NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS | BUTLER UNIVERSITY

NATIONAL Research Study Results

External Grant | Partnership of Research Discovery

NATIONAL
Research Study Results

External Grant • Partnership of Research Discovery

Researchers:

Eileen Taylor, EdD, MALS, MBA
Senior Lecturer • NFHS Project Co-Director
College of Communication
Butler University
4600 Sunset Avenue
Indianapolis, IN 46208-3485
Email: etaylor1@bulter.edu

Krista M. C. Cline, PhD
Associate Professor • NFHS Project Co-Director
College of Liberal Arts and Sciences
Butler University
4600 Sunset Avenue
Indianapolis, IN 46208-3485
Email: kcline1l@butler.edu

Katherine D. Foe
NFHS Project Student Researcher
College of Communication
Cate C. Pugilese
Madelyn A. Wood
NFHS Project Student Researchers
College of Liberal Arts and Sciences
Butler University
4600 Sunset Avenue
Indianapolis, IN 46208-3485
Email: etaylorl@butler.edu

January 3, 2026

Title

An in-depth analysis of the perspectives of mothers as it pertains to their children participating in high school sports and their overall personal and professional development.

Citation

Taylor, E.*, Cline, K. M. C., Foe, K. D., Pugliese C. C., & Wood, M.A. (2025). National mothers of student-athletes: Perspectives of career readiness competencies their children experienced while participating in high school sports.

Affiliation

Butler University External Grant Partnership with the National Federation of High School State Associations (NFHS), Indianapolis, Indiana, USA

*Corresponding Author

Eileen Taylor, EdD, MALS, MBA
Senior Lecturer • NFHS Project Director
College of Communication
Butler University 4600 Sunset Avenue
Indianapolis, IN 46208-3485
etaylorl@butler.edu

Abstract

Mothers of high school athletes were invited to participate in a national research survey designed to examine their perspectives on whether their children simultaneously benefit from sports participation and the development of career readiness competencies – defined as skills, abilities, and behaviors – by the National Association of Colleges and Employers (NACE, 2019).

These competencies include critical thinking and problem solving, professionalism and work ethic, teamwork and collaboration, oral and written communication, digital technology, leadership, career management, and global and intercultural fluency.

The results revealed that mothers observed their children developing all eight competencies through athletic participation. Mothers also expressed satisfaction in their supportive role; however, findings indicated that they were not formally integrated as allies within high school athletic organizations. This disconnect highlights an opportunity for athletic programs to more intentionally recognize and engage mothers as partners in student development.

Introduction

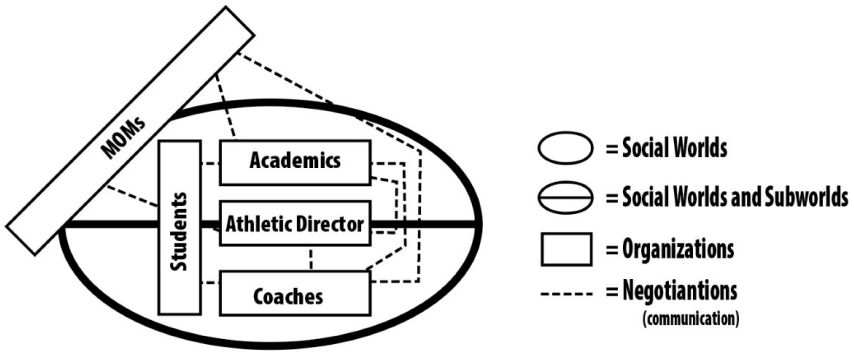
Each year, mothers all over the United States attend sporting events in support of their children. Mothers often contribute more than just buying a ticket or driving their athlete to the event and back home once the competition is over. They have a front-row seat to their children's sport participation and related benefits. The purpose of this national research study was to discover whether students participating in high school sports simultaneously develop benefits of career readiness competencies (skills, abilities, and behaviors) as defined by the National Association of Colleges and Employers (NACE, April 2021). More specifically, the study sought to discover perspectives of mothers who may witness their children developing the career readiness competencies. Anyone who self-identified with the role of a mother and had high school children participating in sports was invited to participate in a 47-question survey. This was a national mixed method research study with quantitative and qualitative result discoveries that will be discussed further in this document.

A mother's unofficial role in a high school athletic organization specifically begins when their child is immersed in its sports. Children are developing throughout participation in sports during their formative high school years. Coaches, athletic directors, teachers, etc., are imperative and integrated part in the athletic organizational system for a high school student. Mothers are not formally involved in the organizational system, yet they are the ones more closely observing and indirectly benefitting from their children's participation. This research will illuminate ways mothers feel their student-athletes are developing, benefits to the moms and children, and how the athletic organizational system could be formally enhanced to include mothers of high school athletics.

General Nature of the Problem

Mothers of children who participate in high sports have unofficial external roles in athletic organizational systems that develop their children as displayed in Figure I, MOMs Social World. The organization system consists of students, academics, athletic directors, and coaches. Mothers externally observe the effects athletic organizations systems have on their children who participate in high school sports. Students are developing lifelong skills that will benefit them in their next steps whether that be college or the workforce. As of right now, students, athletic directors, coaches, and teachers are on the inside of the system. The problem lies in that mothers of high school athletes are not integrated into the athletic organizational system which is an opportunity to formally include them as an ally. The benefit of mothers' being integrated into the athletic organizational system would be their direct contribution of observing, witnessing, and providing evidence that their children are developing career ready competencies as one benefit of participating in high school sports.

Figure 1.
MOMs Social World



Note. *Adopted from Social worlds, subworlds, organizations, and negotiations (communication). (Strauss, A. L.,1987, 1982)*

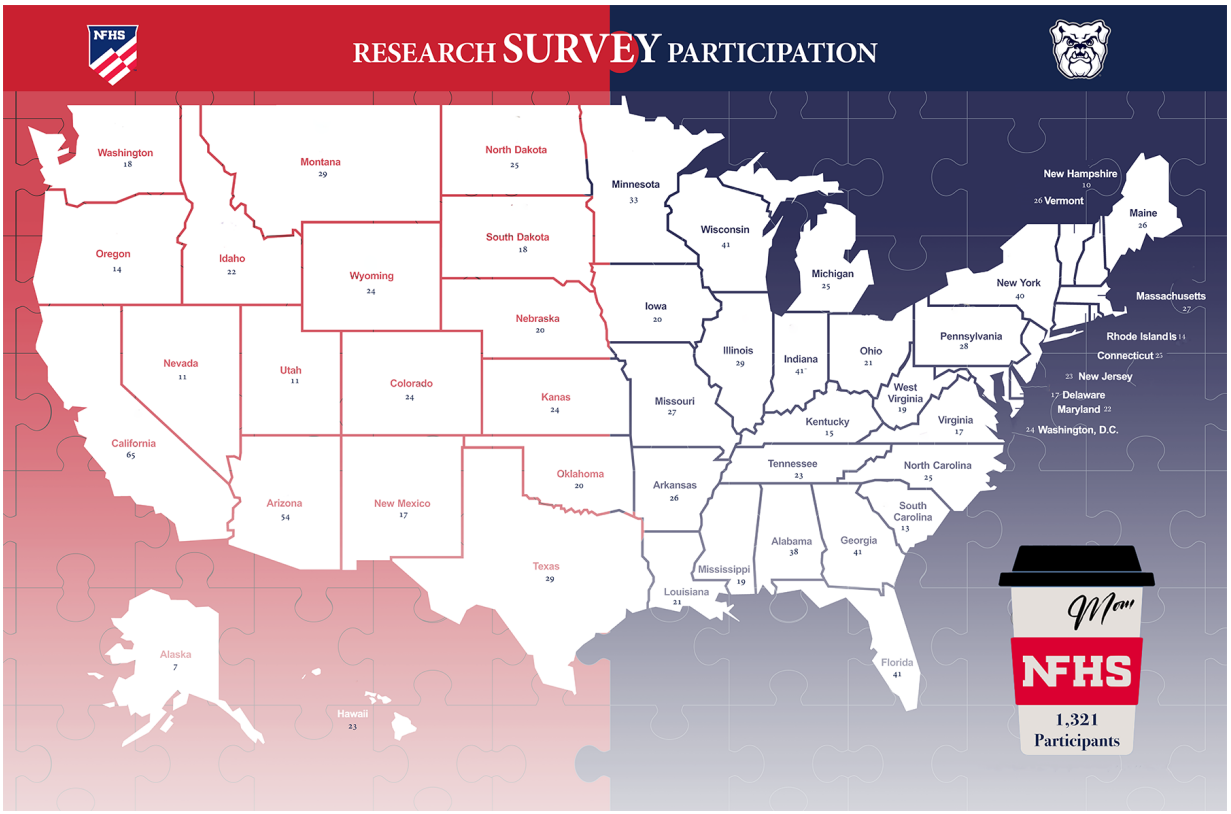
Research Methods

This research sought to discover perspectives on whether high school athletes simultaneously benefit from sports participation and the development of career readiness competencies (skills, abilities, and behaviors) as defined by the National Association of Colleges and Employers (NACE, April 2021). The competencies were career and self-development, communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and technology.

Methods and Procedures

Description of Participants.
A total of 1,321 mothers of whose children participate in sports throughout the United States and the District of Columbia completed the mixed-methods survey as depicted in Figure 2.

Figure 2.
NFHS MOMs Research Survey Participation



The mothers are located in the 50 states and the District of Columbia. Their children participated in high school sport memberships within the National Federation of State High School Associations (NFHS). The population range is wide, including mothers who are married and single, from an array of races and educational backgrounds, as well as their work status and number of children. Most mothers who participated in this national sample were married (96%), white (73%), and working full-time outside of the home (72%), with two children (35%).

Education levels varied with most mothers holding either a four-year degree (30%) or an advanced or professional degree (30%). The demographic information is shown in Table I.

Table 1:
NFHS MOMs Research Survey Demographics

VARIABLE	RANGE	MEAN (SD)
Employment Status		
Full-time Outside of Home	0-1	.72
Full-time Inside of Home	0-1	.04
Part-time Outside of Home	0-1	.20
Part-time Inside of Home	0-1	.03
Stay at Home Mom	0-1	.01
Number of Children	1-7	2.19 (.67)
Race (White=1)	0-1	.73
Education (5=Advanced/Professional Degree)	1-5	3.70 (1.09)
Currently Married	0-1	.96

Procedures for Data Collection.

That National Federation of State High School Associations (NFHS) requested its membership of 50 states and the District of Columbia to share a QR code of a mixed methods survey of 47 questions with their Athletic Directors who were asked to forward the email to all of their coaches, who were then asked to re-forward the email to the mothers of their student-athletes. Mothers were asked to respond to an anonymous survey that contained 47 questions about academic eligibility, role strain, and role enhancement as well as demographic questions. Questions were multiple choice with the exception of a single open-ended question, which asked about the benefits of being a mother to a student-athlete. This article is focused on the responses to the single open-ended question.

Data Analysis.

Out of 1,321 mothers who participated in the national survey, 1,171 completed responses to the single open-ended question, if you feel that having a student athlete benefits your life, what are those benefits (please list them). NVivo 12 Plus qualitative software was used to analyze the responses from moms to discover any relationships between the National Association of Colleges and Employers (NACE) competencies listed in Table 1 and National Federation of State High School Associations (NFHS) competencies listed in Table 2. Additionally, the mothers were asked on a scale from "Strongly Disagree" to "Strongly Agree" how strongly they perceived their child to be developing each NACE competency.

Results

This section discusses the quantitative data of the mixed method research study in each career readiness competency category as defined by the National Association of College and Employers (NACE, April 2019). Results discovered mothers who feel positively that their children's involvement in high school sports also benefits themselves. Mothers discussed increased confidence in their children's ability to develop life skills, be a better member of the community, and increase their educational drive. In addition, some mothers felt that career readiness competencies are being developed that not only benefits their lives and sense of accomplishment but also their children's confidence and ability to progress in their next steps. Results for how impactful each competency relates to mothers and their children varied by state. The following information pertains to the top lower five states of mother's perspectives for each career readiness competency, and to what level they agree with their child's development in each competency.

Critical Thinking/Problem Solving.

The National Association of Colleges and Employers (NACE) define the competency of Critical Thinking/Problem Solving as "Exercise sound reasoning to analyze issues, make decisions, and overcome problems. The individual is able to obtain, interpret, and use knowledge, facts, and data in this process, and may demonstrate originality and inventiveness" (2019). Data by state and the District of Columbia can be viewed in Appendix A.

In Wisconsin, Arizona, Oregon, Louisiana, and California, results show that up to 80% of mothers feel confident that their child is developing the competency of critical thinking/problem solving. Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be New York, New Hampshire, Oklahoma, Utah, and South Carolina. The lowest percentage of moms who agree being in South Carolina at 31%.

Table 2:
Top and lower five states for the competency Critical Thinking/Problem Solving

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Wisconsin	80%	40
Arizona	80%	54
Oregon	79%	14
Louisiana	75%	20
California	74%	65
New York	43%	23
New Hampshire	40%	10
Oklahoma	40%	20
Utah	36%	11
South Carolina	31%	13

Professionalism/Work Ethic

The National Association of Colleges and Employers (NACE) define the competency of Professionalism/Work Ethic as "Demonstrate personal accountability and effective work habits, e.g., punctuality, working productively with others, and time workload management, and understand the impact of non-verbal communication on professional work image. The individual demonstrates integrity and ethical behavior, acts responsibly with the interests of the larger community in mind, and is able to learn from his/her mistakes" (2019). Data by state and the District of Columbia can be viewed in Appendix B.

In Wisconsin, Minnesota, California, Arizona, and Alaska, results show that up to 81% mothers feel confident that their child is developing the competency of professionalism/work ethic. Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be Maine, South Carolina, Oklahoma, Michigan, and Mississippi. The lowest percentage of moms who agree being in Mississippi at 39%.

Table 3:
Top and lower five states for the competency Professionalism/Work Ethic

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Wisconsin	85%	40
Minnesota	85%	33
California	82%	65
Arizona	81%	54
Alaska	80%	55
Maine	46%	26
South Carolina	46%	13
Oklahoma	45%	20
Michigan	44%	25
Mississippi	39%	18

Teamwork/Collaboration.

The National Association of Colleges and Employers (NACE) define the competency of Teamwork/Collaboration "Build collaborative relationships with colleagues and customers representing diverse cultures, races, ages, genders, religions, lifestyles, and viewpoints. The individual is able to work within a team structure and can negotiate and manage conflict" (2019). Data by state and the District of Columbia can be viewed in Appendix C.

In Hawaii, Minnesota, Alabama, California, and Wisconsin, results show that up to 83% of mothers feel confident that their child is developing the competency of teamwork/collaboration. Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be Tennessee, Wyoming, North Dakota, Rhode Island, and Utah. The lowest percentage of moms who agree being in Utah at 27%.

Table 4:
Top and lower five states for the competency Teamwork Collaboration

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Hawaii	83%	23
Minnesota	79%	33
Alabama	75%	36
California	74%	65
Wisconsin	73%	40
Tennessee	41%	22
Wyoming	35%	23
North Dakota	32%	25
Rhode Island	29%	14
Utah	27%	11

Oral/Written Communication.

The National Association of Colleges and Employers (NACE) define the competency of Oral/Written Communication as "Articulate thoughts and ideas clearly and effectively in written and oral forms to persons inside and outside of the organization. The individual that has public speaking skills; is able to express ideas to others; and can write/edit memos, letters, and complex technical reports clearly and effectively" (2019). Data by state and the District of Columbia can be viewed in Appendix D.

In Maryland, North Carolina, Wisconsin, Arizona and Utah, results show that up to 76% of mothers feel confident that their child is developing the competency of oral/written communication. Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be Mississippi, Georgia, Nebraska, Kentucky, and Rhode Island. The lowest percentage of moms who agree being in Rhode Island at 29%.

Table 5:
Top and lower five states for the competency Oral/Written Communication

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Maryland	76%	21
North Carolina	75%	40
Wisconsin	75%	40
Arizona	74%	54
Utah	73%	11
Mississippi	39%	18
Georgia	38%	39
Nebraska	37%	19
Kentucky	29%	14
Rhode Island	29%	14

Digital Technology.

The National Association of Colleges and Employers (NACE) define the competency of Digital Technology as: "Leverage existing digital technologies ethically and efficiently to solve problems, complete tasks, and accomplish goals. The individual demonstrates effective adaptability to new and emerging technologies" (2019). Data by state and the District of Columbia can be viewed in Appendix E.

In Maryland, Alaska, Arizona, Idaho, and Nevada, results show that up to 81% of mothers feel confident that their child is developing the competency of digital technology. Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be New York, South Carolina, Utah, Kentucky, and Mississippi. The lowest percentage of moms who agree being in Mississippi at 22%.

Table 6:
Top and lower five states for the competency Digital Technology

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Maryland	81%	21
Alaska	76%	55
Arizona	74%	53
Idaho	73%	22
Nevada	73%	11
New York	39%	23
South Carolina	38%	13
Utah	36%	11
Kentucky	36%	14
Mississippi	22%	18

Leadership.

The National Association of Colleges and Employers (NACE) define the competency of Leadership as "Leverage the strengths of others to achieve common goals, and use interpersonal skills to coach and develop others. The individual is able to assess and manage his/her emotions and those of others; use empathetic skills to guide and motivate; and organize, prioritize, and delegate work" (2019). Data by state and the District of Columbia can be viewed in Appendix F.

In Massachusetts, West Virginia, Kentucky, Arizona, and Colorado, results show that up to 81% of mothers feel confident that their child is developing the competency of leadership.

Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be New Jersey, Rhode Island, Texas, Wyoming, and District of Columbia. The lowest percentage of moms who agree being in District of Columbia at 30%.

Table 7:
Top and lower five states for the competency Leadership

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Massachusetts	81%	26
West Virginia	79%	19
Kentucky	79%	14
Arizona	78%	54
Colorado	75%	24
New Jersey	43%	21
Rhode Island	43%	14
Texas	41%	29
Wyoming	39%	23
District of Columbia	30%	23

Career Management.

The National Association of Colleges and Employers (NACE) define the competency of Career Management as "Identify and articulate one's skills, strengths, knowledge, and experiences relevant to the position desired and career goals, and identify areas necessary for professional growth. The individual is able to navigate and explore job options, understands and can take the steps necessary to pursue opportunities, and understands how to self-advocate for opportunities in the workplace" (2019). Data by state and the District of Columbia can be viewed in Appendix G.

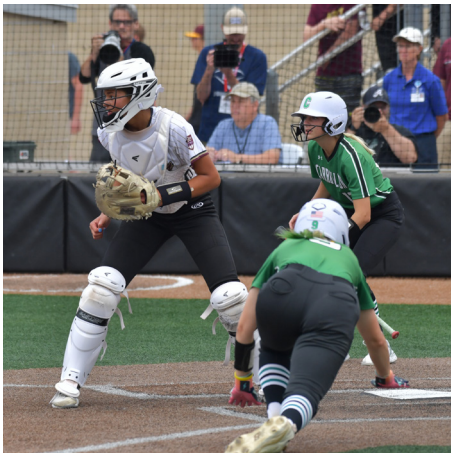
In Colorado, Alaska, California, Arizona, and New Jersey, results show that up to 83% of mothers feel confident that their child is developing the competency of career management.

Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be Mississippi, South Carolina, Rhode Island, Tennessee, and Nevada. The lowest percentage of moms who agree being in Nevada at 18%.

Table 8:
Top and lower five states for the competency Career Management

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Colorado	83%	24
Alaska	78%	55
California	75%	65
Arizona	74%	54
New Jersey	71%	21
Mississippi	33%	18
South Carolina	31%	13
Rhode Island	29%	14
Tennessee	27%	22
Nevada	18%	11

Global Intercultural Fluency.



The National Association of Colleges and Employers (NACE) define the competency of Global/Intercultural Fluency as "Value, respect, and learn from diverse cultures, races, ages, genders, sexual orientations, and religions. The individual demonstrates openness, inclusiveness, sensitivity, and the ability to interact respectfully with all people and understand individuals' differences" (2019). Data by state and the District of Columbia can be viewed in Appendix H.

In Kentucky, Alabama, Wisconsin, California, and Maryland, results show that up to 79% of mothers feel confident that their child is developing the competency of global/intercultural fluency. Reflected also in this data are the states that had the lowest degree of agreement for this same competency, those would be Mississippi, Nevada, New Hampshire, Utah, and New Mexico. The lowest percentage of moms who agree being in New Mexico at 20%.

Table 9:
Top and lower jive states for the competency Global Intercultural Fluency

STATE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Kentucky	79%	14
Alabama	75%	36
Wisconsin	75%	40
California	74%	65
Maryland	71%	21
Mississippi	39%	18
Nevada	36%	11
New Hampshire	30%	10
Utah	27%	11
New Mexico	20%	15

Discussion

This section discusses the qualitative data gathered in each career readiness competency category as defined by the National Association of College and Employers (NACE) with mothers' statements of testimonies. Mothers of children who participate in high school sports had much to discuss about how their child's participation adds value to their development of career readiness competencies. In conjunction with mother's statements, career readiness competencies have been widely studied and integrated into people's lives. The following describes impact of that through the discussions in each career readiness competency category.

Critical Thinking/Problem Solving.

Critical thinking is often described as "the ability to engage in purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference" (Dwyer, 2023, p.2). In this way, critical thinking represents both a cognitive skill set and a disciplined way of approaching decisions that may influence thoughts, behaviors, and actions (Ishtiaq et al., 2024). Importantly, critical thinking is not an innate ability; rather, it is a competency that must be intentionally developed over time through practice, reflection, and feedback (Cheng et al., 2024; Dwyer, 2023).

Within this national mixed-methods study, mothers of high school athletes described their children as "learning... [to] overcome adversity," "knowing how to handle disappointment," and being able to "prioritize." These observations align closely with the literature describing critical thinking as a dynamic process that develops through repeated exposure to real-world challenges rather than isolated instruction (Dwyer, 2023). Athletic participation frequently places students in situations that require rapid decision-making, adaptability, and evaluation of outcomes-hallmarks of critical thinking and problem solving.

Research consistently demonstrates that critical thinking is best fostered through active learning environments that require engagement, dialogue, reflection, and problem solving (Dumitru & Halpern, 2023). High school athletics naturally create such environments. Student-athletes must analyze performance, evaluate strategies, respond to feedback, and adjust behavior in real time both individually and collectively. These experiences reflect what Dumitru and Halpern (2023) describe as the conditions under which critical thinking skills are most effectively transferred across contexts.

The emphasis on lived, applied experiences is especially significant. Studies across disciplines have shown that learners often demonstrate stronger critical thinking in substantive dimensions-supporting decisions with evidence-than in dialogic dimensions that require integrating opposing perspectives (Jimenez et al., 2021). Athletics, however, may uniquely support both dimensions by requiring athletes to defend decisions while simultaneously responding to teammates, coaches, officials, and opponents with differing viewpoints. This dual exposure supports deeper cognitive flexibility and problem-solving capacity.

Further, the development of critical thinking extends beyond academic performance and into broader civic and workforce contexts. Indrasiene et al. (2023) emphasize that critical thinking is foundational to navigating uncertainty, evaluating information credibility, and maintaining a sense of personal and societal security. In an era shaped by misinformation and rapid information exchange, the ability to question assumptions and evaluate sources is essential. Athletics can contribute to this development by placing students in structured environments where consequences are visible, feedback is immediate, and reflection is continuous. From a workforce readiness perspective, critical thinking is one of the core competencies identified by the National Association of Colleges and Employers (April 2019). Employers consistently report that graduates must demonstrate the ability to analyze situations, solve problems collaboratively, and adapt to changing conditions (Indrasiene et al., 2023). Mothers' perceptions in this study suggest that high school sports participation may serve as an early and meaningful context for developing these competencies prior to postsecondary education or employment.

Finally, the literature underscores that critical thinking development requires intentional opportunities to practice questioning, reflection, and problem-solving rather than reliance on passive learning (Ishtiaq et al., 2024; Perks & Smith, 2006). Athletics align well with

this expectation, as athletes learn through experience, mistakes, and continuous adjustment. As one study notes, "learning by doing" and solving problems from multiple perspectives are essential for developing independent thinkers capable of navigating real-world complexity (Perks & Smith, 2006, p. 18).

Taken together, findings from this study and the supporting literature suggest that high school athletics may provide a powerful, practice-based environment for cultivating critical thinking and problem-solving competencies. These skills not only support athletic performance, but also contribute to students' broader academic, professional, and life readiness.

Professionalism/Work Ethic.

Mothers of high school athletes frequently described their children as "responsible," "punctual," and "showing a high level of dedication toward doing a good job." These observations closely reflect how professionalism is defined across the literature as a set of attitudes, behaviors, and responsibilities developed through experience rather than assumed by role or age. Kumar and Ganguly (2021) define professionalism as a person's "attitude to, behavior on and capabilities in their job," emphasizing attributes such as "availability, reliability, responsiveness, knowledge, and attitude" (p. 290). They further note that organizations must intentionally train individuals in these soft skills, concluding that "the support team shall also be trained for soft skills for improvement in PR attributes such as responsiveness, availability, and attitude" (p. 297). In contrast, findings from this study suggest that high school athletes are already practicing and demonstrating these same professional behaviors through their participation in sports.

Students are developing soft skills through playing sports that will continue to prove useful in their professional lives. Employers frequently invest time and resources in training individuals to cultivate professionalism-related behaviors-yet many of these behaviors are already being reinforced in athletic environments that require accountability, preparation, time management, and emotional regulation. Ball et al. (2024) define professionalism broadly as "conducting oneself with responsibility, integrity, accountability, and excellence," with additional domains including "competence, efficiency, knowledge, conscientiousness, respect, and confidence," collectively described as "doing the right thing at the right time" (p. 66). These expectations closely parallel to the standards placed on student-athletes who must consistently meet commitments, respond to feedback, and represent their teams, schools, and communities appropriately.

The literature further emphasizes that professionalism is not limited to technical competence but is deeply connected to ethical behavior and self-management. Keary et al. (2023) explain that "professionalism in the workplace is not just about technical skills or knowledge; it encompasses ethical behavior, accountability, respect for others, and the ability to demonstrate integrity even under challenging circumstances" (p. 2). They also highlight punctuality and reliability as essential components of professionalism, noting that effective self-management is critical to professional success (Keary et al., 2023, p. 5). Employees who demonstrate these behaviors consistently contribute to "a culture of trust and reliability," which not only helps organizations run more smoothly but also supports individual career advancement (Keary et al., 2023, p. 3). Mothers' observations in this study reflect these same patterns of behavior emerging well before students enter the workforce.

Beyond observable behaviors, professionalism is also understood as part of a longer-term identity development process. Cho et al. (2022) emphasize that "the construct of professional identity formation is essential, as it shapes how future professionals internalize the values of responsibility, ethical conduct, and service that define professionalism" (p. 3). This view is reinforced by Sattar et al. (2021), who describe professionalism as a collection of values, practices, and interactions that form the foundation of an individual's agreement with society (p. 1). Importantly, their findings suggest that professionalism does not erode over time but can strengthen as individuals transition into more complex roles (Sattar et al., 2021, p.7). Similarly, Byszewski et al. (2024) note that professionalism is learned through both explicit instruction and implicit modeling, underscoring the importance of environments where professional behaviors are observed, practiced, and reinforced (p. 1).

Taken together, mothers' perspectives and the supporting literature suggest that high school sports participation provides a meaningful early context for the development of professionalism and work ethics. The responsibility, punctuality, dedication, and accountability observed by mothers align closely with how professionalism is conceptualized across multiple professional fields. These findings indicate that student-athletes are not only preparing for competition but are also engaging in early professional identity formation that mirrors the expectations they will later encounter in academic, workplace, and community settings.

Teamwork/Collaboration.

Mothers can see their children working together, stating their children are "learning how to become a teammate [and] work as a team." These parent observations reflect what the literature describes as teamwork competence developed through lived experience, not just instruction. Gilbert et al. (2024) emphasize that "developing teamwork competence requires practice in authentic settings where learners can experience interdependence, negotiate responsibilities, and reflect on the dynamics of collaboration" (p. 6). High school athletics provide exactly that kind of authentic environment: students must depend on one another, negotiate roles, and learn how to contribute to shared outcomes under real pressure. Even when teamwork is not the explicit goal for moms and their children participating in high school athletics, students are developing skills and competencies that are required or at least strongly preferred – in many workplace scenarios.

From a practical standpoint, what mothers are describing looks very similar to how teamwork is defined in organizational research. Sanderson et al. (2022) explain that "teamwork effectiveness refers to the extent to which team members are able to work together productively, communicate openly, and coordinate their efforts to achieve common goals" (p. 2). This is a helpful lens for interpreting your findings: student-athletes are learning to coordinate effort, communicate quickly, and stay aligned around common goals (e.g., game plans, practice expectations, and team standards). Gilbert et al. (2024) further add that "successful teamwork requires clear communication, mutual respect, and an understanding of each team member's roles and responsibilities," which collectively create "the foundation for trust and collaboration" (p. 3). In other words, mothers' reports of teamwork behaviors are not simply "nice to have" social outcomes-they mirror the foundational elements that support effective collaboration in professional settings.

Students likely will not realize until much later in life that their assignments at work and school will likely mirror the dynamics that were underlying on their high school teams. This is especially true when students encounter group projects, interdepartmental initiatives, or team-based problem-solving that require coordination and shared accountability. Sanderson et al. (2022) highlight that "knowledge sharing among team members plays a critical role in fostering teamwork," because it allows people to integrate diverse perspectives into collective problem-solving (p. 3). They also note that "when team members actively share their knowledge and experiences, they enhance the team's capacity for creativity, innovation, and adaptability in addressing challenges" (p. 5). These mechanisms are familiar in athletics; athletes adjust strategies, exchange feedback, and learn from successes and failures in ways that translate well to later professional collaboration.

The literature also reinforces that teamwork is increasingly viewed as complex, dynamic, and context-driven – much like what student-athletes experience across seasons, coaching styles, and team compositions. Roberts et al. (2024) describe collaboration in teams as "a complex, voluntary and dynamic process involving several skills" (p. 4), which aligns with how teammates must choose to buy in, communicate, and adapt over time. Stephens et al. (2024) make an additional distinction that helps clarify what student-athletes practice, teamwork involves "the interactions among team members who are monitoring and coordinating their goal-driven activities," whereas taskwork refers to the more technical elements of tasks and tools (p. 955). This distinction fits athletics well-individual skills matter, but team success depends heavily on coordination, communication, and shared decision-making.

Finally, teamwork is not only linked to performance; it is also tied to culture, safety, and well-being in high-

stakes team environments. Turcotte et al. (2023) note that "the link between teamwork, clinician occupational well-being, and patient safety is well-established" (p. 905), and that teamwork interventions can improve "general teamwork and safety culture" even when direct impacts on well-being are mixed (p. 912). While the high school sports context differs from healthcare, the underlying point remains useful for interpretation: teamwork is widely understood as a cornerstone of healthy, effective group functioning. Taken together, mothers' perspectives in your study-paired with the research literature – suggest that high school athletics provide an early and meaningful training ground where students practice the collaborative behaviors, coordination habits, and shared-responsibility mindset that later show up in classrooms, workplaces, and communities.

Oral/Written Communication.

Mothers' perspectives suggest that high school sports participation provides a meaningful context for the development of oral and written communication skills. As noted in the literature, "efficient communication is critical in highly interdependent teams, where the team success depends on the close cooperation of team members" (Szymanski et al., 2022, p. 9). This observation aligns with athletic environments in which athletes must listen, respond, adjust, and communicate clearly in order to function effectively as a team. Communication in these settings is not optional; it is embedded in daily practice, competition, and relationship-building.

From a career readiness perspective, communication is often defined as an individual's ability to speak publicly, express ideas clearly to others, and write effectively across professional formats. Raymond et al. (2021) describe communication competence as the ability to "express ideas to others" and to "write/edit memos, letters, and complex technical reports clearly and effectively" (p. 6). While high school athletics may not explicitly teach memo writing or formal presentations, they do provide frequent opportunities for students to practice expressing ideas, interpreting feedback, and adapting messages to different audiences, including coaches, teammates, officials, and peers. These experiences form an important foundation for later academic and workplace communication demands.

Mothers in this study also found value in the communication channels created through their children's participation in sports. Not only are parents forming communication and social connections with other parents, but through their children's integration within the organization, new channels of communication emerge between mothers and their children. One mother shared, "My child and I find a topic to chat, so that our feelings become very good," highlighting how sports participation creates opportunities for dialogue, reflection, and emotional connection. Kramer et al. (2021) emphasize that families function as systems in which members have a "significant and reciprocal impact on each other" (p. I0). These ongoing interactions between mothers and student-athletes suggest that communication development extends beyond the field and into the family context, reinforcing learning through shared experiences and conversation.

Broader literature underscores the importance of communication not only for performance, but also for satisfaction, engagement, and long-term success. Idoudi et al. (2024) note that "high-quality communication can enhance job satisfaction by ensuring employees feel informed, valued, and connected to organizational goals" (p. 3). They further caution that inadequate communication is linked to misunderstandings, conflict, and decreased satisfaction (Idoudi et al., 2024, p. 5). In this sense, creating environments where children can practice communication early – such as athletics – may help them understand the value of effective communication long before they enter the workforce.

Research also suggests that communication skills are best developed through experiential and relational contexts. Bylund et al. (2022) argue that communication skills should be taught and assessed in authentic settings, noting that communication is most effectively strengthened through practice rather than instruction alone (pp. 3-6). High school sports offer such experiential contexts, where communication behaviors are shaped through real-time feedback, emotional regulation, and shared goals. Finally, Priddis et al. (2025) emphasize that communication is a core NACE competency and a foundational soft skill that allows individuals to "express concise thinking in their writing and speaking" and adapt messages to new audiences, including future employers (p. 3). Taken together,

mothers' perspectives and the supporting literature suggest that participation in high school sports provides early, meaningful opportunities for students to develop oral and written communication skills that support academic success, workplace readiness, and family relationships.

Digital Technology.

Mothers consistently noted the impact that technology has had on their high school students, observing that many adolescents are feeling the effects of the growing prominence of digital devices in their daily lives. In contrast, athletics were viewed as a setting that temporarily removes technology for several hours a day, allowing students to spend "less time gaming," develop a "healthy lifestyle," and simply "spend more time outside." While digital technology is an important career readiness competency-particularly as students will likely rely on some form of technology in their future professional lives-mothers emphasized that their children are already engaging with technology in nearly every other aspect of their routines.

Literature supports the idea that today's students are highly immersed in and motivated by technology-rich environments. Almeida and Buzady (2022) explain that "the introduction of computer games in education has great potential because young people are active users of technology, so the environment is familiar to them, and they are more motivated to learn" (p.249). In many cases, students are using technology throughout the school day to support learning, problem-solving, and skill development. ICT-supported education, for example, enables students to combine theory with practice while developing both hard and soft skills (Almeida & Buzady, 2022, p. 250). From this perspective, mothers' observations suggest that as students move from school into after-school athletic programs, sports participation offers a purposeful break from continuous digital engagement rather than a lack of exposure to technology.

Research on digital literacy further reinforces the importance of balance and intentional development. Digital literacy – defined as the ability to effectively use digital tools and resources – is increasingly essential for employees to function and adapt in technology-rich workplaces (Nikou et al., 2022, p. 4). At the same time, digital literacy extends beyond basic technical skills. Nordheim and Huijts (2025) describe a digitally literate individual as someone who possesses not only technical and operational skills, but also "the cognitive ability to manage digital information, and the social-emotional capacity to use the internet responsibly" (p. 376). Athletics may indirectly support these broader dimensions of digital literacy by fostering self-regulation, focus, and interpersonal engagement – skills that help students manage technology use rather than become overly dependent on it.

The broader workforce literature underscores why digital technology remains a critical career readiness competency. Digital literacy enables individuals to communicate, collaborate, access information, and solve problems in increasingly complex digital environments (Caroline et al., 2024, pp. 6-9). Scholars also emphasize that rapid technological change will require continuous reskilling and upskilling throughout one's career (Li, 2022, pp. 1707-1711). Mothers' perspectives suggest that high school athletics may complement this reality by reinforcing habits related to balance, adaptability, and well-being-qualities that support long-term success in technology-driven academic and professional contexts.

Taken together, mothers' perspectives and the supporting literature suggest that participation in high school sports does not limit students' development of digital technology competencies. Instead, athletics appear to function as a counterbalance to students' already technology-saturated lives, providing structured opportunities for physical activity, social interaction, and time away from screens. In doing so, sports participation may indirectly strengthen students' readiness to engage with digital technology thoughtfully, responsibly, and effectively as they prepare for future educational and workforce environments.

Leadership.

Leadership is an attribute that most workplaces value, and mothers in this study frequently described their children's leadership development as a meaningful outcome of high school athletic participation. In organizational contexts, leadership is often associated with guiding others toward shared goals and navigating change effectively. Johari et al. (2022) ex-

plain that "leading change is one of the critical job responsibilities of a leader," noting that effective leaders articulate a clear vision of the future, explain why it matters, and demonstrate how change benefits both individuals and organizations, ultimately contributing to "favorable workplace outcomes, such as excellent job performance" (p. 1032). These characteristics closely mirror the leadership behaviors expected of student-athletes who must adapt to changing roles, respond to feedback, and support team objectives.

Mothers often defined their children in positive, relational ways connected to athletic participation, particularly with respect to leadership. One mother described her child by saying, "she is organized, a leader," highlighting how leadership is recognized not only through formal roles, such as team captain, but also through everyday behaviors. This observation aligns with Byrne et al. (2022), who found that students placed in leadership-related roles "gain experience leading groups and thus develop confidence and efficacy to lead groups in the future" (p. 7). As mothers name and reinforce these leadership behaviors, they may be contributing to their children's growing confidence and willingness to see themselves as leaders, a process that supports continued leadership development over time.

The literature further suggests that leadership development is closely tied to identity formation and lived experience. Kragt and Day (2020) emphasize that experience – particularly reflection on experience – is one of the most powerful mechanisms for developing leadership competencies (p. 3). Their research demonstrates that adopting a leader identity is positively related to the development of key leadership competencies, including "challenging the status quo, valuing diversity, and creating commitment" (Kragt & Day, 2020, p. 10). High school athletics provide repeated opportunities for students to practice these competencies by motivating peers, resolving conflict, and committing to collective goals, often under pressure.

Leadership is also increasingly understood as a relational and collective process rather than a strictly individual trait. Eva et al. (2021) note that modern leadership frequently involves shared responsibility, where leadership roles shift fluidly among individuals depending on the situation (pp. 2-3). This collective view of leadership is particularly relevant in athletic contexts, where leadership may be exercised by different players at different moments – during practice, competition, or team decision-making. Such experiences help students learn that leadership involves influence, communication, and responsibility, not just positional authority.

Taken together, mothers' perspectives and the supporting literature suggest that high school sports participation provides a valuable environment for early leadership development. Through experience, identity formation, and relational practice, student-athletes are learning leadership behaviors that align closely with those valued in contemporary workplaces. As mothers observe and affirm these qualities in their children, they reinforce a leadership identity that may continue to develop and benefit students well beyond their high school athletic careers.

Career Management.

Mothers frequently described high school sports participation as a formative experience that prepares their children for life beyond high school, particularly in terms of managing future educational and career pathways. One mother reflected, "I feel that the participation will make my student better equipped for life outside of high school. The successes and the failures (especially when framed not as failure but as a learning opportunity) are invaluable." This perspective highlights how athletics create structured opportunities for students to experience challenge, resilience, and growth-elements that are foundational to career management and long-term adaptability.

Mothers' observations align closely with research emphasizing the importance of social contexts in early career development. Zhang and Yuen (2022) provide empirical evidence of a "link of social connectedness to career and talent development self-efficacy even at an early stage of school life" (p. 8). They further note that connectedness to parents, teachers, and peers offers opportunities for vicarious learning, encouragement, and work habit formation (Zhang & Yuen, 2022, pp. 3-11). Participation in school-based activities such as athletics places students within these supportive networks, helping them develop confidence in

their ability to explore options, set goals, and persist through challenges.

The way mothers frame success and failure also reflect key findings in the career decision-making literature. Park et al. (2025) emphasize that "since self-efficacy is influenced by experiences, beliefs about failure consequences impact career decision self-efficacy" (p. 5). When athletic setbacks are framed as learning opportunities rather than permanent failures, students may be more likely to develop adaptive beliefs about their abilities and future choices. This approach supports autonomy and confidence-both of which are critical to effective career management over time.

Research on student-athletes further reinforces the need for individualized and flexible approaches to career development. Cartigny et al. (2021) identified three distinct dual-career profiles: "(a) athlete-students who indicate a sporting pathway and an increased focus towards their sporting career; (b) dual career athletes who indicate a parallel dual career pathway and equal focus between their sporting and educational or vocational careers; and (c) student-athletes who indicate an educational/vocational pathway and increased focus on their educational or vocational careers" (p. 5). This typology underscores that not all high school athletes follow the same trajectory, and that effective career management requires recognizing and supporting diverse aspirations. As mothers in this study acknowledged, not every high school athlete goes on to college, making it essential to support both educational and vocational pathways.

The broader literature on career readiness reinforces the importance of structured environments that intentionally support self-development. Miller et al. (2025) argue that participation in structured programming helps students build confidence, adaptability, and career planning skills, noting that institutions must "give specific and directed attention to career readiness items through campus programming, learning goals, and corresponding assessment" (p. 6). Although athletics are not traditionally framed as career programs, mothers' perspectives suggest that high school sports function as an early form of structured career preparation-offering experiences that foster self-efficacy, reflection, and goal setting.

Taken together, mothers' insights and the supporting literature suggest that high school sports participation plays a meaningful role in early career management and self-development. Through social connectedness, exposure to success and failure, and opportunities to explore multiple pathways, student-athletes begin to develop the confidence and adaptability needed to navigate future academic, vocational, and professional transitions.

Global/Intercultural Fluency.

As previously noted, mothers consistently find value in the sense of community created through their children's participation in athletics. New and existing teams cultivate a shared culture for students and parents alike, often extending beyond a single team and creating broader networks of relationships. One mother shared, "It keeps my child busy and happy, which makes me happy. I get to experience new things and meet new people," illustrating how athletic participation fosters exposure to diverse individuals, experiences, and perspectives. These expanding social environments create informal yet meaningful opportunities for students and families to engage across differences, an essential component of global and intercultural fluency.

Literature reinforces the importance of such environments in developing inclusive mindsets and a sense of belonging. Chantarat et al. (2023) emphasize that "mentorship, sponsorship, and allyship are essential for advancing equity and fostering a sense of belonging in the workplace" (p. 5). High school athletics often provide all three of these elements through relationships with coaches, teammates, officials, and parents, creating spaces where students can experience support, advocacy, and shared responsibility. These experiences mirror inclusive practices valued in professional settings and help normalize collaboration across differences early in life.

Research also highlights the role of equity, diversity, and inclusion (EDI) in shaping healthy organizational cultures. Shah et al. (2024) note that "incorporating EDI into professionalism is important to foster a fair, inclusive, and equitable environment" (p. 2), while Wang et al. (2024) caution that "failure to promote diversity, equity, and inclusion (DEI) is among the top

characteristics of an unhealthy work culture" and is associated with higher rates of attrition (p. 1091). Mothers' observations suggest that athletic team cultures can serve as early learning environments where inclusion, fairness, and respect are modeled and practiced, providing students with foundational experiences that parallel workplace expectations. Despite increased attention to DEI, inequities continue to persist across educational and professional contexts. Chantarat et al. (2023) note that "individuals from underrepresented groups often report experiences of discrimination or exclusion" (p. 2), underscoring the need for intentional efforts to create inclusive climates. Athletics, when thoughtfully structured, may offer a microcosm for practicing inclusive behaviors by bringing together students from varied backgrounds and requiring cooperation, mutual respect, and shared goals. Jackson et al. (2025) similarly emphasize that inclusive environments are those that minimize barriers while respecting individuality, lived experiences, and diverse needs (pp. 330-332).

Taken together, mothers' perspectives and the supporting literature suggest that participation in high school athletics can contribute meaningfully to the development of global and intercultural fluency. Through community-building, exposure to difference, and experiences of mentorship and allyship, student-athletes may begin to develop awareness, attitudes, and behaviors necessary to engage effectively in diverse educational, workplace, and community settings. These early experiences align closely with NACE's emphasis on equity and inclusion as essential career readiness competencies in an increasingly interconnected and diverse world.

Contributions to the World of Sports

Understanding the role mothers play in their students' athletic involvement is important because it influences not only family dynamics but also the overall culture and functioning of the sports organization. As this study shows, mothers are keen observers of both the impact and outcomes of their children's athletic participation, which presents an opportunity to more intentionally include them within the broader athletic dynamic. Mothers are not simply spectators; they are deeply immersed in the context surrounding athletics. They often provide transportation, receive and interpret communication from coaches, and engage regularly with other parents.

By recognizing the value mothers bring – and how they view their children's development through athletics – teams and athletic organizations can strengthen their sense of shared purpose. When mothers, coaches, and administrators are aligned, organizations are better positioned to work toward common goals. While success is often measured by wins and losses, mothers also recognize success in the personal growth, responsibility, and maturity their children develop through sport. Acknowledging both forms of success allows the entire athletic community to move forward with a more holistic and unified understanding of what achievement truly means.

Implications – Limitations – Future Directions

While this study demonstrates that mothers' participation and integration within their children's athletic organizations can be beneficial to both families and programs, it is important to acknowledge that this model is not applicable in every situation. There are practical and personal limitations to mothers' ability to participate at this level. Although mothers can be meaningfully integrated, it is equally important that they do not become the system itself.
Children benefit from learning independence and problem-solving skills without constant parental oversight.

Additionally, some mothers may not have the time, availability, or desire to be deeply immersed in the organizational structure of their child's athletic program. While mothers can play an important role, determining the appropriate scope and level of involvement remains complex and context dependent. This variability suggests a need for further research that considers the goals and personality characteristics of students, mothers, and athletic organizations alike.

Future research may also explore the extent of mothers' knowledge of National Association of Colleges and Employers (NACE) competencies. Greater awareness of these competencies could help mothers more directly connect what they observe in their children's athletic experiences to the development of future career readiness skills. Such insights would further sup-

port intentional collaboration among families, schools, and athletic organizations.

Conclusion

Mothers are a driving force for many students involved in athletics. They value the development of NACE competencies they observe their children gaining through athletic participation. Although mothers are often positioned outside the formal organizational structure of athletics, their perspectives and experiences warrant greater inclusion. A child's participation in sports impacts both the child and the mother in meaningful ways: children grow in skill and character, while mothers experience pride in their children's development.

Mothers are more than transportation providers or spectators; they are a key voice in supporting and shaping their children's growth. Recognizing and valuing this role can strengthen the partnership between families and athletic organizations, ultimately enhancing the developmental impact of high school sports.

Keywords

Mothers, Student-Athletes, Sports, High Schools, Career Readiness Competencies

Declaration of Conflicts of Interest

There are no known conflicts of interest with this study.

Funding Statement

This study was financed by a partnership between Butler University and the National Federation of State High School Associations (NFHS). Both organizations are located in Indianapolis, Indiana.

Data Availability Statement

Data available through the partnership between Butler University and the National Federation of State High School Associations (NFHS) by contacting the corresponding author of this study.

Ethics Statement

This study was conducted in compliance with the Butler University Institutional Review Board (IRB).

Declaration of AI Tool Usage

AI tools were used in the preparation of this manuscript for draft assistance with manuscript language and structure, grammar and style refinement, and reference identification and formatting. All AI-generated content was thoroughly reviewed, verified, and edited by the authors. All analyses, interpretations, and conclusions were conducted and validated by the human authors. The authors take full responsibility for the final content of this manuscript.

Word Count

Abstract: 139 words. Main Text (including headers, tables, and figure): 9,874 words

References: 40

Date of submission: January 3, 2026

References

Almeida, F., & Buzady, Z. (2022). *Development of soft skills competencies through the use of FLIGBY. Technology, Pedagogy and Education*, 31(4), 417-430. *https://doi.org/10.1080/1475939X.2022.2058600*

Ball, C. G., Inaba, K., & Harvey, E. J. (2024). *What does professionalism really mean in the contemporary surgical landscape? Canadian Journal of Surgery. Journal Canadien de Chirurgie*, 67(1), E66-E67. *https://doi.org/10.1503/cjs.001524*

Bylund, C. L., Vasquez, T. S., Peterson, E. B., Ansell, M., Bylund, K. C., Ditton-Phare, P., Hines, A., Mauna, R., Singh Ospina, N., Wells, R., & Rosenbaum, M. E. (2022). *Effect of experiential communication skills education on graduate medical education trainees' communication behaviors: A systematic review. Academic Medicine: Journal of the Association of American Medical Colleges*, 97(12), 1854-1866. *https://doi.org/10.1097/ACM.0000000000004883*

Byrne, V. L., Jardine, H. E., Williams, A. Y., & Donlan, A. E. (2022). *Academic peer mentorship as a leadership development experience: Fostering leadership self-efficacy. Journal of Leadership Education*, 21(1), 1-12. *https://doi.org/10.12806/V21/I/Rl*

Byszewski, A., Pearson, A., Lochnan, H., Johnston, D. L., Whiting, S., & Wood, T. J. (2024). *Professionalism in residency training: The learning environment for professionalism survey. Evaluation & the Health Professions. https://doi.org/10.1177/01632787241286912*

Caroline, A., Coun, M. J. H., Gunawan, A., & Stoffers, J. (2024). *A systematic literature review on digital literacy, employability, and innovative work behavior: Emphasizing the contextual approaches in HRM research. Frontiers in Psychology, 15*, 1448555. *https://doi.org/10.3389/fpsyg.2024.1448555*

Cartigny, Fletcher, Coupland, & Bandelow. (2021). *Typologies of dual career in sport: A cluster analysis of identity and self-efficacy. Journal of Sports Sciences*, 39(5), 583-590. *https://doi.org/10.1080/02640414.2020.1835238*

Chantarat, T., Rogers, T. B., Mitchell, C.R., & Ko, M. J. (2023). *Perceptions of workplace climate and diversity, equity, and inclusion within health services and policy research. Health Services Research*, 58(2), 314-324. *https://doi.org/10.1111/1475-6773.14032*

Cheng, L., Fang, G., Zhang, X., Lv, Y., & Liu, L. (2024). *Impact of social media use on critical thinking ability of university students. Library Hi Tech*, 42(2), 642-669. *https://doi.org/10.1108/LHT-11-2021-0393*

Cho, C., Ko, W. Y. K., Ngan, 0. M. Y., & Wong, W. T. (2022). *Exploring professionalism dilemma and moral distress through medical students' eyes: A mixed-method study. International Journal of Environmental Research and Public Health*, 19(17). *https://doi.org/10.3390/ijerphl91710487*

Dumitru, D., & Halpern, D. F. (2023). *Critical thinking: Creating job-proof skills for the future of work. Journal of Intelligence*, 11(10). *https://doi.org/10.3390/jintelligencel1100194*

Dwyer, C. P. (2023). *An evaluative review of barriers to critical thinking in educational and real-world settings. Journal of lntelligence,* 11(6). *https://doi.org/10.3390/jintelligencel1060105*

Eva, N., Cox, J. W., Tse, H. H., & Lowe, K. B. (2021). *From competency to conversation: A multi-perspective approach to collective leadership development. Leadership Quarterly*, 32(5), I. *https://doi.org/10.1016/j.leagua.2019.101346*

Gilbert, M., Beroz, S. T., Loanzon, P., Zyniewicz, T. L., Swoboda, S. M., O'Neal, C., & Gubrud, P. (2024). *Knowledge, skills, and attitudes (KSAs) of adaptable academic nurse educators. Nurse Education in Practice*, 76, 103933. *https://doi.org/10.1016/j.nepr.2024.103933*

Idoudi, M., Tlili, M.A., Mellouli, M., & Zedini, C. (2024). *Cross-cultural validation and psychometric testing of the French version of the TeamSTEPPS teamwork perceptions questionnaire. Journal of Health Organization and Management*, 38(6), 923-941. *https://doi.org/10.1108/JHOM-01-2023-0004*

Indrasiene, V., Jegeleviciene, V., Merfeldaite, 0., Penkauskiene, D., Pivoriene, J., Railiene, A., & Sadauskas, J. (2023). *Value of critical thinking in the labour market: Variations in employers' and employees' views. Social Sciences*, 12(4), 221. *https://doi.org/10.3390/socsci12040221*

Ishtiaq, M., Gui, R., Holt, J., & Bahar, M. (2024). *Questioning training and critical thinking of undergraduate students of health and social sciences: A scoping review. Teaching and Learning in Nursing,* 19(4), e602-e609. *https://doi.org/10.1016/i.teln.2024.04.010*

Jackson, D., Dean, B. A., & Eady, M. (2025). *Equity and inclusion in work-integrated learning: Participation and outcomes for diverse student groups. Educational Review*, 77(2), 329-350. *https://doi.org/10.1080/0013191l.2023.2182764*

Jimenez, J.-M., Lopez, M., Castro, M.-J., Martin-Gil, B., Cao, M.-J., & Fernandez-Castro, M. (2021). *Development of critical thinldng skills of undergraduate students throughout the 4 years of nursing degree at a public university in Spain: A descriptive study. BMJ Open,* 11(10). *https://doi.org/10.l136/bmjopen-2021-049950*

Johari, J., Faridahwati Mohd Shamsudin, Nor Farah Hanis Zainun, Tan Fee Yean, & Khulida Kirana Yahya. (2022). *Institutional leadership competencies and job performance: The moderating role of proactive personality. The International Journal of Educational Management,* 36(6), 1027-1045. *https://doi.org/10.l108/IJEM-07-2021-0280*

Keary, A., Babaeff, R., & Garnier, K. (2023). *Professionalism and everyday practices in early childhood education and care: Singaporean pre-service teachers' perspectives. Asia-Pacific Journal of Teacher Education,* 51(2), 162-182. *https://doi.org/10.1080/1359866X.2023.2177137*

Kragt, D., & Day, D. V. (2020). *Predicting leadership competency development and promotion among high-potential executives: The role of leader identity. Frontiers in Psychology,* 11. *https://doi.org/10.3389/fpsyg.2020.01816*

Kramer, Lester, & Wilcox. (2021). *College, career, and civic readiness: Building school communities that prepare youth to thrive as 21st century citizens. Theory & Research in Social Education,* 49(4), 602-629. *https://doi.org/10.1080/00933104.2021.1968984*

Kumar, N., & Ganguly, K. K. (2021). *Impact of professionalism of workplace learning support team on learning outcome. Journal of Workplace Learning,* 33(4), 287-301. *https://doi.org/10.1108/JWL-04-2020-0067*

Li, L. (2022). *Reskilling and upskilling the future-ready workforce for Industry 4.0 and beyond. Information Systems Frontiers: A Journal of Research and Innovation,* 26(5), 1697-1712. *https://doi.org/10.1007/sl 0796-022-10308-y*

Miller, P. C., Buffington, B., Fleming, C. J., & Hall, E. E. (2025). *Undergraduate Research Participation and Career Readiness: An Exploratory Pilot. College Teaching,* 1-9. *https://doi.org/10.1080/87567555.2025.2481089*

Nikou, S., De Reuver, M., & Mahboob Kanafi, M. (2022). *Workplace literacy skills-How information and digital literacy affect adoption of digital technology. Journal of Documentation,* 78(7), 371-391. *https://doi.org/10.1108/JD-12-2021-0241*

Nordheim, 0., & Huijts, T. (2025). *Socia/functioning and personal development among individuals with low literacy skills: The role of active labour market policy. Journal of Social Policy,* 54(3), 912-938. *https://doi.org/10.1017/S0047279423000417*

Park, S., Nam, J. K., & Kim, K. (2025). *Helicopter Parenting and Career Decision-Making in University Students: Mediation by Fear of Failure and Self-Efficacy. Journal of Career Development,* 52(5), 599-614. *https://doi.org/10.1177/0894845325l 363222*

Perks, S., & Smith, E. E. (2006). *Training interventions needed for developing black micro-entrepreneurial sldlls in the informal sector: A qualitative perspective. SA Journal of Human Resource Management,* 4(1), 17-26. *https://doi.org/10.4102/sajhrm.v4i1.85*

Priddis, D., Brinthaupt, T., Hayes, H., Green, G., Maynor, J., Buclmer, L., Calahan, P., Spooner, H., & Eady, E. (2025). *High impact practices for career readiness: A cross-disciplinary framework for college career courses. Industry and Higher Education. http://doi.org/10.1177/09504222251327870*

Raymond, M.A., Siemens, J., & Thyroff, A. (2021). Students, Please Teach Us! Implementing Student-Employee Reverse Mentoring to Increase Career Readiness. *Marketing Education Review,* 31(2), 87-92. *https://doi.org/10.1080/10528008.2021.1907593*

Roberts, C., Jorm, C., Nisbet, G., Gordon, C. J., Chen, T., Held, F., & Haq, I. (2024). *Video-based peer assessment of collaborative teamwork in a large-scale inter professional learning activity. BMC Medical Education,* 24(1). *https://doi.org/10.1186/s12909-024-06124-4*

Sanderson, J., Esfahbodi, A., & Lonsdale, C. (2022). *The effect of team-member knowledge, skills and abilities (KSAs) and a common learning experience on sourcing teamwork effectiveness. International Journal of Physical Distribution & Logistics Management,* 52(5-6), 393-413. *https://doi.org/10.1108/IJPDLM-07-2021-0277*

Sattar, K., Akram, A., Ahmad, T., & Bashir, U. (2021). *Professionalism development of undergraduate medical students: Effect of time and transition. Medicine,* 100(9), e23580. *https://doi.org/10.1097/MD.0000000000023580*

Shah, D., Behravan, N., Al-Jabouri, N., & Sibbald, M. (2024). *Incorporating equity, diversity and inclusion (EDI) into the education and assessment of professionalism for healthcare professionals and trainees: A scoping review. BMC Medical Education,* 24(1), 991. *https://doi.org/1O.l l 86/sl2909-024-05981-3*

Szymanski, M., Alon, I., & Kalra, K. (2022). *Multilingual and multicultural managers' effects on team performance: insights from professional football teams. Multinational Business Review,* 30(1), 40-61. *https://doi.org/10.l108/MBR-03-2020-0054*

Turcotte, M., Etherington, C., Rowe, J., Duong, A., Kaur, M., Talbot, Z., Mansour, F., Mohamed, J., Zahrai, A., Fournier, K., & Boet, S. (2023). *Effectiveness of interprofessional teamwork interventions for improving occupational well-being among perioperative healthcare providers: A systematic review. Journal of Interprofessional Care,* 37(6), 904-921. *https://doi.org/10.1080/13561820.2022.2137116*

Wang, M. L., Poulin, 0., & McKinney, H. (2024). *Aligning employee health and diversity, equity, and inclusion initiatives in the workplace: A call for synchronization. American Journal of Health Promotion,* 38(8), 1091-1094. *https://doi.org/10.1177/08901171241233398*

Zhang, J., & Yuen, M. (2022). *Social connectedness and career and talent development self-efficacy: Direct and mediating effects. British Journal of Guidance & Counselling,* 50(3), 400-412. *https://doi.org/10.1080/03069885.2022.2062590*

Appendix A

National Survey Results - Critical Thinking/Problem Solving

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Alabama	24	67%	36
Alaska	38	69%	55
Arizona	43	80%	54
Arkansas	15	58%	26
California	48	74%	65
Colorado	14	58%	24
Connecticut	15	60%	25
Delaware	8	44%	18
District of Columbia	13	57%	23
Florida	28	68%	41
Georgia	28	72%	39
Hawaii	13	57%	23
Idaho	10	45%	22
Illinois	17	59%	29
Indiana	25	66%	38
Iowa	10	50%	20
Kansas	11	46%	24
Kentucky	8	57%	14
Louisiana	15	75%	20
Maine	16	62%	26
Maryland	13	62%	21
Massachusetts	17	65%	26
Michigan	11	46%	24
Minnesota	24	73%	33
Mississippi	10	56%	18
Missouri	15	56%	27
Montana	17	61%	28
Nebraska	12	63%	19
Nevada	5	45%	11
New Hampshire	4	40%	10
New Jersey	11	52%	21
New Mexico	9	60%	15
North Carolina	24	62%	39
North Dakota	14	56%	25
New York	10	43%	23
Ohio	11	55%	20
Oklahoma	8	40%	20
Oregon	11	79%	14
Pennsylvania	12	46%	26
Rhode Island	7	50%	14
South Carolina	4	31%	13
South Dakota	12	67%	18
Tennessee	13	59%	22
Texas	17	59%	29
Utah	4	36%	11
Vermont	14	54%	26
Virginia	12	71%	17
Washington	10	56%	18
West Virginia	13	68%	19
Wisconsin	32	80%	40
Wyoming	13	57%	23
TOTAL	788	58%	1292

Appendix B

National Survey Results - Professionalism/Work Ethic

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Alabama	24	67%	36
Alaska	44	80%	55
Arizona	44	81%	54
Arkansas	15	58%	26
California	53	82%	65
Colorado	14	58%	24
Connecticut	14	56%	25
Delaware	10	56%	18
District of Columbia	15	65%	23
Florida	24	59%	41
Georgia	18	46%	39
Hawaii	14	61%	23
Idaho	16	76%	21
Illinois	15	52%	29
Indiana	25	66%	38
Iowa	14	70%	20
Kansas	14	58%	24
Kentucky	8	57%	14
Louisiana	12	60%	20
Maine	12	46%	26
Maryland	15	71%	21
Massachusetts	15	58%	26
Michigan	11	44%	25
Minnesota	28	85%	33
Mississippi	7	39%	18
Missouri	16	59%	27
Montana	17	61%	28
Nebraska	12	63%	19
Nevada	6	55%	11
New Hampshire	7	70%	10
New Jersey	11	52%	21
New Mexico	8	53%	15
North Carolina	31	78%	40
North Dakota	13	52%	25
New York	12	52%	23
Ohio	12	57%	21
Oklahoma	9	45%	20
Oregon	8	57%	14
Pennsylvania	18	69%	26
Rhode Island	8	57%	14
South Carolina	6	46%	13
South Dakota	9	50%	18
Tennessee	11	50%	22
Texas	17	59%	29
Utah	8	73%	11
Vermont	13	50%	26
Virginia	11	65%	17
Washington	10	56%	18
West Virginia	12	63%	19
Wisconsin	34	85%	40
Wyoming	12	52%	23
TOTAL	812	60%	1294

Appendix C

National Survey Results – Teamwork/Collaboration

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Alabama	27	75%	36
Alaska	37	67%	55
Arizona	38	70%	54
Arkansas	13	50%	26
California	48	74%	65
Colorado	17	71%	24
Connecticut	12	48%	25
Delaware	11	61%	18
District of Columbia	14	61%	23
Florida	26	63%	41
Georgia	25	64%	39
Hawaii	19	83%	23
Idaho	12	55%	22
Illinois	20	69%	29
Indiana	24	65%	37
Iowa	10	50%	20
Kansas	15	63%	24
Kentucky	9	64%	14
Louisiana	10	50%	20
Maine	16	62%	26
Maryland	15	71%	21
Massachusetts	16	62%	26
Michigan	15	63%	24
Minnesota	26	79%	33
Mississippi	10	56%	18
Missouri	17	63%	27
Montana	18	64%	28
Nebraska	11	61%	18
Nevada	6	55%	11
New Hampshire	6	60%	10
New Jersey	13	62%	21
New Mexico	10	67%	15
North Carolina	24	60%	40
North Dakota	8	32%	25
New York	13	57%	23
Ohio	15	71%	21
Oklahoma	14	70%	20
Oregon	7	50%	14
Pennsylvania	15	58%	26
Rhode Island	4	29%	14
South Carolina	6	46%	13
South Dakota	9	50%	18
Tennessee	9	41%	22
Texas	14	48%	29
Utah	3	27%	11
Vermont	18	69%	26
Virginia	9	53%	17
Washington	8	44%	18
West Virginia	13	68%	19
Wisconsin	29	73%	40
Wyoming	8	35%	23
TOTAL	792	59%	1292

Appendix D

National Survey Results - Oral /Written Communication

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Alabama	26	72%	36
Alaska	38	69%	55
Arizona	40	74%	54
Arkansas	18	69%	26
California	45	69%	65
Colorado	15	63%	24
Connecticut	17	68%	25
Delaware	10	56%	18
District of Columbia	11	48%	23
Florida	22	54%	41
Georgia	15	38%	39
Hawaii	12	52%	23
Idaho	14	64%	22
Illinois	17	59%	29
Indiana	23	61%	38
Iowa	11	55%	20
Kansas	15	63%	24
Kentucky	4	29%	14
Louisiana	8	40%	20
Maine	14	54%	26
Maryland	16	76%	21
Massachusetts	17	65%	26
Michigan	13	52%	25
Minnesota	21	64%	33
Mississippi	7	39%	18
Missouri	12	44%	27
Montana	17	61%	28
Nebraska	7	37%	19
Nevada	7	64%	11
New Hampshire	7	70%	10
New Jersey	10	48%	21
New Mexico	8	53%	15
North Carolina	30	75%	40
North Dakota	13	52%	25
New York	14	61%	23
Ohio	9	43%	21
Oklahoma	12	60%	20
Oregon	10	71%	14
Pennsylvania	18	69%	26
Rhode Island	4	29%	14
South Carolina	8	62%	13
South Dakota	10	56%	18
Tennessee	10	45%	22
Texas	17	59%	29
Utah	8	73%	11
Vermont	16	62%	26
Virginia	8	47%	17
Washington	12	67%	18
West Virginia	9	47%	19
Wisconsin	30	75%	40
Wyoming	13	57%	23
TOTAL	768	58%	1295

Appendix E

National Survey Results - Digital Technology

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Alabama	24	67%	36
Alaska	42	76%	55
Arizona	39	74%	53
Arkansas	15	58%	26
California	47	72%	65
Colorado	16	67%	24
Connecticut	14	56%	25
Delaware	9	50%	18
District of Columbia	13	57%	23
Florida	24	59%	41
Georgia	22	56%	39
Hawaii	13	57%	23
Idaho	16	73%	22
Illinois	16	55%	29
Indiana	24	63%	38
Iowa	10	50%	20
Kansas	15	63%	24
Kentucky	5	36%	14
Louisiana	11	55%	20
Maine	15	56%	26
Maryland	17	81%	21
Massachusetts	12	46%	26
Michigan	12	48%	25
Minnesota	23	70%	33
Mississippi	4	22%	18
Missouri	15	56%	27
Montana	11	39%	28
Nebraska	9	47%	19
Nevada	8	73%	11
New Hampshire	6	60%	10
New Jersey	12	57%	21
New Mexico	6	43%	14
North Carolina	27	69%	39
North Dakota	17	68%	25
New York	9	39%	23
Ohio	15	71%	21
Oklahoma	8	40%	20
Oregon	10	71%	14
Pennsylvania	15	58%	26
Rhode Island	9	64%	14
South Carolina	5	38%	13
South Dakota	8	44%	18
Tennessee	12	55%	22
Texas	17	59%	29
Utah	4	36%	11
Vermont	14	54%	26
Virginia	9	53%	17
Washington	10	56%	18
West Virginia	10	53%	19
Wisconsin	24	60%	40
Wyoming	10	43%	23
TOTAL	758	56%	1292

Appendix F

National Survey Results - Leadership

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Alabama	20	56%	36
Alaska	40	73%	55
Arizona	42	78%	54
Arkansas	19	73%	26
California	45	69%	65
Colorado	18	75%	24
Connecticut	14	56%	25
Delaware	12	67%	18
District of Columbia	7	30%	23
Florida	28	68%	41
Georgia	23	59%	39
Hawaii	16	70%	23
Idaho	11	50%	22
Illinois	17	59%	29
Indiana	24	65%	37
Iowa	9	45%	20
Kansas	11	46%	24
Kentucky	11	79%	14
Louisiana	10	50%	20
Maine	15	58%	26
Maryland	11	52%	21
Massachusetts	21	81%	26
Michigan	15	60%	25
Minnesota	23	70%	33
Mississippi	9	50%	18
Missouri	20	74%	27
Montana	14	50%	28
Nebraska	13	68%	19
Nevada	5	45%	11
New Hampshire	5	50%	10
New Jersey	9	43%	21
New Mexico	11	73%	15
North Carolina	30	75%	40
North Dakota	12	48%	25
New York	12	52%	23
Ohio	12	57%	21
Oklahoma	13	65%	20
Oregon	10	71%	14
Pennsylvania	12	48%	25
Rhode Island	6	43%	14
South Carolina	7	54%	13
South Dakota	10	56%	18
Tennessee	12	55%	22
Texas	12	41%	29
Utah	5	45%	11
Vermont	13	50%	26
Virginia	12	71%	17
Washington	10	56%	18
West Virginia	15	79%	19
Wisconsin	29	73%	40
Wyoming	9	39%	23
TOTAL	789	59%	1293

Appendix G

National Survey Results - Career Management

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE
Alabama	25	69%
Alaska	43	78%
Arizona	40	74%
Arkansas	16	62%
California	49	75%
Colorado	20	83%
Connecticut	14	56%
Delaware	8	44%
District of Columbia	9	39%
Florida	29	71%
Georgia	20	51%
Hawaii	12	52%
Idaho	12	55%
Illinois	19	66%
Indiana	23	61%
Iowa	11	55%
Kansas	14	58%
Kentucky	5	36%
Louisiana	11	55%
Maine	13	50%
Maryland	14	67%
Massachusetts	14	54%
Michigan	12	48%
Minnesota	16	48%
Mississippi	6	33%
Missouri	19	70%
Montana	12	43%
Nebraska	9	47%
Nevada	2	18%
New Hampshire	6	60%
New Jersey	15	71%
New Mexico	9	60%
North Carolina	13	52%
North Dakota	9	39%
New York	27	68%
Ohio	13	62%
Oklahoma	10	50%
Oregon	10	71%
Pennsylvania	14	54%
Rhode Island	4	29%
South Carolina	4	31%
South Dakota	12	67%
Tennessee	6	27%
Texas	18	62%
Utah	4	36%
Vermont	12	46%
Virginia	12	71%
Washington	10	56%
West Virginia	10	53%
Wisconsin	24	60%
Wyoming	12	52%
TOTAL	751	55%

Appendix H

National Survey Results - Global/Intercultural Fluency

STATE	AGREE+STRONGLY AGREE	PERCENTAGE AGREE+STRONGLY AGREE	TOTAL PARTICIPANTS
Alabama	27	75%	36
Alaska	39	71%	55
Arizona	31	57%	54
Arkansas	13	50%	26
California	48	74%	65
Colorado	14	58%	24
Connecticut	3	52%	25
Delaware	9	50%	18
District of Columbia	14	61%	23
Florida	25	61%	41
Georgia	19	49%	39
Hawaii	14	61%	23
Idaho	12	55%	22
Illinois	17	59%	29
Indiana	23	61%	38
Iowa	9	45%	20
Kansas	12	50%	24
Kentucky	11	79%	14
Louisiana	8	40%	20
Maine	14	54%	26
Maryland	15	71%	21
Massachusetts	13	50%	26
Michigan	16	64%	25
Minnesota	21	64%	33
Mississippi	7	39%	18
Missouri	14	52%	27
Montana	15	54%	28
Nebraska	8	42%	19
Nevada	4	36%	11
New Hampshire	3	30%	10
New Jersey	14	67%	21
New Mexico	3	20%	15
North Carolina	24	60%	40
North Dakota	12	48%	25
New York	13	57%	23
Ohio	14	67%	21
Oklahoma	12	60%	20
Oregon	6	43%	4
Pennsylvania	16	62%	26
Rhode Island	8	57%	14
South Carolina	8	62%	13
South Dakota	8	44%	18
Tennessee	12	55%	22
Texas	12	41%	29
Utah	3	27%	11
Vermont	18	69%	26
Virginia	12	71%	17
Washington	11	61%	18
West Virginia	10	53%	19
Wisconsin	30	75%	40
Wyoming	13	57%	23
TOTAL	747	55%	1295