

Knowledge, Attitudes, and Beliefs of Parents of Youth Basketball Players Regarding Sport Specialization and College Scholarship Availability

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Background: Previous surveys of youth sport parents have revealed that while parents believe early sport specialization is beneficial for improving sport ability, they also overestimate their child's chances of receiving a college scholarship.

Purpose: To (1) describe knowledge, attitudes, and beliefs of parents of youth basketball players regarding sport specialization and college scholarships and (2) examine potential differences in child basketball participation characteristics based on parent income.

Study Design: Cross-sectional study.

Methods: A total of 805 parents (mean age, 39.9 ± 7.1 years; 353 female [43.9%]) of youth basketball players (mean age, 12.9 ± 2.5 years; 241 female [29.9%]) were recruited via Qualtrics Online Panels to complete an anonymous online questionnaire. Participants were required to be a parent of a child between 8 and 18 years of age who participated in organized youth basketball (ie, school, club, or recreational/local league). Participants were recruited to be nationally representative with regard to race/ethnicity (White, 62.7%; Hispanic/Latino of any race, 15.3%; African American/Black, 13.3%; Asian, 4.6%; ≥2 races, 2.9%; American Indian/Alaskan Native, 1.1%; Native Hawaiian/other Pacific Islander, 0.1%). The questionnaire was adapted from previous research on parent knowledge, attitudes, and beliefs and consisted of 3 sections: (1) parent and child characteristics; (2) child basketball participation information (months per year of basketball participation, sport specialization status, receiving private coaching, traveling regularly for basketball competitions, participating on multiple teams at the same time); and (3) parent attitudes, beliefs, and knowledge regarding sport specialization and college basketball scholarships.

Results: Most parents believed specialization increased their child's chances of making a high school (71.4%) or college team (69.7%). Parents underestimated the availability of college basketball scholarships at the National Collegiate Athletics Association (NCAA) Division I and II levels (8.9 ± 5.1 vs reality of 13-15 per team) but overestimated availability at the Division III level (8.6 ± 5.7 vs reality of 0 per team). High-income parents spent significantly more money (\$4748 USD [\$1214-\$10,246]) than middle-income (\$2250 USD [\$727-\$5079]; $P < .001$) and low-income (\$1043 USD [\$368-\$2444]; $P < .001$) parents.

Conclusion: Parents believed specialization was important for sport success, but they underestimated college scholarship availability at the NCAA Division I and II levels while overestimating scholarship availability at the Division III level.

Keywords: basketball; youth sport; overuse injury; injury prevention; socioeconomic status

Basketball has the largest number of participants of any youth team sport in the United States, with over 4 million participants between the ages of 6 and 12 and over 3 million participants between 13 and 17 years of age.^{25,26} Within the past decade, there has been increasing concern across all of youth sports regarding sport specialization, or intense year-round focus in a single sport at the exclusion of other sports.^{3,4,8,14} Sport specialization has been repeatedly

identified as a risk factor for overuse injuries in various youth sport populations.¹ Within basketball, specialization as a youth player has been linked with injury during an athlete's professional basketball career.²⁴ The rise in sport specialization and club sport participation specifically within youth basketball has led to the development of youth basketball guidelines by the National Basketball Association and USA Basketball that are aimed at promoting player health and wellness.^{9,18}

Parents have perhaps the largest influence on a child's decision to participate in sports, and the specific attitudes and behaviors of parents regarding sport participation have

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a large influence on a child's youth sport experience.² While most parents (55%) reported that specialization is a major problem in youth sports, specialization continues to be prevalent among youth athletes. A recent survey found that half of the parents (49.7%) encouraged their child to specialize.^{1,19} Previous surveys of youth sport parents have identified a widespread belief that specialization is necessary for sport development and making a college team.^{2,21} As a result of this widespread belief, youth sport is now a \$15 billion industry that increasingly resembles professional sports, with athletes encouraged to specialize in a single sport year-round and the ultimate goal of receiving a college athletic scholarship.^{1,11} The ability to specialize and participate year-round on club teams is the result of several factors, including the child's interest in a sport, the child's sport ability/talent, and family socioeconomic status (SES), which may limit opportunities for children from families with fewer resources to participate in youth sports.^{20,21} Previous studies of the attitudes and beliefs of youth sport parents regarding sport specialization have been limited to highly affluent and White/Caucasian parent populations, which limits the generalizability to draw conclusions regarding the beliefs of a typical youth sport parent.

The primary purpose of this study was to describe the knowledge, attitudes, and beliefs of a nationally representative sample of parents of youth basketball players regarding sport specialization and college scholarships. A secondary purpose was to examine the potential differences in child basketball participation characteristics based on household income. We hypothesized that most parents would believe specialization increases the risk of a basketball-rated injury, but would also believe specialization is beneficial for sport development and making a college team, and that parents would overestimate the availability of college basketball scholarships. Finally, we hypothesized that parents in higher-income categories would spend more money on their child's basketball participation and would be more likely to have a child engaged in specialized basketball behaviors, such as participating on multiple teams or receiving private coaching.

METHODS

Participants

Parents of youth basketball athletes were recruited by Qualtrics Online Samples using a combination of actively managed, double opt-in market research panels. The opt-in-for-market-research process requires respondents to

submit an initial registration form requesting to participate in market research studies. Potential respondents build their profile from a standardized list of questions. The panels then use the profiles to select studies that would best fit the case specifications. Institutional review board approval was waived for this study.

The sampling process was used to recruit a nationally representative study sample with regard to race/ethnicity (White/Caucasian, 62.7%; Hispanic/Latino of any race, 15.3%; African American/Black, 13.3%; Asian, 4.6%; ≥ 2 races, 2.9%; American Indian/Alaskan Native, 1.1%; Native Hawaiian/other Pacific Islander, 0.1%). To qualify for the study, participants had to be a parent of a child between 8 and 18 years of age and the child had to have participated on an organized (ie, school, club, or recreational/local league) basketball team in the previous year. Data collection took place over a 1-week period in February 2020.

Questionnaire

The questionnaire was an adapted version of previously validated questionnaires used to survey knowledge, attitudes, and beliefs of youth sport parents regarding sport specialization and college scholarships.^{2,21} Those questionnaires were developed using a panel of content-area experts using the Health Belief Model (HBM) as a framework. The HBM states that health behavior is determined by personal beliefs and perceptions regarding a disease or condition.^{10,23} The 4 constructs of the HBM are (1) perceived seriousness of a condition, (2) perceived susceptibility to a condition, (3) perceived benefits of altering behavior, and (4) perceived barriers to altering behavior.^{10,23} Questions pertaining to beliefs regarding sport specialization and college scholarships were designed to address these constructs with sport specialization as the condition of interest.

The questionnaire consisted of 3 sections: (1) parent and child characteristics (including parent sex, age, race, educational attainment, family income, child age, and child grade in school); (2) child basketball participation information for the previous year (such as months per year of basketball participation, sport specialization status, receiving private coaching, traveling at least once a month for basketball competitions, participating on multiple basketball or other sport teams at the same time); and (3) parent attitudes, beliefs, and knowledge regarding sport specialization and college basketball scholarships.

Child sport specialization status (low, moderate, high) was determined using a validated 3-point specialization scale that was recently modified to improve its accuracy.^{1,13,16}

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Ethical approval for this study was waived by San Diego State University (protocol No. HS-2019-0317).

The questions that comprise this scale are based on the definition of sport specialization as “year-round intensive training in a single sport at the exclusion of other sports” and are as follows: “Has your child only ever played one sport?” “Has your child quit other sports to focus on basketball?” “Does your child participate in basketball for more than 8 months out of the year?” and “Does your child consider basketball to be more important than their other sports?” If a participant answered “yes” to “Has your child only ever played one sport?” they were not asked “Has your child quit other sports to focus on basketball?” A categorical classification system was used to assess the responses to these sport specialization questions (yes = 1, no = 0), with a total score of 3 considered high specialization, a score of 2 considered moderate specialization, and a score of 0 or 1 considered low specialization.

Household income was classified as low (<\$50,000 USD per year), middle (\$50,001-\$100,000 USD per year), or high (>\$100,001 USD per year). Parents were asked to rate how much they believed specialization contributes to sport development or getting injured using 5-point Likert scales (“not at all” to “a great deal”). Parents were then asked to estimate the number of scholarships available on Division I, Division II, and Division III college basketball rosters. Parents were also asked to rate their belief in their child receiving a college basketball scholarship on a 7-point Likert scale (“very unlikely” to “very likely”) and to rate the importance of their child receiving a college scholarship to their family on a 5-point Likert scale (“not at all important” to “extremely important”). Finally, parents were asked to estimate the amount of money they had spent in the previous 12 months specifically on their child’s basketball participation.

Statistical Analysis

This study sample size was powered to achieve a 5% margin of error at a 99% CI for the true proportion of the youth basketball parent population (estimated population: 10 million youth basketball parents in the United States).

Data were summarized using means and standard deviations, medians and interquartile ranges [IQRs], and frequencies and proportions (%). Continuous variables were assessed for normality using the visual inspection of histograms and skewness/kurtosis values. Normally distributed variables were presented as mean \pm SD, and non-normal variables were presented as medians [IQR]. Chi-square tests were used to compare the frequency of child sport-specialization status and sport-participation characteristics by parent income category. The Kruskal-Wallis *H* test was used to compare the amount of money spent on their child’s basketball participation in the previous year by parent income categories. Post hoc pairwise comparisons between income category pairs were conducted using the Dunn test for multiple comparisons with a Holm-Bonferroni correction. An alpha level of .05 was set a priori to determine the statistical significance for all tests. All analyses were performed using R statistical software (R Foundation for Statistical Computing).

TABLE 1
Parent and Child Characteristics^a

Variable	Value
Parent characteristics	
Sex	
Male	452 (56.1)
Female	353 (43.9)
Age	39 [35-44]
Race	
Asian	37 (4.6)
African American/Black	107 (13.3)
American Indian/Alaskan Native	9 (1.1)
Hispanic/Latino of any race	123 (15.3)
Native Hawaiian/other Pacific Islander	1 (0.1)
White/Caucasian	505 (62.7)
≥ 2 races	23 (2.9)
Education	
Less than high school	2 (0.2)
High school diploma or GED	87 (10.8)
Some college	133 (16.5)
Associate or 2-year college degree	97 (12.0)
Bachelor or 4-year college degree	307 (38.1)
Professional degree	146 (18.1)
Doctorate degree	33 (4.1)
Household income, USD	
<\$35,000	75 (9.3)
\$35,001-\$50,000	95 (11.8)
\$50,001-\$75,000	166 (20.6)
\$75,001-\$100,000	189 (23.5)
\$100,001-\$150,000	148 (18.4)
>\$150,000	132 (16.4)
Child characteristics	
Age, y	12.9 \pm 2.5
Sex	
Male	564 (70.1)
Female	241 (29.9)

^aData are reported as n (%), mean \pm SD, or median [interquartile range]. GED, General Education Diploma; USD, US dollar.

RESULTS

Parent and child characteristics are presented in Table 1.

A total of 805 parents (female, *n* = 353; 43.9%; age, 39.9 \pm 7.1 years) of youth basketball players (female, *n* = 241; 29.9%; age, 12.9 \pm 2.5 years) fully completed the survey. Child sport participation characteristics are presented in Table 2.

Approximately 1 in 4 (*n* = 189; 23.5%) children were classified as highly specialized in basketball by their parents. Less than half of parents reported that their child participated on multiple basketball teams at the same time within the past 12 months (*n* = 341; 42.4%) or received private coaching outside of their basketball team (*n* = 375; 46.6%). Parents reported spending a median of \$2338 USD [IQR, \$681-\$6072] on their child’s basketball participation in the previous year.

Parent attitudes and beliefs regarding sport specialization are presented in Table 3.

Approximately one-third of parents (32.3%) reported believing that specialization was “quite a bit” or “a great

deal” of a problem in youth sports. While 41.5% of parents believe specialization increased the risk of injury “quite a bit” or “a great deal,” most parents believed specialization

TABLE 2
Child Sport Participation Characteristics^a

Variable	Value
Basketball start age, y	8.2 ± 2.5
Years of basketball participation	4.6 ± 2.9
Months/year of organized baseball	6 [4-10]
Hours/week of organized baseball	12 [8-20]
Specialization	
Low	255 (31.7)
Moderate	361 (44.8)
High	189 (23.5)
In past 12 months, has the child participated on ≥2 organized basketball teams at same time?	
Yes	341 (42.4)
No	464 (57.6)
In past 12 months, has the child participated on organized basketball teams and other organized sport team at same time?	
Yes	356 (44.2)
No	449 (55.8)
Travel overnight regularly for basketball competitions (at least once a month)	
Yes	423 (52.5)
No	382 (47.5)
Receive private coaching outside of team	
Yes	375 (46.6)
No	430 (53.4)
Participate in basketball >8 months/year	
Yes	261 (32.4)
No	544 (67.6)
Money spent on child’s basketball in previous year (USD)	\$2338 [\$681-\$6072]
Basketball-related injury in previous year	
Yes	220 (27.3)
No	585 (72.7)

^aData are reported as n (%), mean ± SD, or median [interquartile range]. USD, US dollar.

increased their child’s chances of improving at basketball (86.2%), making a high school team (71.4%), or making a college team (69.7%). Parents underestimated the availability of college basketball scholarships at the National Collegiate Athletics Association men’s Division I (parent estimate: 8.9 ± 5.1 vs reality of 13 per team), women’s Division I (parent estimate: 8.9 ± 5.0 vs reality of 15 per team), and Division 2 (parent estimate: 8.6 ± 5.1 vs reality of 13 per team) levels but overestimated the availability of basketball scholarships at the Division 3 level (parent estimate: 8.6 ± 5.7 vs reality of 0 per team). However, approximately half of parents (49.8%) thought that it was “somewhat” or “very” likely that their child would receive a college basketball scholarship (Figure 1).

Most parents (59.0%) reported that it was “very” or “extremely” important to their family that their child earn a college basketball scholarship to attend college (Figure 2).

Differences in child sport participation based on income category are presented in Table 4.

Across all questions, there were significant differences in sport participation behavior between income categories, with high-income parents reporting that their child participated in more specialized basketball behavior. High-income parents were more likely to classify their child as highly specialized (30.0%) than both middle-income (22.0%) or low-income (15.9%) parents ($P = .01$). High-income parents were also more likely to report that their child participated on multiple teams at the same time (57.5%) than middle-income (38.9%) or low-income (33.5%) parents ($P < .001$). Similarly, high-income parents were more likely than middle- or low-income parents to report that their child received private coaching outside of their team (high: 58.6%, middle: 45.6%, low: 28.8%; $P < .001$) and that their child traveled overnight at least once a month in the past year for basketball competitions (high: 61.8%, middle: 53.5%, low: 35.3%; $P < .001$). When comparing the amount of money spent on their child’s basketball participation in the previous year, high-income parents spent significantly more money (\$4748 USD [\$1214-\$10,246]) than middle-income (\$2250 USD [\$727-\$5079]; $P < .001$) and

TABLE 3
Parent Attitudes and Beliefs Regarding Sport Specialization^a

Question	Response				
	Not at All	A Little	Somewhat	Very	Extremely
How concerned are you about the risk of injury in youth sports?	41 (5.1)	213 (26.5)	233 (28.9)	184 (22.9)	134 (16.6)
How much does focusing on one sport and playing that sport all year increase your child’s chances of . . .					
Making a high school team?	23 (2.9)	58 (7.2)	149 (18.5)	251 (31.2)	324 (40.2)
Making a college team?	42 (5.2)	60 (7.5)	142 (17.6)	244 (30.3)	317 (39.4)
Getting injured?	57 (7.1)	146 (18.1)	268 (33.3)	198 (24.6)	136 (16.9)
Getting better at basketball?	7 (0.9)	24 (3.0)	80 (9.9)	249 (30.9)	445 (55.3)
How much of a problem do you think early sport specialization is in youth sports?	188 (23.4)	151 (18.8)	206 (25.6)	148 (18.4)	112 (13.9)

^aData are reported as n (%).

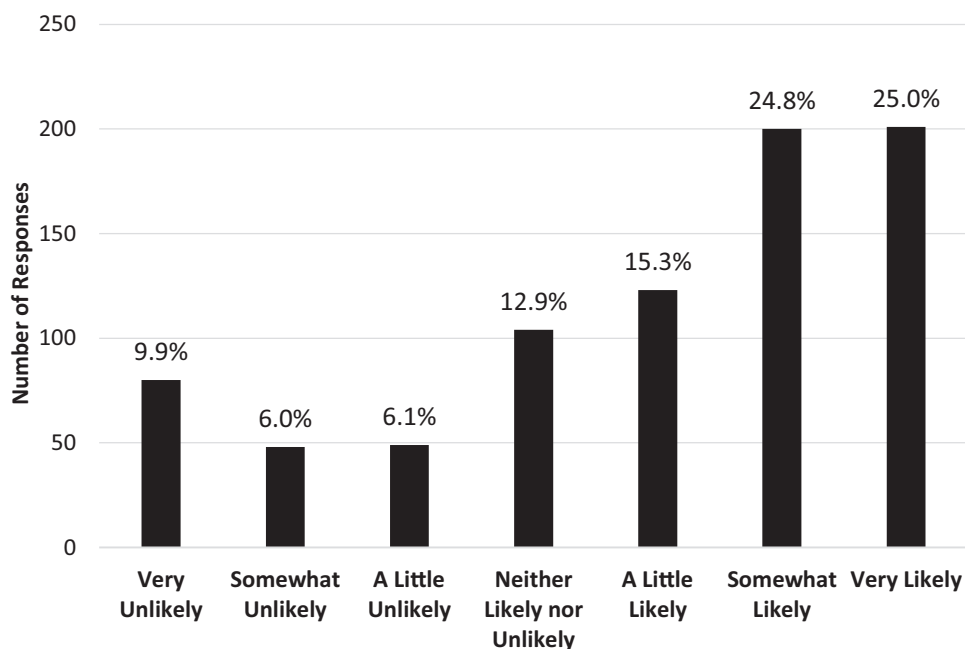


Figure 1. Responses to “How likely do you believe it is that your child will receive a college scholarship to play basketball?”

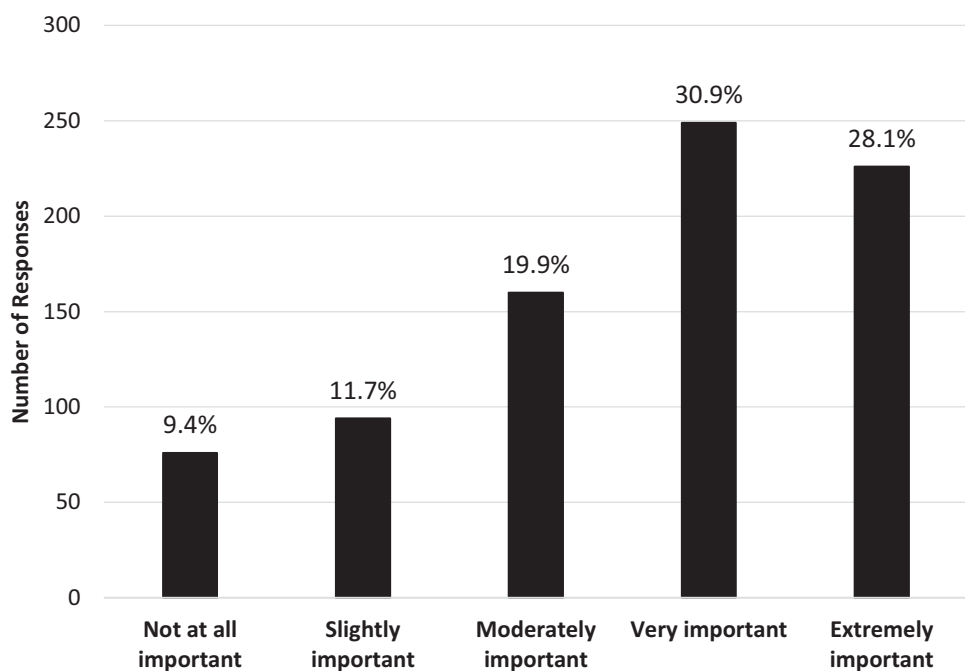


Figure 2. Responses to “How important is it to your family that your child receives a college scholarship?”

low-income (\$1043 USD [\$368-\$2444]; $P < .001$) parents (Figure 3).

DISCUSSION

Our study demonstrated that while only one-third of parents reported that they believed specialization was a major

problem in youth sports, and fewer than half thought specialization increased the risk of injury, most parents indicated that specialization would increase their child’s basketball abilities and chances of making a high school or college basketball team. These findings align with several studies of specialization attitudes and beliefs examined in less representative samples of youth sport parents.^{2,19,21} For example, 1 previous study conducted a survey of

TABLE 4
Differences in Child Sport Participation Based on Parent Income Category^a

Variable	Low Income	Middle Income	High Income	<i>P</i> Value
Specialization				.01
Low	63 (37.0)	110 (31.0)	82 (29.3)	
Moderate	80 (47.1)	167 (47.0)	114 (40.7)	
High	27 (15.9)	78 (22.0)	84 (30.0)	
Participation on multiple basketball teams at same time				<.001
Yes	49 (28.8)	160 (45.1)	132 (47.1)	
No	121 (71.2)	195 (54.9)	148 (52.9)	
Participation on basketball team and other sport at same time				<.001
Yes	57 (33.5)	138 (38.9)	161 (57.5)	
No	113 (66.5)	217 (61.1)	119 (42.5)	
Receive private coaching outside of team				<.001
Yes	49 (28.8)	162 (45.6)	164 (58.6)	
No	121 (71.2)	193 (54.4)	116 (41.4)	
Travel overnight regularly for basketball competitions (at least once a month)				<.001
Yes	60 (35.3)	190 (53.5)	173 (61.8)	
No	110 (64.7)	165 (46.5)	107 (38.2)	
Participate in basketball >8 months/year				<.001
Yes	35 (20.6)	112 (31.5)	114 (40.7)	
No	135 (79.4)	243 (68.5)	166 (59.3)	

^aData are reported as n (%). Bolded *P* values indicate statistically significant differences ($P < .05$).

parents of high school baseball players, but most respondents were White/Caucasian (79%), had a bachelor's degree or higher level of education (74%), and reported a median income of \$99,250 USD.²¹ In that study, 47% of parents believed specialization increased the risk of injury, while 65% to 80% believed that specialization increased their child's baseball ability or chances of making a high school or college team.²¹ Similarly, other studies of affluent youth sport parent populations have reported that fewer than half of parents believe that specialization increases the risk of injury.² One study found that 50% of parents reported encouraging their child to specialize in a single sport with the goal of playing collegiately or professionally.¹⁹

Taken together, the results of our study support previous results that suggest that attitudes and beliefs toward specialization are consistent among parents from different backgrounds and with children playing different sports. The belief among parents is widespread that specialization is beneficial for sport performance, while the belief that specialization increases the risk of injury is less strongly held. It is important to note that the goal of this research was not to make a judgment as to whether parents held

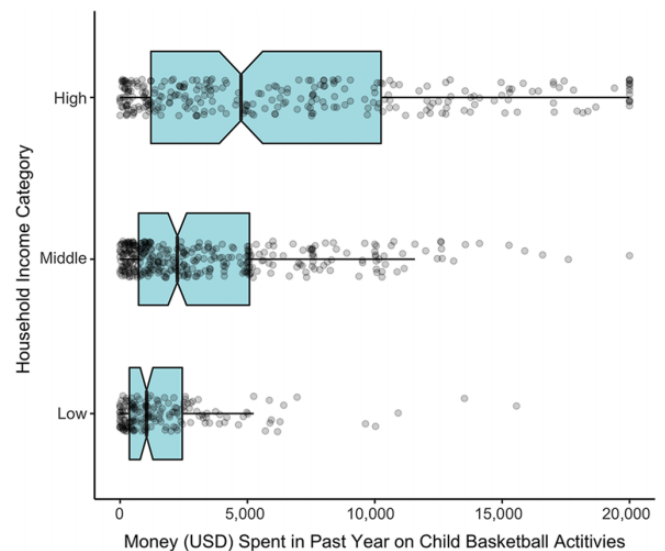


Figure 3. Comparison of money spent in past year on child's basketball activities between parent income categories. Box plots represent interquartile range (IQR), whiskers represent range of 1.5 times the IQR, line indicates median, notch displays 95% CI of the median and individual data points for each parent. USD, US dollar.

“correct” or “accurate” attitudes and beliefs regarding sport specialization. The attitudes and beliefs held by the parents in this study (and by the parents in previous research) have been developed as a result of those parents' lived experience, and it may be that many of these parents believe specialization in a single sport has been beneficial for their child's sport development and that their child has not sustained an overuse injury as a result of specializing. While there is a growing body of research that suggests specialization is not necessary to advance to elite levels of sport and is associated with increased injury risk, our results suggest that this information has not been adopted by or perhaps has been ineffectively communicated to parents of youth athletes.^{5,7,17,22}

Contrary to our hypothesis, parents underestimated the availability of college basketball scholarships at the Division I and II levels but overestimated their availability at the Division III level. Overall, parents seemed unaware that athletic scholarships are not offered at the Division III level. To our knowledge, only 1 other study examined parents' knowledge of college athletic scholarship availability.²¹ That study examined parents of high school baseball players and found that parents underestimated the availability of college baseball scholarships.²¹ The similarity of these findings from parents of athletes in 2 different sports suggests an overall lack of knowledge regarding college scholarship availability.

While the parents in our study were overly pessimistic regarding the number of scholarships available, approximately half reported that they believed it was “somewhat” or “very” likely that their child would receive a college basketball scholarship. In contrast, previous data suggest that

only approximately 3% of high school basketball players will play college basketball, and even fewer will receive a scholarship to do so.¹⁵ This finding is in agreement with previous studies of youth sport parents²¹ and youth athletes,⁶ which have found that parents and youth athletes overestimate their (or their child's) chances of receiving a college athletic scholarship. Therefore, there appears to be increasing evidence that a significant disconnect exists between parent knowledge regarding the availability of college athletic scholarships and parent belief in their child's receiving one of those rare scholarships. This disconnect may drive parents to invest in sport organizations and training opportunities that purport to increase a youth athlete's chances to earn a college scholarship. However, it should be noted that we did not measure athlete talent, and previous research has also not reported on the impact of child athletic talent on parent scholarship belief. In fact, the role of athlete talent has been minimally reported on within the sport specialization literature, and talent may be an important mediator of both child and parent behavior. For example, highly talented players may not need to specialize to further develop their skills, while less talented players may feel more need to specialize to keep up with their peers. Further, parents of a highly talented child may seem to be overestimating their child's scholarship chances but may actually be accurate in those beliefs.

Parents in the highest income category were more likely to have a child who (1) was classified as highly specialized, (2) participated on multiple sport teams at the same time, (3) received private basketball coaching outside of their team, (4) traveled overnight at least once a month for basketball competitions, and (5) played basketball year-round. The modern, specialized youth sport culture places a heavy emphasis on participation on pay-to-play club teams that participate year-round. Previous studies have also identified parent SES as a significant predictor of child sport participation behavior.^{12,20,21} These studies have also found that children of higher-SES parents were more likely to be classified as highly specialized, participate on club teams, and play their sport year-round.^{12,20,21} Two of these studies also reported that parents from higher SES categories reported spending more money on their child's sport participation in the previous year, similar to the findings of our study.^{20,21} Overall, the parents reported spending a median of over USD\$2000 on their child's basketball participation in the previous year. This finding is again similar to previous studies that reported parent(s) spent a median amount of USD\$500²⁰ or USD\$3000,²¹ respectively, on their child's sport participation in the previous year, across a variety of sports. While we asked parents how much money they had spent on their child's basketball participation in the previous year, we did not ask for specifics regarding how that money was spent. Specifics on parent spending may be important in determining whether the differences in spending between income categories that we observed may result in disparities in access to basketball (ie, participation on exclusive club teams or private coaching) or instead just reflect investment by high-income parents on items that are not necessarily related to basketball success. Future surveys should examine how

much parents would be willing to spend on their children's youth sport participation to determine whether greater limitations are experienced by families of varying SES.

Several limitations of this study should be noted. All data in this study were gathered via self-recall of parents, so there is the possibility of social desirability bias for certain answers. However, we attempted to limit this potential by making this an anonymous, online survey, so that parents did not have to complete the survey in the presence of other people and did not have their answers linked to any identifying information. We recruited participants using market research panels, which allowed for recruiting based on demographic criteria. This was done to recruit a sample that was nationally representative with regard to race/ethnicity. However, this methodology inherently biases the sample toward participants who take part in market research panels, and these individuals may differ from the general youth sport parent population in unknown ways. Finally, most respondents were parents of male youth basketball players (70% male), so future research is needed to determine whether the same attitudes and beliefs are held among parents of primarily female basketball athletes.

CONCLUSION

Parents of youth basketball athletes widely believed that the potential benefits of sport specialization outweighed the potential increased risks of injury. Despite having a realistic understanding of the limited college scholarships available, parents were optimistic that their child would receive a college basketball scholarship. Further efforts are needed to understand parent attitudes and beliefs regarding sport specialization and college scholarships in various sports.

REFERENCES

1. Bell DR, Post EG, Biese K, Bay C, Valovich McLeod T. Sport specialization and risk of overuse injuries: a systematic review with meta-analysis. *Pediatrics*. 2018;142(3):e20180657. doi:10.1542/peds.2018-0657
2. Bell DR, Post EG, Trigsted SM, Schaefer DA, McGuine TA, Brooks MA. Parents' awareness and perceptions of sport specialization and injury prevention recommendations. *Clin J Sport Med*. 2020;30(6):539-543. doi:10.1097/JSM.0000000000000648
3. Bergeron MF, Mountjoy M, Armstrong N, et al. International Olympic Committee consensus statement on youth athletic development. *Br J Sports Med*. 2015;49(13):843-851. doi:10.1136/bjsports-2015-094962
4. Brenner JS; Council on Sports Medicine and Fitness. Sports specialization and intensive training in young athletes. *Pediatrics*. 2016;138(3):154-157. doi:10.1542/peds.2016-2148
5. Bridge MW, Toms MR. The specialising or sampling debate: a retrospective analysis of adolescent sports participation in the UK. *J Sports Sci*. 2013;31(1):87-96. doi:10.1080/02640414.2012.721560
6. Brooks MA, Post EG, Trigsted SM, et al. Knowledge, attitudes, and beliefs of youth club athletes toward sport specialization and sport participation. *Orthop J Sports Med*. 2018;6(5):232596711876983.
7. Côté J, Lidor R, Hackfort D. To sample or to specialize? Seven postulates about youth sport activities that lead to continued participation and elite performance. *Int J Sport Exerc Psychol*. 2009;9(2006):7-17. doi:10.1080/1612197X.2009.9671889

8. DiFiori JP, Benjamin HJ, Brenner JS, et al. Overuse injuries and burn-out in youth sports: a position statement from the American Medical Society for Sports Medicine. *Br J Sports Med*. 2014;48(4):287-288. doi:10.1136/bjsports-2013-093299
9. DiFiori JP, Güllich A, Brenner JS, et al. The NBA and youth basketball: recommendations for promoting a healthy and positive experience. *Sports Med*. 2018;48(9):2053-2065.
10. Glanz K, Rimer B, Lewis FM. *Health Behavior and Health Education*. 3rd ed. Jossey-Bass; 2002.
11. Gregory S. How kids' sports became a \$15 billion industry. *TIME Magazine*. September 4, 2017. <https://time.com/4913687/how-kids-sports-became-15-billion-industry/>
12. Jayanthi NA, Holt DB, LaBella CR, Dugas LR. Socioeconomic factors for sports specialization and injury in youth athletes. *Sports Health*. 2018;10(4):303-310.
13. Jayanthi NA, LaBella CR, Fischer D, Pasulka J, Dugas LR. Sports-specialized intensive training and the risk of injury in young athletes: a clinical case-control study. *Am J Sports Med*. 2015;43(4):794-801. doi:10.1177/0363546514567298
14. LaPrade RF, Agel J, Baker J, et al. AOSSM Early Sport Specialization Consensus Statement. *Orthop J Sports Med*. 2016;4(4):1-8. doi:10.1177/2325967116644241
15. Malina RM. Early sport specialization: roots, effectiveness, risks. *Curr Sports Med Rep*. 2010;9(6):364-371. doi:10.1249/JSR.0b013e3181fe3166
16. Miller M, Malekian S, Burgess J, LaBella C. Evaluating a commonly used tool for measuring sport specialization in young athletes. *J Athl Train*. 2019;54(10):1083-1088. doi:10.4085/1062-6050-379-18
17. Moesch K, Elbe AM, Hauge MLT, Wikman JM. Late specialization: the key to success in centimeters, grams, or seconds (cgs) sports. *Scand J Med Sci Sports*. 2011;21(6):e282-e290. doi:10.1111/j.1600-0838.2010.01280.x
18. Neuharth-Keusch A. NBA announces youth basketball guidelines for rest and participation. *USA Today*. Published October 17, 2016. <https://www.usatoday.com/story/sports/nba/2016/10/17/nba-usa-basketball-youth-guidelines/92198150/>
19. Padaki AS, Ahmad CS, Hodgins JL, Kovacevic D, Lynch TS, Popkin CA. Quantifying parental influence on youth athlete specialization: a survey of athletes' parents. *Orthop J Sports Med*. 2017;5(9):2325967117729147.
20. Post EG, Green NE, Schaefer DA, et al. Socioeconomic status of parents with children participating on youth club sport teams. *Phys Ther Sport*. 2018;32:126-132. doi:10.1016/j.ptsp.2018.05.014
21. Post EG, Rosenthal MD, Rauh MJ. Attitudes and beliefs towards sport specialization, college scholarships, and financial investment among high school baseball parents. *Sport (Basel, Switzerland)*. 2019;7(12):247.
22. Post EG, Thein-Nissenbaum JM, Stiffler MR, et al. High school sport specialization patterns of current Division I athletes. *Sports Health*. 2016;9(2):148-153. doi:10.1177/1941738116675455
23. Rosenstock IM, Strecher VJ, Becker MH. Social learning theory and the Health Belief Model. *Health Educ Q*. 1988;15(2):175-183.
24. Rugg C, Kadoor A, Feeley BT, Pandya NK. The effects of playing multiple high school sports on National Basketball Association players' propensity for injury and athletic performance. *Am J Sports Med*. 2018;46(2):402-408.
25. State of play 2020: pre-pandemic trends ages 13-17. The Aspen Institute: Project Play. Accessed January 7, 2021. <https://www.aspenprojectplay.org/state-of-play-2020/ages-13-17>
26. State of play 2020: pre-pandemic trends ages 6-12. The Aspen Institute: Project Play. Accessed January 7, 2021. <https://www.aspenprojectplay.org/state-of-play-2020/ages-6-12>