPERD Board of Directors supports every one of you and has worked tirelessly to develop a guide for re-entry in schools for physical education classes. This document (see [Appendix A](#) of the Journal) was provided to Dr. Mackey and his team. You also have some guidance from the Society of Health and Physical Educators (SHAPE America) who also recently released a [document](#) that includes transitioning school-wide strategies for school re-entry as well as teaching strategies for health and physical education related to equity, inclusion and accessibility; social and emotional learning (SEL); and trauma-sensitive learning environments. All of these are a huge part of physical education and health education and will be needed when our students return to school in the fall.

So much has happened in our country since our students transitioned at home, so I encourage you to take a look at SHAPE's document as well as ASAHPERD's document when you begin to work with your administration on your plans for the fall. We are excited for the prospect of what the future holds for our state as we work to help all teachers grow their physical education and health education programs to be bigger and better than ever before. We are all in this together as a TEAM supporting health, wellness, and physical education.

Let me also remind and encourage you to participate in the summer professional development opportunity. ASAHPERD along with other organizations is hosting its annual summer workshop virtually in the month of July. You can find the information on the ASAHPERD Website. Do not forget our annual Fall Conference at the Hyatt Regency Birmingham/Wynfrey Hotel in November as it is still planned for that time.

Remember, to be a *GameChanger*, you must always be learning and challenging yourself to be a better person to everyone around you. Professional development is the fuel you need to stay enthusiastic so your students and their parents can see your commitment to teaching and helping them build strong bodies which in turn builds strong minds.

Remember to be kind to one another because you do make a difference. I look forward to seeing each of you at the workshops and conferences throughout the year so that together we can all...

Be a GameChanger!

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Why is Physical Education Important in a COVID-19 World?

Donna Hester, ASAPERD, Executive Director

Donna Dunaway, HEAL Alabama, Curriculum Coordinator

Jonathan Thompson, Alabama State Department of Education, Health & Physical Education Specialist

As educators continue to manage the challenges of COVID-19, the health and well-being of the students served become increasingly important. The physical, mental, and social health of Alabama's students must be the focus of all initiatives and recommendations as we move forward in a COVID-19 world.

The importance of physical activity and exercise for overall health and academic performance is well documented in the evidenced-based research. Physical activity boosts the immune system, promotes health, and relieves stress. Being active can decrease behavior problems in children and help them concentrate better on their schoolwork. According to Dr. John Ratey, Clinical Professor of Psychiatry at Harvard Medical School, exercise improves learning on three levels: *"First, it optimizes your mind-set to improve alertness, attention and motivation; second, it prepares and encourages nerve cells to bind to one another, which is the cellular basis for logging in new information; and third, it spurs the development of new nerve cells from stem cells in the hippocampus."* In short, not only does exercise help the brain get ready to learn but it makes retaining information easier. Quality physical education provides the opportunity for exercise and physical activity to achieve the benefits described by Dr. Ratey.

The Alabama Board of Education and the State Department of Education are to be commended for supporting required physical education for Alabama's students. Thanks to this support, Alabama is a step ahead of many states in addressing the health and well-being of its students. Required physical education ensures that Alabama's students are achieving a portion of the Centers for Disease Control (CDC) Physical Activity Guidelines: *Children and adolescents ages 6 through 17 years should do 60 minutes (1 hour) or more of moderate-to-vigorous intensity physical activity each day, including aerobic activity, activities that strengthen bones (like running or jumping) and that build muscles (like climbing or doing push-ups).* It is often asked, is it the school's responsibility to ensure students receive the recommended 60 minutes? The answer is **YES!**

WHY should schools assume the responsibility of providing 60 minutes of physical activity every day?

- 1-Research documents the role of exercise and physical activity for enhanced academic performance. If getting 60 minutes of exercise/physical activity enhances learning, why would we *not* find a way to provide it?
- 2-It cannot be assumed that students have the opportunity for physical activity outside of school. While many communities offer youth sports and recreation for its citizens, this is not case for all students. In addition, some communities are not conducive to outdoor play.

3-The majority of students attend public schools; therefore, we can impact most children in Alabama.

HOW can schools provide the 60 minutes of physical activity during the school day?

1-Start with quality, daily physical education. Alabama requires 30 minutes of daily physical education for students in grades K-8. High school students are required to take one unit of physical education for graduation. Elective physical education opportunities are also offered in some high schools. High school classes are typically 50 minutes. Through these daily physical education requirements, students are well on their way to achieving the CDC goal of 60 minutes of moderate to vigorous physical activity.

2-Incorporate physical activity segments before, during and after the school day.

- When students arrive at school, rather than sitting quietly in the gymnasium or classroom, have students 'walk and talk' with a friend around the gym. Simple? Yes, but even walking helps prepare the brain for learning.
- For elementary schools, provide recess - where children are moving and raising their heart rates.
- After every 30-60 minutes of seat time (depending on the students' ages and attention spans) engage students in a brain booster, a simple movement activity by their desks (e.g., walk around the desk, hop on one foot, etc.). There are many commercial products available at no cost that teachers can use.

In conclusion, Alabama's students deserve the opportunity for physical activity and quality physical education every day. It is the responsibility of Alabama public schools to provide it. For more information, contact Dr. Donna Hester, ASHPERD Executive Director, dhester@asahperd.org.

The Case for NOT Cutting K-12 Health Education...Ever!

Jessica Lawrence, Director, Cairn Guidance

As I hear stories of districts' dire need to balance a budget that is hurting and has been hurting for years and years, I hear that some might cut the one content area that not only could have prevented the widespread infection rates of COVID-19, but could have helped so many young people and adults cope, advocate, & access to keep themselves and loved ones safe...health education.

Many adults outside the education field still remember their health education experience as memorizing the bones of the body, or learning about the birds & the bees in binary male/female groupings. School administrators still stereotype health education as a thorn in their side with controversial topics such as addiction, suicide and sex education. This is not what current, quality health education is about anymore. In fact, if you haven't viewed [Andy Milne's TEDx, *This is Not Your Parent's Health Class*](#), watch it now! His message is delivered in three parts – an apology for many of the bad practices from health class, a message of hope from the direction in which today's health class is focused, and a plea for community members to embrace our students for their passion, vision and drive so that together we can improve the health of our community.

I'd like to educate the public on *what* K-12 health education is. Sharing what we teach in health classrooms to the average American doesn't always work to promote our field. But, putting the knowledge and skills expectations within the framing of COVID-19 surely allows any adult to understand the importance of our skills-promoting subject area. Ask others if they've used these knowledge and skill expectations in the last few months to prevent the spread of disease, or take care of themselves and others that were COVID-positive.

If adults you know can't demonstrate these skills, you might consider making the case for health education locally or nationally to decision makers and leaders. Ensure that a certified health education teacher is teaching your child! Ensure that the teacher is teaching skills-based health education, not just sharing information about diseases. When schools are back in session, in whatever way they look... ALL students should have access to knowledge and skills that set them up as 21st Century Learners. These knowledge and skill expectations would be taught in a health education classroom.

If you'd like this table below in pdf, click [here](#).

<p>Knowledge Standard 1: Concepts/Knowledge (what you need to know)</p> <p>I will comprehend concepts related to health promotion and disease prevention to enhance health.</p>	<p>I have the knowledge to...</p> <ul style="list-style-type: none">• Assess my risk at being infected by COVID-19 in my home, town, community (what does the data say? How many positive cases? Where can I get tested? Has anyone I have come in contact with been exposed?)• Recognize that wearing a mask reduces my risk of COVID-19.
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	<ul style="list-style-type: none"> • <i>Explain</i> that washing my hands for 20 seconds reduces my risk of COVID-19. • <i>Describe</i> that minimizing contact with people to the best of my ability reduces my risk of COVID-19. • <i>Recite</i> the symptoms of COVID-19.
<p>Skill Standard 2: Analyzing Information</p> <p>I will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.</p>	<p>I have the skills to...</p> <ul style="list-style-type: none"> • <i>Identify</i> how I'm influenced by media, peers, laws, policies, social norms, family and myself on COVID-19 issues and information. • <i>Distinguish</i> between external and internal influences (my own values & beliefs) on COVID-19. • <i>Interpret</i> how I am intentionally impacted by external influences on COVID-19 related issues and information. • <i>Connect</i> influences to my behaviors related to prevention, intervention & postvention of COVID-19 for myself and others. • <i>Extrapolate</i> how influences (both internal and external) might impact my future related to COVID-19
<p>Skill Standard 3: Accessing Resources</p> <p>I will demonstrate the ability to access valid information, products, and services to enhance health.</p>	<p>I have the skills to...</p> <ul style="list-style-type: none"> • <i>Identify</i> when I need help and information (prevention, intervention & postvention of) related to COVID-19. • <i>Analyze</i> the validity of resources on COVID-19. • <i>Locate</i> valid & reliable help and information on COVID-19. • <i>Implement</i> a plan to access valid & reliable help and information on COVID-19.
<p>Skill Standard 4: Interpersonal Communication</p> <p>I will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.</p>	<p>I have the skills to...</p> <ul style="list-style-type: none"> • <i>Communicate</i> how I'm feeling (mentally, emotionally & physically) to family, co-workers, leadership, employees, employers and physicians. • <i>Summarize</i> to loved ones how to best protect themselves from COVID-19. • <i>Collaborate</i> with people I live with on rules to protect infection or diminish risk from COVID-19. • <i>Post, share, & communicate</i> clear, health-promoting messages on COVID-19 related situations. • <i>Actively listen</i> to valid & reliable sources of information. • <i>Ask</i> clarifying questions to medical providers and healthcare workers about COVID-19. • <i>Ask</i> for help when I need it. • <i>Post</i> assertive, health-promoting, valid, relevant and accurate messages on social media.

	<ul style="list-style-type: none"> • <i>Identify</i> conflict related to COVID-19 issues and information & use appropriate listening and communication skills to defuse a situation. • <i>Negotiate</i> behaviors, beliefs & conversations related to COVID-19 topics. • Effectively <i>use</i> refusal skills related to COVID-19 situation (i.e., pressure to not wear a mask when safer to do so, influences that may put you at risk).
<p>Skill Standard 5: Decision Making</p> <p>I will demonstrate the ability to use decision-making skills to enhance health.</p>	<p>I have the skills to...</p> <ul style="list-style-type: none"> • <i>Define</i> different types of decisions related to COVID-19 (impulsive, responsible, irresponsible, every day, etc.) • <i>Question</i> if the decision about COVID-19 can be made by myself, individually or collaboratively with others. • <i>Weigh</i> my options, identify barriers, seek out support if applicable, determine the consequences and make a healthful decision. • <i>Reflect</i> on my decision for future application. For example, was skipping a convening and tuning in virtually the best decision at the time? Why? Why not? What did I gain? What did I lose? Was it the healthiest option? Was it unsafe?
<p>Skill Standard 6: Goal Setting</p> <p>I will demonstrate the ability to use goal-setting skills to enhance health.</p>	<p>I have the skills to...</p> <ul style="list-style-type: none"> • <i>Assess</i> my current health status and identify areas of growth • <i>Define</i> and develop a SMART goal (specific, measurable, attainable, relevant and time-phased) • <i>Develop</i> a goal to prevent COVID-19, or reduce the spread of it by identifying barriers to achieve a goal, developing action steps, monitoring progress and reflecting. • <i>Implement</i> a goal related to COVID-19 (reducing risk, self-care if infected, reduction of exposure to others, seeking medical care if symptomatic, etc.)
<p>Skill Standard 7: Self-Management</p> <p>I will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.</p>	<p>I have the skills to...</p> <ul style="list-style-type: none"> • <i>Accept</i> that I am personally responsible for my own health and behaviors. • <i>Analyze</i> what I need to do to stay COVID-19 negative, or reduce my risk, or take care of my symptoms, or stay healthy post-COVID-19 infection. • <i>Practice</i> healthy behaviors (i.e., wash hands, take my temperature regularly, social distance in public, get tested, wear a mask, stay home, minimize contact with others)

	<ul style="list-style-type: none"> • <i>Demonstrate</i> health-promoting behaviors and make them routine.
<p>Skill Standard 8: Advocacy</p> <p>I will demonstrate the ability to advocate for personal, family, and community health.</p>	<p>I have the skills to...</p> <ul style="list-style-type: none"> • <i>Advocate</i> for my own health and the health of others. • <i>Use</i> health-enhancing positions. • <i>Support</i> my opinion with facts & valid evidence. • <i>Differentiate</i> from my target audience based on who I am advocating to. • <i>Use conviction</i> when advocating messages related to COVID-19.

Peer-Reviewed Articles

Correlates of Winning Interscholastic “Gridiron Football” Championships

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Introduction

It is common for football fans, coaches, athletes, and media to view statistics following “gridiron” football games – whether professional, intercollegiate, or interscholastic. Lists of in-game statistics have been available from various sources (e.g., newspapers, Internet, etc.) for decades. However, are all reported statistics important toward winning a game, or are some more vital than others?

When considering the many goals of football programs, there are numerous philosophies. One objective of American tackle football competition is winning games. To that point, nearly 40 years ago, Latham and Stewart (1981) researched objectives of National Football League (NFL) franchises as reported by team representatives. They found that the Top 2 objectives of both “Winning” and “Moderate”(ly) (successful) “Teams” were to “make the playoffs” and “produce a winning team.” Organizations labelled as “Losing Teams” rated their top objectives (equally) as making post-season play, entertainment, and improving team image - with winning as a low priority (p. 406). Possibly, at the interscholastic level, it is reasonable that having a winning team and making the playoffs are goals for many football coaches. Mindful of that, this study’s aim was to determine

variables that impact winning interscholastic “Gridiron” football games.

Background - Factors or Variables that Impact Winning Football Games

Philosophically, football coaches (and other stakeholders) have long opined concerning which factors win games. Given that few studies have addressed in-game statistics influencing winning interscholastic football games, it is necessary to discuss factors that have been reckoned as having an impact at other levels. DiGaetano (2016) asserted that ball possession time was instrumental in achieving a higher score in games. The reasoning was, if “they” (i.e., opponents) do not have the ball, odds of them scoring decreases. He believed securing the ball is key to maintaining possession, and that winning the turnover battle is crucial at every level of football. The turnover/giveaway/ takeaway column has been supported in pro’ football as being vital (e.g., Cohea & Payton, 2011; Magel & Childress, 2012; Onwuegbuzie, 1999, 2000; Pelechrinis & Papalexakis, 2016; Willoughby, 2002). Wagner (1987) found that turnover difference and time of possession difference were major variables for winning both college and professional football games. Other studies at the intercollegiate level showed turnover margin or turnover difference

were vital in this research line (e.g., Magel & Long, 2013; West & Lamsal, 2008). Two studies have targeted interscholastic football and they showed that ball control, or time of possession, were significant at the interscholastic level (Barker 1964; Brown 2008). Although, Barker (1964) did find intercepted passes by the winning team was important.

In response to Cohea and Payton (2011), Osorio (2011) outlined and defined a list of key determinants that can influence victories in American Football and suggested that future research involve these when possible. Table 1 shows the positive and negative correlations associated with winning football games (Osorio, 2011).

Noted Football Coaches' Philosophies of Factors Influencing Winning

John McKay (successful head coach, Southern California University, 1960-1970s) stated that "No coach, no matter how successful, ever escapes the pressure of winning." But what *wins* football games? In 1931, Coach Knute Rockne (Notre Dame's Head Coach, 1918 - 1930) wrote,

There is always a doubt in the minds of coaches as to which is the more important, offense or defense. Both are important, but I do believe it wise for a team to pay more attention to offense. In case you have an early game with a rugged opponent your defense may stop them dead. However, along in the second half with the score nothing to nothing there may be a fumble and one of the

opponents may run a long distance for a touchdown and kick goal. The score would then stand seven to nothing against you and the thing you would have to call upon under these conditions would be the offense. If you have only defense you would now be helpless. For that reason, I always pay a little more attention to offense than defense, as it is more difficult to get results. Offense involves more finesse in timing, judgment and more complex team play (p. 20).

On the other hand, famed University of Alabama Head Coach (from 1958 - 1982) Paul "Bear" Bryant (anecdotally) coined the axiom that "Offense wins games, defense wins championships." More recently, Trimble (2005) noted that "Championship football teams are able to run and pass the football effectively" (p. 123). Elsewhere he wrote, "Defense is the name of the game when it comes to winning championships. If the opponent can't score, they can't win..." (p. 144). And, former Pittsburgh Steelers quarterback Terry Bradshaw summed it up by saying, "The heck with statistics. Just win" (p. 79). That said, all three phases contribute to, and are vital for, winning American Football games (see Osorio, 2011).

In the first study of its kind (Barker, 1964) reported statistics that correlated best with winning interscholastic football games (from a sample of 20 high school football games, played on one October night, in TX). Barker observed, 50+ years ago, coaches have historically debated which

statistics best enhance the possibility of winning, with few solid answers.

Barker found that score (final score, 1st quarter, 2nd quarter, 4th quarter, 1st half, & 2nd half), first downs earned, total yards gained, total yards gained when rushing, total touchdowns, total touchdowns rushing, and interceptions by the winners were significantly associated with winning a game. Although they were not significant, passes attempted, passes completed, punts, and fumbles lost were all negatively correlated with winning. It is reasonable that teams may need to: pass more when behind; possibly must punt more if they cannot move the ball; and, likely lose more fumbles than winners.

General Robert Neyland (University of Tennessee Head Coach, at varied times, 1920s – 1950s) believed that, “To defeat a weak opponent is not the problem: The problem is to win when he is as good or better than you.” Since there are many philosophies regarding how to win football games, and especially championships, our curiosity was aroused.

Little interscholastic research has been conducted since Barker (1964) and there is a need to determine which variables relate to winning interscholastic football games across time. From a geographical perspective, football’s significance in the Southern United States is a supreme cultural experience when communities have winning football programs (Morgan & Klimasewski, 2015). Our aim was to determine in-game statistics that best correlate (historically) with winning an *interscholastic state championship game* (in the state of Alabama). The second purpose of this study was to compare our results with those of Barker (1964), 55+ years later. We also wanted to extend the

knowledge-base and answer (beyond correlation) what are the most significant variables for winning football games? The final purpose of this study was to determine which offensive and defensive/special team in-game statistics separate winning and losing teams.

Methodology

Authors analyzed 280 games having decisive winners. Four tie-games (before instituting tiebreakers) were eliminated from analysis. From the 1960s through present-day, classifications expanded from 1A – 4A to 1A – 7A, based on school enrollment figures. Both parochial/private and public schools participating in the Alabama State High School Athletic Association (AHSAA) championship final games were included.

Following approval by the Office of Research and Sponsored Programs, by the lead author’s university, data were gathered concerning AHSAA championship football game box scores and game summaries. In-game statistics were collected/updated periodically by viewing information available from the AHSAA website (in the most recent years). The AHSFHS was a starting point for older information - numerous visits to the Birmingham (AL) Public Library involved cross-checking information. Specifically, data came from The AHSAA, The Alabama High School Football Historical Society (AHSFHS), *The Birmingham News*, *The Birmingham Post Herald*, and *The Montgomery Advertiser* (the latter three being major print-news outlets, with broad interscholastic championship coverage). Every possible effort was made to collect and cross-check data from authoritative sources.

Results and Discussion

Descriptive statistics such as frequencies, means, standard deviations, ranges, and percentages. To examine relationships between specific game statistics and the result of the games (i.e., win or lose, margin of victory), Pearson Product Moment Correlations were used.

Statistical significance was set *a priori* to $p < .05$. Overall, 11 of the 20 correlations were statistically significant in relation to the winning or losing the game and 16 of the 20 were statistically significant relative to margin of victory. Other analyses included comparisons using a multivariate analysis of variance (MANOVA). All analyses were performed using IBM SPSS Statistics, Version 23.

Table 2 shows basic summary statistics for 280 games having a sole state champion. It is noteworthy that some statistics were not always reported in older data sources (e.g., punt yardage, number of punts, etc.), with others added in recent years (e.g., 3rd Down Conversions, Non-Offensive Touchdowns, etc.).

Scoring

Obviously, football games are won by teams scoring more points. Margin of Victory (MoV) had a mean of ~16 points with winners averaging approximately 27 and losers averaging approximately 11 points, respectively. The closest MoV was by one point, and the largest was 75 points (75 – 0) for a state championship game. Across the 1st and 2nd halves, point distributions for both winners and losers were consistent - with both scoring slightly more points in the 2nd quarter, than other periods.

Offense

Earning 1st Downs is considered a vital offensive statistic by football coaches and, in this case, winners averaged approximately 15, with losers averaging approximately 11. But, a new statistic (3rd Down Conversions) was included in the official box scores for the 28 most recent championship games and indicated that winners converted on 49% of opportunities, whereas losers averaged ~32%. From a rushing offense perspective, across history (in this study), teams winning championships apparently dominated with rush attempts, rushing yards gained, and average rushing yards per attempt. Winning teams also earned more than twice as many yards rushing as passing. Interestingly, winners averaged more pass catch yards, and had more pass completions than losers.

Ball control is an aspect of football that coaches often emphasize relative to winning. It is often stated that if an opponent does not have the ball, they cannot score. We found that winning teams averaged only 2 more offensive plays than losing teams (55 compared to 53 plays). Time of Possession is shown in seconds of clock time, which translates to >25 minutes of ball control for winners (>22 minutes for losers).

Defense and Special Teams

Turnover Margin for winners ranged from -4 to 7. A team losing the ball 4 more times than they took it away, and still winning the game, may be an oddity. We also analyzed a statistic recently popularized by the University of Alabama - Non-Offensive Touchdowns, or *NOTs* (Auerbach, 2016; Kirshner, 2016; McFadden, 2016; Reedy, 2016;

Schlabach, 2017). At least one team scored that way 3 times in a game. Moreover, one team scored on special teams at least twice in a game, and another defensively at least twice in a game.

Barker Compared to Current Study

Table 3 presents a comparison between our study and Barker's (1964) showing correlates for winning interscholastic football games. In general, our correlations are lower – but we also have a more extensive sample - that is possibly more realistic than Barker's sample and results. Whereas Barker limited the outcome to winning (or losing) a game, this study also examined associations with Margin of Victory (MoV). Our comparison with Barker revealed many similar findings. For example, Barker found statistically significant associations between number of points scored in the 1st, 2nd, and 4th quarters with winning a game. The current study found statistically significant relationships for scoring in the 1st and 2nd quarters with winning the game, but between scoring in every quarter with MoV. So, although scoring in the 1st half is key, continuing to score (logically) increases the MoV. Also, in agreement with Barker, there was a positive correlation between number of TDs, especially rushing TDs, with winning the game. The number of rushing TDs also had a strong positive correlation with MoV in the current study. Finally, Barker found that both total offensive yards and rushing yards had moderate relationships with winning a game. In our study, rushing yards were positively related to winning and strongly related to MoV. Both passing yards, pass attempts, and pass completions had a negative relationship with winning the game. This could be due

to teams passing when behind on the scoreboard; but, passing yards as well as passing attempts and completions had a negative relationship with winning.

As a reminder, note that Barker's study involved 40 teams (20 games) and his sample was also described as larger high school teams. The current study included 280 contests and 560 teams, of all classification levels.

Comparison of Winning and Losing Teams

Additional comparisons determined offensive and defensive/special team in-game statistics that separate the winning and losing teams. A total of 22 (15 offensive-related and 7 defensive or special team) game statistics were examined. Results from these comparisons are found in Table 4. Statistical comparisons of these were made using a multivariate analysis of variance (MANOVA). Follow-up ANOVAs were used to determine which specific game statistics were different for the winning and losing teams. Statistical significance was set *a priori* to $p < .05$. Furthermore, the practical significance (effect size) of these differences is reported as Cohen's *d*. Nineteen (19) of the 22 game statistics were statistically different between the winning and losing team and 10 of these differences achieved at least a medium effect size.

Offensive - Of the 15 offensive game statistic comparison, 13 were statistically significant. That is, the winning team outscored the losing team in each quarter (especially the 1st and 2nd quarters), outrushed the losing team (total rushing yards, rushing TDs and rushing TDs of more than 20 yards), earned more first downs, and held possession for a longer

period of time. The winning team also had more passing TDs and passing TDs longer than 20 yards but did not have more total passing yards. The largest effects were related to rushing in terms of rushing yards gained (219.13 versus 121.46) and number of rushing TDS (2.59 versus .89). There was also a large effect size for total yards (311.38 versus 218.64). Medium effects were related to points scored each quarter and number of earned first downs.

Defense and Special Teams - The winning team forced more fields goals, recorded more defensive safeties, scored more defensive TDs, forced more fumbles and interceptions to win the overall turnover battle. Of these effects, the strongest related to turnovers.

Conclusions

There were multiple purposes for this study. We reported summary descriptive statistics, comprehensively, sought by coaches, athletes, fans, and media. Several in-game variables were identified that correlated with winning an *interscholastic state championship game*. Results established what can be considered a modern baseline (for replication involving populations/samples in other states) by showing significant variables associated with Margin of Victory at the interscholastic level. Furthermore, significant variables (when viewed from offensive and defensive/special teams perspectives) were found that differentiate winning and losing teams in high school championship football games.

Interscholastic football coaches (in Alabama, if not other states) can possibly

apply our findings to their programs. As Bobo (1987) noted, "personnel considerations dictate the type of offense and defense you run" (p. 101). So, every coaching staff should carefully consider their on-hand personnel when doing season, and game, preparation. From a practical application standpoint, results from this study can aid football coaches as they set pre-season, in-season, and post-season goals. Some logic may suggest that if certain statistics help determine a state championship game win, then such variables may also improve chances of winning in-season games. Using Bobo's format for objectives (pp. 57 & 119), an example appears in Table 5.

Given our analysis, we believe coaches can benefit from this study. Additionally, from a research perspective, there should be further investigation of interscholastic football games, particularly data concerning state championship games. To determine if there are trends or consistencies, there is also a need for continued research regarding:

- 1] whether variables related to winning interscholastic football championships are similar or differ by state or regions of the nation (U.S.A.),
- 2] which subsets of variables are most critical in predicting outcome of a game,
- 3] to what extent are the critical variables dependent upon:
 - a) field advantage (i.e., home, away, neutral site),
 - b) school classification or size,
 - c) overtime,
 - d) closeness of outcome,
 - e) era or time-period by year(s).

Table 1 - Osorio's List of Influential Game Statistics for Winning Grid-Iron Football

Variables			
General	Offensive	Defensive	Special Teams
Total Offensive Yards Generated (+)	3 rd Down Conversions (+)	Sacks (+)	Punt & Kick Returns (+)
Time of Possession (+)	4 th Down Conversions (+)	Tackling Efficiency: Tackles (+)	Field Goal Attempts & Conversions (+)
Team Effectiveness Off. Efficiency v. Def. Efficiency (+)	1 st & 2 nd Down Conversions (+)	Missed Tackles (-)	Point After Touchdown (PAT) Attempts & Conversions (+)
Home Field Advantage (+)	Yards per Play (+)	Red Zone Stops (+)	
Overtime 1 st Possession (+)	Passing Efficiency (+)	Red Zone Forced Field Goals (+)	
	Rushing Efficiency (+)	Penalties/Penalty Yards (-)	
	Red Zone Conversions (+)	Forced Turnovers: Forced Fumbles, Recovered Fumbles, & Interceptions (+)	
	Penalties & Penalty Yards (-)	Forced Safety (+)	
	Turnovers & Turnover Differential (-)		

Note:

(+) = Positively Correlated

(-) = Negatively Correlated

Table 2 - Descriptive Summary of Box Scores (Ranges & Averages)

Variables	Winners		Losers	
	Range	Mean	Range	Mean
Margin of Victory (Points)	1 – 75	16.49	---	---
1 st Qtr Pts Earned	0 – 28	05.57	0 – 15	02.08
2 nd Qtr Pts Earned	0 – 28	08.35	0 – 20	03.16
3 rd Qtr Pts Earned	0 – 24	06.44	0 – 17	02.95
4 th Qtr Pts Earned	0 – 28	06.95	0 – 14	02.88
Over-time Points Earned	0 – 31	00.28	0 – 24	00.18
Total Game Points	3 – 75	27.60	0 – 42	11.24
1 st Half Points Earned	0 – 42	13.94	0 – 27	05.25
2 nd Half Points Earned	0 – 50	13.48	0 – 26	05.85
# 1st Downs Earned	5 – 26	15.44	0 – 26	11.67
% 3rd Down Conversions Made	30.00 – 88.88	49.40	11.11 – 61.53	32.65
# Rush Attempts	5 – 68	41.64	14 – 60	34.33
# Rushing Yds Gained	25 – 535	219.13	-44 – 421	121.46
Avg Rushing Yds Per Play	1.00 – 11.48	05.23	-2.41 – 10.45	03.40
# Passing Yds Gained	-2.00 - 343	93.35	-1.00 – 375	96.99
# Pass Attempts	0 – 43	11.34	0 – 51	16.76
# Pass Completions	0 – 25	05.93	0 – 30	07.44
Avg Pass Catch Yds	-2.00 – 59.50	15.52	-1.00 – 86.00	13.71
% Passes Completed	00.00 – 100.00	48.94	00.00 – 88.88	40.51
Total Offensive Yds Gained	75 – 606	311.38	-20 - 522	218.64
Earned Avg Yds Per Play	02.31 – 12.23	06.07	0.511 – 11.15	04.38
Penalty Yards Lost	0 – 164	45.59	0 – 180	36.45
Time of Possession (in seconds)	960 – 2064	1507.65	840 – 2016	1372.86
# Total Offensive Plays	34 – 85	55.26	31 – 81	53.83
% Run Plays	40.32 – 98.24	76.22	25.80 – 97.56	64.47
% Pass Plays	01.75 – 59.67	23.87	02.43 – 74.19	35.51
# Total Rushing TDs	0 – 7	02.59	0 – 4	00.89
Run TDs 1-20 Earned	0 – 7	01.91	0 – 4	00.70
Run TDs 21-40 Earned	0 – 3	00.33	0 – 2	00.09
Run TDs 41-60 Earned	0 – 3	00.19	0 – 2	00.04
Run TDs 61-80 Earned	0 – 2	00.11	0 – 1	00.03
Run TDs 81-100 Earned	0 – 1	00.02	0 – 1	00.01
Run TDs Unknown Distance	0 – 2	00.04	0 – 1	00.01
# Total Passing TDs Earned	0 – 4	00.96	0 – 4	00.56
Pass TDs 1-20 Earned	0 – 4	00.40	0 – 3	00.25
Pass TDs 21-40 Earned	0 – 2	00.31	0 – 2	00.15
Pass TDs 41-60 Earned	0 – 2	00.15	0 – 10	00.13
Pass TDs 61-80 Earned	0 – 2	00.09	0 – 4	00.05
Pass TDs 81-100 Earned	0 – 1	00.01	0 – 1	00.01
Pass TDs Unknown Distance	0 – 1	00.01	0 – 1	00.01
# FG Made Forced by Each	0 – 3	00.35	0 – 2	00.16
# Total Turnovers Taken	0 – 9	02.49	0 – 6	01.39
# Defensive Safeties Forced	0 – 1	00.04	0 – 1	00.01
# Defensive TDs	0 – 2	00.21	0 – 1	00.08
# Special Teams TDs	0 – 2	00.11	0 – 2	00.05
# Total Non-Off TDs	0 – 3	00.33	0 – 2	00.12
Turnover Margin Differential	-4 – 7	01.06	---	---

Table 3 - Correlates with Winning and Margin of Victory

Variable	Correlation with Winning (Barker, 1964)	Correlation with Winning (current study)	Correlation with Margin of Victory (MoV) (current study)
Total Game Points Earned	.53**	.122**	.778**
1st Qtr Pts Earned	.34*	.089*	.422**
2nd Qtr Pts Earned	.41**	.101*	.429**
3rd Qtr Pts Earned	.14	.057	.513**
4th Qtr Pts Earned	.40**	.035	.366**
1st Half Points Earned	.46**	.126**	.579**
2nd Half Points Earned	.37**	.070	.626**
# 1st Downs Earned	.33*	-.062	.402**
Total Offensive Ydg Gained	.40**	.006	.523**
# Rushing Ydg Gained	.38**	.178**	.450**
# Passing Ydg Gained	.05	-.212**	.136*
Total TDs	.52**	.120**	.774**
# Total Rushing TDs	.51**	.140**	.648**
# Total Passing TDs Earned	.23	-.013	.268**
# FG Made Forced by Opponent	.23	-.025	-.092
# Pass Attempts	-.21	-.312**	-.053
# Pass Completions	-.03	-.276**	.028
% Passes Completed	.27	-.041	.206**
Interceptions (by)	.36*	NA	NA
Punts	-.10	NA	NA
Punting average	.18	NA	NA
Penalty Yards Lost	.21	-.042	.053
Fumbles (lost)	-.22	NA	NA
Turnover Margin Differential	NA	.133**	.318**

*p<.05 , **p<.01

Table 4 - Comparison of Losing and Winning Teams

	Losing Team			Winning Team		Comparison		Effect Size
	# Games	Mean	SD	Mean	SD	F	Effect Size (Cohen's d) ^a	
Offensive Statistics								
1st Qtr Pts Earned	279	2.08	3.340	5.57	5.479	82.84***	0.544	M
2nd Qtr Pts Earned	279	3.16	4.176	8.35	6.569	137.22***	0.701	M
3rd Qtr Pts Earned	279	2.95	4.235	6.44	5.999	62.05***	0.472	M
4th Qtr Pts Earned	279	2.88	4.000	6.95	5.832	97.67***	0.592	M
# 1st Downs Earned	280	11.67	4.816	15.44	4.564	107.74***	0.620	M
# Rushing Ydg Gained	280	121.46	72.501	219.13	89.181	189.64***	0.823	L
# Total Rushing TDs	280	.89	1.036	2.59	1.622	244.58***	0.934	L
TDs_rush_20+	280	.1750	.43348	.6393	.96269	55.10***	0.444	S
# Passing Ydg Gained	280	96.99	75.047	93.35	76.629	0.4356	-0.039	S
# Total Passing TDs Earned	280	.56	.874	.96	1.033	27.57***	0.314	S
TDs_pass_20+	280	.3500	.87519	.5536	.75062	10.39***	0.193	S
Total Offensive Ydg Gained	280	218.64	92.018	311.38	97.670	181.23***	0.804	L
#Total Offensive Plays	159	53.83	10.383	55.26	8.899	1.36	0.093	S
Penalty Yards Lost	278	36.45	24.590	45.59	28.813	20.71***	0.273	S
ToP_minutes	140	22.8810	3.80053	25.1275	3.72221	12.75***	0.301	S
Defensive/Special Teams								
# FG Made Forced by Opp	280	.16	.463	.35	.605	19.68***	0.265	S
# Defensive Safeties Forced by Winner	280	.01	.103	.04	.186	3.81	0.117	S
# Defensive TDs	280	.08	.264	.21	.442	19.75***	0.266	S
# Special Teams TDs	280	.05	.227	.11	.321	6.86**	0.157	S
# Total Non-Off TDs	280	.12	.368	.33	.560	26.23***	0.307	S
# Turnovers-Fum-Int-Taken	280	1.39	1.270	2.49	1.663	104.20***	0.610	M
Turnover Margin Differential	280	-1.06	1.837	1.06	1.837	93.32***	0.577	M
*p<.05, **p<.01, *** p<.001								
a-.02=small effect, .05=medium effect, .08=large effect								

Table 5 – Sample Objectives for Winning (Championship) Football Games

	Offense		Defense
1	Win on every play!	1	Win on every play!
2	Score > 7 points / quarter	2	Hold opponents to < 3 points / quarter
3	Score > 28 points / game	3	Hold opponent to < 10 points / game
4	Convert on > 60% of 3 rd -Down plays / game	4	Stop opponent on >70 % of 3 rd -Down plays / game
5	Score inside the 20 yard-line ≥ 3 times / game	5	Allow no plays over 20 yards
6	Score on Rushing Play of 20+ yards ≥ 1 time / game	6	Cause at least 3 Turnovers / game
7	Score on Passing Play of 20+ yards ≥ 1 time / game	7	Maintain a Turnover Differential of at least +1 / game
8	Zero Turnovers / game	8	Convert ≥ 1 turnover or kick return into a “NOT”
9	Earn ≥ 16 1 st Downs / game	9	Hold opponent to ≤10 1 st Downs / game
10	Gain at least 250 yards Rushing Offense / game	10	Hold opponent to < 200 yards of Total Offense / game
11	Gain at least 100 yards Passing Offense / game	11	Hold opponent to < 20 minutes of Ball Possession
12	Gain at least 350 yards Total Offense / game		
13	Control the football for ≥ 28 minutes / game		

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Prevalence of Retained Primitive Reflexes in a Class of Healthy Preschool Children

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Introduction

Healthy, full-term babies are born with a set of primitive reflexes to assist them as they progress through normal development from birth to around age 1 (Kobesova & Kolar, 2014). After age 1, these reflexes are integrated into the brain as children engage in physical movement and play, and should not still be evident (Gieysztor, Choińska, & Paprocka-Borowicz, 2018). When primitive reflexes are retained beyond this point, children can experience difficulties with coordination (Kovesova & Kolar, 2014), vision (Gieysztor, Choińska, & Paprocka-Borowicz, 2018), learning (McPhillips & Jordan-Black, 2007), behavior (Chandradasa & Rathnayake, 2019; Konicarova & Bob, 2013), and physical and emotional development (Leisman, Braun-Benjamin, & Melillo, 2014). Additionally, research has found an association between retained primitive reflexes and conditions such as dyslexia (McPhillips & Sheehy, 2004), attention deficit hyperactivity disorder (Konicarova & Bob, 2013), and autism spectrum disorder (Chinello, Di Gangi, & Valenza, 2016).

Although most research examining retained primitive reflexes in young children over the age of one

focuses on children with diagnosed disabilities (Ayres, 1972; Batra et al., 2012), Gieysztor, Choińska, & Paprocka-Borowicz (2018) recently described the prevalence of retained reflexes in healthy preschool age children as well as the effects of these reflexes on the children's psychomotor development (Gieysztor, Choińska, & Paprocka-Borowicz, 2018). In addition to finding that the majority of preschool children in the study had evidence of primitive reflex retention, this study also reported that the left asymmetrical tonic neck reflex (ATNR) was the most common retained reflex in healthy preschoolers, followed by the tonic labyrinthine reflex (TLR) for extension, and the right ATNR. Additionally, children in this study displayed the strongest reflexes for the symmetrical tonic neck reflex (STNR) for extension and the TLR for flexion. Moreover, the children's level of psychomotor development was inversely related to the presence of retained primitive reflexes (Gieysztor, Choińska, & Paprocka-Borowicz, 2018).

It therefore appears that the presence of retained primitive reflexes is not only frequent in healthy preschool children, but also has a negative impact on these children's development despite the absence of special needs.

Accordingly, the development of early interventions for healthy young children with retained primitive reflexes may be needed to optimize these children's development. An important consideration, however, is that the sample in Gieysztor, Choińska, and Paprocka-Borowicz's (2018) study included only thirty-five children from one classroom in Poland. Consequently, further research is needed to determine whether the results can be generalized to other groups of healthy preschool children in other locations. Therefore, the purpose of the present study was to determine the prevalence of retained primitive reflexes in a class of healthy preschool children in the Southeastern United States.

Methodology

Participants

Twenty-one healthy preschool children between the ages of 3 and 5 (age 4.23 ± 0.73 ; 11 boys, 10 girls) participated in the study. These children were enrolled in the same preschool class in a city in the Southeastern United States and were not reported to have disabilities. The study was approved by the university's Institutional Review Board and all parents provided written informed consent prior to their children's participation in any testing.

Assessment of Primitive Reflexes

A physical therapist tested each child for the following primitive reflexes: left ATNR, right ATNR, STNR, and TLR. For each reflex tested children were assigned a score ranging from 0 to 4, with a 0 indicating that the child did not have the reflex and a 4 indicating the presence of a strong reflex (Gieysztor, E.Z., Choińska, A.M., & Paprocka-

Borowicz, M., 2018; Goddard-Blythe & Hyland, 1996). The same physical therapist tested all children in the study.

ATNR. To test for the ATNR children were asked to assume a quadruped position on their hands and knees. A physical therapist held each child's head in a neutral position and then turned it to the right 5 times and to the left 5 times. Both left and right sides were assigned a score ranging from 0 to 4 based on the following observations:

- 0: No reaction;
- 1: Opposite arm bends slightly;
- 2: Opposite arm clearly bends;
- 3: Opposite arm bends significantly;
- 4: Opposite arm collapses as a result of head rotation.

STNR. To test for the STNR children were asked to assume a quadruped position on their hands and knees. The physical therapist held each child's head in a neutral position before lifting it up into extension and down into flexion 5 times. Children were then assigned a score ranging from 0 to 4 based on the following observations:

- 0: No reaction;
- 1: Slight movement of one or two arms or slight movement of the trunk;
- 2: Clear movement of the elbow or hips;
- 3: Elbow flexion when the head is lowered followed by elbow extension when the head is lifted;
- 4: Full elbow flexion or pushing hips back to sit on the heels.

TLR. To test for the TLR children were asked to stand up, keep their feet together, and put their hands on their hips. They were then asked to tilt their head back while the physical therapist supported the child's head in this position for 10 seconds. Children were then asked to move their head slowly to look at their toes and then hold the position for 10 seconds. This was repeated 5 times.

Children were then assigned a score ranging from 0 to 4 based on the following criteria:

- 0: No reaction;
- 1: Small disruption to balance;
- 2: Clear disruption to balance;
- 3: Near loss of balance, disorientation;
- 4: Loss of balance, dizziness.

Statistical Analysis

Frequencies for reflex retention were run in SPSS 25 to determine the number of children with retained left ATNR, right ATNR, STNR, and TLR. Additionally, these frequencies were determined separately for boys and girls.

Results

Only one child out of twenty-one in the present study scored 0 on all reflexes tested, indicating no presence of retained primitive reflexes. Six children (29% of subjects) scored between 1 and 2 on all reflexes tested, and 14 children (50% of subjects) scored a 3 or 4 on at least one of the reflexes. The TLR was the most commonly retained reflex with 20 children (95% of subjects) retaining both TLR flexion and TLR extension, followed by the right ATNR (86% of subjects), left ATNR (81% of subjects), and STNR flexion and extension (67% of subjects). The number of subjects with evidence of reflex retention was nearly identical for each reflex in both boys and girls. Full results for each reflex are presented in tables 1 through 3.

Conclusions

Similar to a previous study that found only 11% of children in a sample of 35 healthy preschoolers did not display retained primitive reflexes (Gieysztor, Choińska, & Paprocka-Borowicz, 2018),

95% of the children tested in this study had at least one retained primitive reflex. Of these children, 63% displayed mild reflex retention (scores of 1 or 2) while 37% exhibited moderate to severe reflex retention (scores of 3 or 4). However, in contrast to Gieysztor, Choińska, & Paprocka-Borowicz's (2018) finding, the most commonly retained reflex retained in this study was the TLR (95% of subjects) with an equal number of subjects exhibiting TLR flexion and extension, followed by the right ATNR (86% of subjects), left ATNR (81% of subjects), and the STNR (67% of subjects) with an equal number of subjects displaying both STNR flexion and extension. In agreement with Gieysztor, Choińska, & Paprocka-Borowicz's (2018) study, this study found that the number of subjects with evidence of reflex retention was nearly identical for each reflex in both boys and girls.

Although primitive reflexes such as the ATNR, STNR, and TLR should be fully integrated beyond infancy (Chandradasa & Rathnayake, 2019), the ninety-five percent of children in the present study displayed at least a mild degree of primitive reflex retention. These results compare to Gieysztor, Choińska, & Paprocka-Borowicz's (2018) findings, but suggest an even higher overall prevalence than previously reported. Consequently, routine screening of primitive reflexes in preschool-age children may be prudent to identify children who may need early intervention in the form of reflex integration therapy to promote optimal development of the myriad of both physical and cognitive abilities that are negatively affected by retained primitive reflexes (Konicarova & Bob, 2013; Kovesova & Kolar, 2014; Leisman, Braun-Benjamin, & Melillo, 2014).

Table 1
Left and Right Asymmetrical Tonic Neck Reflex Frequencies

Right ATNR Score	All	Boys	Girls
0	3	1	2
1-2	9	5	4
3-4	9	5	4
Left ATNR Score	All	Boys	Girls
0	4	2	2
1-2	10	5	5
3-4	7	4	3
Overall ATNR Score ^a	All	Boys	Girls
0	2	1	1
1-2	9	4	5
3-4	10	6	4

^aIn order to be classified as ATNR 0 overall, children had to score 0 on both the right and left ATNR. Children with at least one score above 0 but both scores ≤ 2 were classified as ATNR 1-2. Children with a score ≥ 3 on either right or left ATNR were classified as ATNR 3-4.

Table 2
Symmetrical Tonic Neck Reflex Frequencies

STNR Score	All	Boys	Girls
0	7	3	4
1-2	11	6	5
3-4	3	2	1

Note. STNR flexion, extension, and overall frequencies were identical. In order to be classified as STNR 0 overall, children had to score 0 on both flexion and extension. Children with at least one score above 0 but both scores ≤ 2 were classified as STNR 1-2. Children with a score of ≥ 3 on either flexion or extension were classified as STNR 3-4.

Table 3
Tonic Labyrinthine Reflex Frequencies

TLR Score	All	Boys	Girls
0	1	0	1
1-2	12	7	5
3-4	8	4	4

Note. TLR flexion, extension, and overall frequencies were identical. In order to be classified as STNR 0 overall, children had to score 0 on both flexion and extension. Children with at least one score above 0 but both scores ≤ 2 were classified as STNR 1-2. Children with a score of ≥ 3 on either flexion or extension were classified as STNR 3-4.

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Appendix A:

Back to School 2020: Recommendations for Alabama's K-12 Physical Education Programs

The following document was submitted to Dr. Eric Mackey, State Superintendent of Education on June 19, 2020. At the time of the printing of this ASAPERD Journal, it is ASAPERD's understanding that the recommendations will be included as a resource in the state's overall road map for re-entry.

Additions and changes to the "Recommendations" are planned as new information is available. Monitor the ASAPERD website for updates.

Back to School 2020: Recommendations for Alabama's K-12 Physical Education Programs

Back to School 2020: Recommendations for Alabama's K-12 Physical Education Programs is a working document that provides strategies and suggestions for schools to implement safe and effective physical education programs under Centers for Disease Control and Preventions (CDC) and State of Alabama COVID-19 guidance. These re-entry considerations are intended to guide administrators and teachers as they prepare an environment for safe and supportive physical education instruction. Each school community has its own set of circumstances and characteristics that influence what is appropriate for its schools, thus, this is not a one size fits all list.

Included are overall suggestions as well as those specific to elementary, middle, and high school physical education programs. As a working document, additions and revisions will be provided as CDC and State guidance change. In addition, recommendations for virtual/distance learning will follow in a separate document.

Contents:

- Introduction
- Why Physical Education is Needed Now More than Ever
- Recommendations for Physical Education Grades K-12
- Scheduling
- Teaching Environment
- Equipment
- Classroom Protocols
- Tips for Including Individuals with Disabilities
- Additional Suggestions for Physical Education Teachers
- Resources

Back to School 2020: Recommendations for Alabama's K-12 Physical Education Programs (June 2020) was prepared by individuals representing the Alabama State Association for Health, Physical Education, Recreation and Dance (ASAHPERD); Lakeshore Foundation/NCHPAD; HEAL Alabama and the State Department of Education. Contributors include Ginger Aaron-Brush, Connie Dacus, Donna Dunaway, Penny Edwards, Donna Hester, Sherri Huff, Derrick Lane, Alex Martinez, Cindy O'Brien, and Jonathan Thompson.

For more information, contact Dr. Donna Hester, ASAHPERD Executive Director, dhester@asahperd.org.

Introduction

The importance of physical education/activity and exercise for overall health and academic performance is well documented. Physical activity boosts the immune system, promotes health, and relieves stress. Evidence-based, scientific research also supports the importance of physical activity to a student's academic performance, mental health, self-concept, and overall well-being. Physical education is a key ingredient as schools work to educate the whole child – physically, emotionally, and socially.

Being active can decrease behavior problems in children and help them concentrate better on their schoolwork. According to Dr. John Ratey, Clinical Professor of Psychiatry at Harvard Medical School, exercise improves learning on three levels: *“First, it optimizes your mind-set to improve alertness, attention and motivation; second, it prepares and encourages nerve cells to bind to one another, which is the cellular basis for logging in new information; and third, it spurs the development of new nerve cells from stem cells in the hippocampus.”* In short, not only does exercise help the brain get ready to learn but it makes retaining information easier. Quality physical education provides the opportunity for exercise and physical activity to achieve the benefits described by Dr. Ratey.

The Alabama Board of Education and the State Department of Education are to be commended for supporting required physical education for Alabama's students. Thanks to this support, Alabama is a step ahead of many states in addressing the health and well-being of its students. Required physical education ensures that Alabama's students are achieving a portion of the Centers for Disease Control (CDC) Physical Activity Guidelines: *Children and adolescents ages 6 through 17 years should do 60 minutes (1 hour) or more of moderate-to-vigorous intensity physical activity each day, including aerobic activity, activities that strengthen bones (like running or jumping) and that build muscles (like climbing or doing push-ups).*

The required standards in the Alabama Course of Study: Physical Education addresses the whole child. Standards 1-3 focus on motor skill and fitness development while standards 4 and 5 address social and emotional behaviors. Initiatives and strategies focusing on Social and Emotional Learning are inherent to the physical education classroom. It should be noted that the Alabama Course of Study: Physical Education supports the Collaborative for Academic, Social and Emotional Learning (CASEL) Core Competencies.

Why Physical Education is Needed Now More than Ever

As educators continue to manage the challenges of COVID-19, the health and well-being of students become increasingly important. The physical, mental, social, and emotional health of Alabama's students must be the focus of all initiatives and recommendations as we move forward in a COVID-19 world.

When students return to school having experienced the stress associated with distance learning, being quarantined from their friends, and day-to-day activities, the need to provide physical education is perhaps more important than ever before. As stated above there is a direct correlation between physical activity, academic performance, and social and emotional health. If students return to school buildings in the fall, quality, daily physical education is a must. If distance learning returns, supporting, and encouraging physical education teachers to create, discover and provide virtual opportunities is vital. Keeping the focus on educating the whole child-physically, socially and emotionally-should serve as the guide.

In conclusion, Alabama's students deserve the opportunity for quality physical education every day. It is the responsibility of Alabama public schools to provide it.

Recommendations for Physical Education Grades K-12

The uniqueness of the physical education classroom presents many challenges as teachers strive to provide a safe and effective learning environment. Consideration must be given to scheduling, equipment, classroom protocol and the teaching environment.

Scheduling: Daily physical education instruction is required for a minimum of 30 minutes for Grades K-5 and 30-50 minutes for Grades 6-8. To meet this requirement and maintain physical distancing, modification of the daily physical education schedule will be necessary in most situations. Beginning Kinesiology is the mandated course that fulfills the high school graduation requirement for physical education. Scheduling of this course for students during their first year of high school is recommended (Alabama Physical Education Course of Study, 2019).

Elementary Schools: Typically, elementary school physical education classes are exceptionally large, often exceeding 75 or more students (i.e., 'grade level' physical education when all classrooms of the same grade level attend physical education at the same time). Lower pupil : teacher ratios are essential to limit the cross contact of students, to allow for physical distance between students, and to create a sense of calm for students during this stressful time. The modifications required are dependent on the individual situation, however, guidelines for physical distancing must be met.

- Modify classes so that one teacher has half of the class in the gym, while the other teacher has the other half of the students on the playground or other outdoor or indoor teaching space.
- Utilize classroom teachers to help maintain safe numbers for physical education classes. The physical education teacher should provide activity suggestions for classroom teachers such as energizers, brain boosters, or mindful minute activities that can be done where students stay close to their assigned desks.
- Schedule physical education on alternating days (students not with the physical education teacher should be provided with activities that can be done in the classroom). Use online resources to help students reach 30 minutes of daily physical education. The physical education teacher is still responsible for providing a lesson plan to the classroom teacher.
- Incorporate virtual physical education instruction within the school. If students must remain within their classroom instead of transitioning to the gymnasium or outside teaching space for physical education, the physical education teacher can teach "live" using technology such as Google Meet, Zoom Conferencing, Microsoft Teams, etc. During this instruction, the classroom teacher would supervise and monitor students inside the classroom while the physical education teacher is teaching the class virtually.
- Create schedules with adequate time between classes so cleaning of equipment can be done.

Middle Schools and High Schools: While the pupil-teacher ratio of middle and high school physical education classes is usually appropriate there are often large number of students and teachers sharing limited teaching areas. For example, there might be 4 physical education classes of 30 students each, taught by different teachers, sharing one gym. Classes must be organized to assure the recommended physical distancing guidelines are followed.

- Shorten the class time (e.g., 30-minute classes rather than 50-minute classes) and number of students attending class at the same time.
- Use pre-recorded instructional videos (created by physical education teachers) in students' homerooms supervised by the homeroom teacher.
- Incorporate virtual physical education instruction within the school with the physical education teacher teaching "live" using technology such as Google Meet, Zoom Conferencing, Microsoft Teams, etc. Homeroom teachers, or other appropriate school personnel would supervise and monitor students inside the classroom.
- Create schedules with adequate time between classes so cleaning of equipment can be done.

Teaching Environment: Although physical education is traditionally taught in a gymnasium or outdoor play field, lessons can be modified for smaller spaces including classrooms if physical distancing can be maintained.

All grade levels:

- Utilize all available indoor spaces: gymnasium, fitness lab, weight rooms, multi-purpose room, cafeteria, dance studio, empty classrooms, etc. Space should be organized to allow for physical distancing. A fitness lab/weight room utilizing equipment must establish a protocol for sanitizing equipment after usage.
- Conduct physical education classes outdoors using field space, track, blacktop, etc. whenever possible. Staff should monitor weather conditions to determine the setting and appropriate activity level for physical education class. Forty to ninety degrees is the recommended temperature for outdoor activities, with wind chill and heat index considered. (Alabama Physical Education Course of Study, 2019)
- If there is more than 1 physical education teacher, it is recommended to divide the physical education class so that part of the class is outside and the other is inside to reduce the number of students in the gymnasium.

Equipment: Equipment usage is fundamental to a physical education classroom. However, many activities require no equipment (dance, calisthenics, aerobic activities, mindfulness, and others). If equipment is used strategies must be developed to ensure that equipment is sanitized between usage.

All grade levels:

- Adjust budgets or purchasing priorities if possible, to purchase additional equipment to create individual or classroom PE kits.
- Use equipment that can be disinfected between classes (non-porous equipment such as coated balls, synthetic sports balls, vinyl bean bags, plastic/resin striking implements, plastic scooters, plastic/vinyl targets, plastic hula hoops, poly rope handles for parachute use, rubber floor spots/cones, etc.)
- Create learning activities that utilize limited amounts equipment. If possible, give each student their own piece of equipment.
- Create physical distance equipment bags for each student (beanbag, jump rope, yarn ball, scarves, hoop, etc.) if equipment cannot be sanitized after each use.
- Some pieces of equipment (bean bags, balls, scoops) can be created using readily available materials. Create a homework assignment for students (or ask for parent volunteers) to make

different types of small balls or scoops to use during class for the elementary level. Students could bring the equipment to class each day to help reduce the time spent cleaning and sanitizing.

Classroom Protocol: Organizational procedures are fundamental to the effectiveness and efficiency of a physical education class. Procedures must be clearly defined, understood by the students, and managed by the teachers to ensure learning takes place.

All grade levels:

- Provide clearly marked designated routes for entrance and exit of class. Consider dismissing students in waves.
- Ensure students use hand sanitizer when entering and leaving the physical education area. Post visual signs to remind students of proper handwashing techniques.
- Prohibit students from using water fountains. Allow students to bring water bottles to physical education class.
- Designate personal space for students' belongings (jackets, water bottles, etc.).
- Maintain 6 ft distance between students. Use markers to encourage physical distancing (chalk, paint, tape, polypots, etc.).
- Establish clear and concise routines/expectations to help students learn the concept of physical distance.
- Remind students to give verbal praise without handshakes, high fives, hugs, or fist bumps. Post visual signs to remind students of physical distance and non-touch praise.
- Sanitize equipment after student use. Have sanitization products available. Clean equipment prior to and after use. Clean high touch areas regularly.
- Use a megaphone or microphone to broadcast instruction due to increased physical distance.
- Eliminate unessential visitors from the class.
- Comply with the school face covering policy.

Middle Schools and High Schools

- Eliminate use of locker rooms. Encourage students to come to school dressed for physical education. Require students to wear closed toe shoes.

Curriculum: The Course of Study: Physical Education standards should continue to be the focus for lessons and activities that are safe and appropriate. Content should include motor skill development and performance (standards 1 and 2), health-enhancing physical activity and fitness (standard 3), personal and social behavior (standard 4) and Standard 5 (value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction).

All grade levels:

- Exclude activities that require physical contact.
- Re-prioritize curriculum to focus on individual fitness, challenges, and learning targets. Focus more on individual skill work rather than small sided activities and competition.
- Use blended learning/flipped classroom for concepts related to standards, utilizing technology platforms.
- Include social and emotional learning activities for students.

- Avoid invasion games where students contact each other or use the same equipment. Games requiring student interaction or students being within 6 feet of each other should not be played. For example, playing soccer would not be appropriate because each team would be using/handling the same ball. However, you could teach soccer skills if everyone had their own ball.

Elementary Schools: At this level, the focus should be on helping students become skillful movers. Students are developing gross and fine motor control, physical strength and endurance, and coordination; therefore, individualized activities focusing on locomotor movements, rhythms/dance, manipulative skill development (throwing, kicking, dribbling, striking, etc.), and non-manipulative skill development (balancing, stretching, etc.) are most appropriate. These activities can be performed individually without shared use of equipment.

Middle Schools: Focus on individualized fitness activities (walk, jog, hike, resistance activities), biking, orienteering, scavenger hunts, dance and rhythms (no partner, circle or group dances), sport skills practice with individual piece of equipment (soccer, foot golf, disc golf, Frisbee, Pickleball, badminton, golf).

High Schools: The Beginning Kinesiology course includes individualized fitness activities, rhythms and movement skills needed to pursue a lifetime of physical activity should be the focus. Fitness activities including aerobic activities, weight training, resistance exercises, calisthenics, and flexibility exercises should be provided. Dance activities can range from line dance to dance for aerobic fitness. Ensuring that students have the movement skills needed to enjoy a lifetime of physical activity should also be a focus. Depending upon individual student need skill remediation might be needed. Content should also be taught relative to the importance of physical activity and healthy nutrition. At home/ community activities should also be encouraged—running clubs, cross country cycling, hiking, 5Ks and at home workout videos.

Tips for Including Students with Disabilities:

Students with compromised immune systems need to follow the guidance of their pediatricians for participating in physical education, physical activity and returning to school in general.

- Continue to utilize the program modifications and specially designed instruction contained in a student's IEP, or services/accommodations recommended by a student's 504 plan to support students with disabilities.
- Develop a plan, including school staff, to review each student IEP to determine the type of educational adjustments needed to compensate for the loss of instructional time and related services.
- Prepare students ahead of time for changes in the way activities are presented or changes in class routine. Some students with disabilities may have difficulty adjusting to a change. All students will benefit from a structured class routine.
- Match the instructional design to the available space – use stations, marked off areas, poly spots, etc., to ensure separation among students and that every student has adequate space to move and participate fully in the activity.
- Make sure students that utilize a mobility device have the necessary space to move in the designated space.

- Limit equipment use if possible. Utilize equipment that can be easily sanitized after each use.
- Avoid using homemade equipment that may include latex, due to allergies.
- Adjust budgets or purchasing priorities if possible, to purchase additional equipment to create individual or classroom PE kits.
- Focus on adaptations and/or modifications of all HPE decisions to ensure the full inclusion of all.
- Provide physical distancing instructions in various formats and ensure that students comprehend the instructions given.
- Ensure that students without disabilities understand that mobility or technology devices are included during physical distancing and should be off-limits.
- Ensure that the paraeducator understands the safety procedures adopted in class. The paraeducator should assist in creating a safe environment for the student.
- Utilize subjective perception methods such as the Rated Perceived Exertion (RPE) Scale instead of shareable heart rate monitors when assessing physical activity intensity.
- Help students to cope with their emotions towards receiving in-person instruction by adopting a social and emotional learning (SEL) framework or curriculum.
- Be familiar with the school's isolation protocol and contingency plans in the event of a confirmed or suspected Covid-19 case.
- Ensure that playing areas such as zones or individual spaces are clearly marked and that students understand their space assignments.
- Assign and distribute equipment before entering the class. If possible, prepare individual equipment bags with the student's names and stage them while maintaining a safe distance. Send students in small groups to retrieve their bags.
- Utilize a sound system when communicating with the students during class. Listening to instructions while maintaining physical distance can be challenging.
- Avoid activities that require assisted transfer from a seated position to the floor. If the student can transfer without assistance and if pads or mats are used to soften the impact of the transfer, ensure that those pads or mats are clean and sanitize.

Coming Soon: Inclusive Physical Education Toolkit - This toolkit will provide graphics, teaching strategies, equipment, and safety to provide a quality program for students in the school building or virtual that fully engages a student with disabilities. The toolkit will be located at www.nchpad.org/educators.

Additional Suggestions for Physical Education Teachers:

- Include COVID-19 safety strategies in lesson plans just in case a student contracts COVID-19 while at school.
- Communicate to students on the first day of class that physical education may be different than in the past and teach new safety protocols.
- Consider a Memorandum of Understanding (contract) between the student and teacher which states the student agrees to maintain safe distances from others, follow instructions provided by the physical education teacher, follow strategies and routines provided by the physical education teacher, follow game rules provided by the teacher and let the teacher know if they are feeling ill. This memo may serve to place more accountability on the student.
- Communicate with students every day the measures being taken to encourage physical distancing during the lesson. Documentation that you are implementing activities that encourage physical distancing is essential.

- Communicate and document needs and concerns to administration.
- Communicate with classroom teachers, administration, and parents on ways that you are keeping children safe in your class, while still providing quality physical education.

Resources:

Below are additional resources that will assist with providing a quality physical education experience for all students while practicing physical distancing. Click on the titles listed below linked to each resource or resource page. Resources and information will be updated as new information becomes available. Visit ASAHPERD's website at www.asahperd.org regularly for updates.

Physical Education and Activity Resources

[Alabama State Association for Health, Physical Education, Recreation and Dance](#)

[Healthy Eating Active Living \(HEAL Alabama\)](#)

[National Center for Health, Physical Activity and Disability](#)

[Alabama State Dept. of Education Health and Physical Education](#)

[Online Physical Education Network \(OPEN\) 2020-2021 10-week block plan with priority outcomes](#)

[SHAPE America's 2020-2021 School Reentry Considerations: K-12 Physical Education, Health Education, and Physical Activity](#)

[Games for Social Distancing](#)

[Activities for Social Distancing](#)

[How to Keep Kids Active While Practicing Social Distancing](#)

[6 Equipment Ideas for Socially Distancing Physical Education Lessons](#)

[Healthy Children Information on COVID and Social Distancing](#)

[Move United Sports Organization](#)

[GoNoodle](#)

[PECentral](#)

[American Heart Association](#)

[EVERFI](#)

COVID-19 Information

[Center for Disease Control and Prevention \(CDC\)](#)

[Alabama Department of Public Health \(ADPH\)](#)

[Alabama State Department of Education \(ALSDE\)](#)

[Alabama High School Athletic Association \(AHSAA\)](#)

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Effective health and physical education programs – which include addressing a student’s social and emotional learning (SEL) – create a foundation that benefits the whole child.

HOW IS SEL ADDRESSED IN HEALTH & PE?

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Skills such as **managing emotions** (like stress and anxiety), **setting goals** and **building positive relationships** are essential for young people’s success in all areas of life. These skills are embedded within the SEL framework – and in the National Standards that health & PE teachers use daily.

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Alabama State Association for Health, Physical Education, Recreation and Dance

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