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J Safety Res. Author manuscript; available in PMC 2022 May 27.

Published in final edited form as:

J Safety Res. 2021 September ; 78: 203–209. doi:10.1016/j.jsr.2021.05.003.

Factors associated with concussion symptom knowledge and attitudes towards concussion care-seeking among parents of children aged 5–10 years

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Abstract

Background: Understanding parents' concussion-related knowledge and attitudes will contribute to the development of strategies that aim to improve concussion prevention and sport safety for elementary school children. This study investigated the association between parent- and child-related factors and concussion symptom knowledge and care-seeking attitudes among parents of elementary school children (aged 5–10 years).

Methods: Four hundred parents of elementary school children completed an online questionnaire capturing parental and child characteristics; concussion symptom knowledge (25 items, range = 0–50; higher = better knowledge); and concussion care-seeking attitudes (five 7-point scale items, range = 5–35; higher = more positive attitudes). Multivariable ordinal logistic regression models identified predictors of higher score levels. Adjusted odds ratios (aOR) with 95% confidence intervals (CI) excluding 1.00 were deemed statistically significant.

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Results: Select parent and child characteristics were associated with higher score levels for both outcomes. For example, odds of better knowledge level in parents were higher with increased age (10-year increase aOR = 1.59; 95% CI = 1.10–2.28), among females (aOR = 3.90; 95% CI = 2.27–6.70), and among white/non-Hispanics (aOR = 1.79; 95%CI = 1.07–2.99). Odds of more positive concussion care-seeking attitude levels were higher among parents with a college degree (aOR = 1.98; 95%CI = 1.09–3.60). Child sports participation was not associated with higher score levels for either outcome.

Conclusions: Certain elementary school parent characteristics were associated with parents' concussion symptom knowledge and care-seeking attitudes. While the findings suggest providing parents with culturally and demographically relevant concussion education might be helpful, they also emphasize the importance of ensuring education/prevention regardless of their children's sports participation.

Practical Applications: Pediatric healthcare providers and elementary schools offer an optimal community-centered location to reach parents with this information within various communities.

Keywords

Concussion; Parent education; Elementary school; Injury risk; Young children

1. Introduction

Concussion and mild traumatic brain injury (TBI) in children have received more attention in recent years as the rate of these injuries in children is increasing (Centers for Disease Control and Prevention, 2019; Haarbauer-Krupa et al., 2018; Sarmiento et al., 2019). Currently, much of the literature on concussion prevention and management focuses on high school age children (Nanos, Franco, Larson, Mara, & Laskowski, 2017; Sarmiento, Donnell, Bell, Tennant, & Hoffman, 2019; Suskauer et al., 2019; Wallace, Covassin, & Nogle, 2017). However, elementary school children can incur concussions from a variety of mechanisms, including sports participation (Haarbauer-Krupa et al., 2018; Master et al., 2020). When considering injury risk among younger children, especially those participating in sports, a focus on parents is essential as they often manage concussion identification and care for their children after an injury is sustained.

In consideration of sport safety and the prevention and management of concussion, it is important to assess parent concussion knowledge and attitudes as they have been shown to contribute to youth athletes' view of concussion and willingness to report a concussion (Register-Mihalik et al., 2018; Sarmiento et al., 2019). Parents' opinions towards seeking care after a concussion may be affected by factors such as socioeconomic status (Kroshus et al., 2018; Lin et al., 2015). Further, parents' beliefs about concussion reporting and seeking care can be influenced by their own concussion history (Kroshus et al., 2018), if their child has previously experienced a concussion (Kroshus, Stellino, Chrisman, & Rivara, 2017; Sarmiento et al., 2019), and if they are currently healthcare workers (Nanos et al., 2017). Beliefs and attitudes about their child's sports participation and performance also affect parents' opinions about concussion reporting and seeking medical care (Kroshus et al., 2017; Sarmiento et al., 2019). Parents may have concerns that their child will

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miss playing time or specialized sports achievement and these concerns can contribute to their communication with their children about reporting concussion (Kroshus et al., 2017; Sarmiento et al., 2019).

Although there is little evidence on concussion knowledge in children younger than age 10, there are reports from other domains related to risk taking that children in this age group have some understanding about their vulnerability and causality of risks (Cook, Peterson, & DiLillo, 2000; Kroshus, Gillard, Haarbauer-Krupa, Goldman, & Bickham, 2016; Morrongiello & Matheis, 2004; Morrongiello & Sedore, 2005). Children in this age group are more likely to rely on their parents for concussion education and care. The younger children are targeted with developmentally appropriate education about concussions, the less time they will be exposed to uncontested cultural messages about sport injury; however, it is important that children in this age group receive information based on rules to follow (Kroshus et al., 2016). Interventions for this stage of development about concussion prevention are likely to be different that those designed for adolescent athletes (Kroshus et al., 2016).

As such, the evidence suggests that parents play an integral role in the reporting and management of concussion in their children. While the previously mentioned research shows a robust association between parental opinions about concussion and subsequent attitudes and behaviors in their children, the bulk of this research has been conducted among parents of high school age children. Comparatively, little is known about whether this same relationship exists in elementary school age children (ages 5–10 years). Moreover, elementary school age years are a formative time for development of healthy attitudes around general well-being and safety. The aim of this study was to understand concussion symptom knowledge and concussion care-seeking attitudes among parents of children enrolled in elementary school.

2. Methods

The current study used a cross-sectional survey design. Our population of interest was parents of children enrolled in elementary school. A previous publication reported findings from this survey (for parents of middle school children) and describes the methodology in detail (Kerr et al., 2021). The study was approved by the Institutional Review Board at University of North Carolina at Chapel Hill.

2.1. Participants and recruitment

The study sample was recruited by Survey Sampling International (SSI), which used a pool of U.S. residents who agreed to participate in online survey research. These individuals provide demographic information from which SSI can identify those eligible for specific studies. SSI used certification processes such as digital fingerprinting, IP-verification, and built-in quality control questions to ensure data quality.

For the elementary aim of the larger study, SSI only targeted individuals who had self-reported as parents of children aged 5–10 years. Among this group of eligible participants, SSI randomly generated a sample that received an invitation to participate in this study.

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To avoid self-selection bias, specific study details were not included in the invitation; rather participants were simply invited to "take a survey," with study details provided upon accepting the invitation. Upon completion of a survey study, SSI reimbursed participants with "reward points" that can be redeemed for cash, gift cards, etc.

2.2. Data collection

Our online questionnaire was hosted on Qualtrics and was based off a modified version of a previously validated questionnaire. (Register-Mihalik et al., 2018; Kerr et al., 2021) Further, the questionnaire was refined for this study with input from injury epidemiologists, athletic trainers, sports medicine practitioners, and youth sport parents. The survey was piloted with a sample of five parents of young children and revised accordingly.

We provided the finalized survey via the URL of the online questionnaire to SSI, who integrated it into their survey platform. From September to October 2018, 475 randomly selected U.S. residents (aged ≥18 years) identifying as parents of children aged 5–10 years were invited and agreed to complete the online questionnaire. Of these 475 individuals, 400 respondents (81.2%) confirmed having children currently enrolled in elementary school at the time of responding (via a screening question within our questionnaire), completed all survey items, and were thus included in analyses. Information regarding items pertinent to the current study is provided below in results.

2.3. Measures

Our outcomes of interest were measurements of concussion symptom knowledge and care-seeking attitudes, modified for the current study population (Register-Mihalik et al., 2018; Kerr et al., 2021). These outcomes have been reported among a sample of middle school sport parents in a previous publication (Kerr et al., 2021). Table 2 includes measures on concussion symptom knowledge and concussion care-seeking attitudes. Concussion symptom knowledge included 25 symptoms (responses of yes/no/maybe). Correct answers scored 2 points; "maybe," 1 point; and incorrect answers, 0 points. The possible score range was 0 to 50, with higher scores indicating higher concussion symptom knowledge. Concussion care-seeking attitudes included five items on a 7-point scale. Items examined how a respondent would feel about seeking medical care for their children in elementary school if they had a concussion. The potential range of scores was 5 to 35, with higher scores indicating more positive attitudes toward seeking care.

Our explanatory variables of interest were parent and elementary school children characteristics. These variables were chosen because previous work in older athletes suggests potential connections between such variables and care-seeking outcomes (Register-Mihalik et al., 2013; Wallace, Covassin, Nogle, Gould, & Kovan, 2017). Parent characteristics included age (in years), sex, race/ethnicity (Register-Mihalik et al., 2013), education, concussion history, and competitiveness. The competitiveness (capturing an individual's desire to win in interpersonal situations) scale aimed to examine the extent of an individual's "desire to win in interpersonal situations" and included 20 statements on a 5-point Likert scale (Smither & Houston, 1992). The range of potential scores was 20–100, with higher scores indicating higher levels of competitiveness. Child characteristics

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(reported by the parent) included participation in organized sports within the past year and concussion history. Participating parents were instructed to provide characteristics only for their children currently enrolled in elementary school. If parents had multiple children in elementary school, they were asked to consider child characteristic questions collectively, and as a result we were unable to distinguish child characteristics on a child-by-child basis. Organized sports included sports played in elementary school or in youth club/recreation leagues.

Respondents whose children in elementary school played sports were asked to list all the sports that their children played from a pre-selected set (with a fill-in "other" option). We then classified sports according to contact level, based on the existing literature (Rice, 2008). Non-contact sports included: archery, cross country, dance, golf, swimming, tennis, and track and field. Limited contact sports included: baseball, fencing, flag football, racquetball, softball, and volleyball. Contact sports included: basketball, boxing, cheerleading, field hockey, gymnastics, ice hockey, lacrosse, martial arts, soccer, water polo, and wrestling. Although tackle football is classified as a contact sport, we opted to keep this as a separate category as previous research has found it to have higher concussion rates than other contact sports across multiple levels of play (Kerr et al., 2019; Kerr, Cortes, & Caswell, 2017; Rice, 2008; Tamimalam et al., 2018), If children played multiple sports, they were categorized according to the highest contact-level to which they were exposed (e.g., a child participating in ice hockey and tennis was classified in the "contact sports" category). As the count for non-contact sports was low, we merged non-contact and limited contact sports into one category.

2.4. Statistical analysis

Data were analyzed using SAS (version 9.4; SAS Institute Inc., Cary, NC). This analysis was similar to data from a middle school cohort that was part of the larger parent study (Kerr et al., 2021). Descriptive analyses were conducted for all measures of interest. For quantitative data, means and standard deviations were calculated when data followed normal distributions; medians and interquartile ranges (IQR) were calculated when data followed non-normal distributions. For categorical data, frequencies were calculated.

Multivariable ordinal logistic regression models identified predictors of higher score levels for each outcome (concussion symptom knowledge and care-seeking attitudes). Due to the discrete nature of the outcome measures, an *a priori* decision was made to categorize scores into 3 ordinal levels based on ~33% increments in the overall range of each score. Score cut-offs were selected to represent meaningful elevations in the levels of the outcomes. Thus, concussion symptom knowledge levels were 0–16, 17–33, and 34–50, while concussion care-seeking attitudes were 5–15, 16–25, and 26–35. Tests for the proportional odds assumption were conducted prior to fitting models.

In these models, parent characteristic-related adjusted odds ratios (aOR) were computed for: age (maintained as discrete variable, with the aOR examining the effect of 10-year increases); sex (female versus male); race/ethnicity (person of color versus white/non-Hispanic); education level (bachelor's degree or more versus less than a bachelor's degree); parent concussion history (yes versus no); and competitiveness (maintained as

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discrete variable, with the aOR examining the effect of 10% increases). Similarly, child characteristic-related aORs were computed for: concussion history (yes versus no) and sport participation (each contact level of sport participation versus no sports participation). All aORs with 95% confidence intervals (CI) excluding 1.00 were deemed statistically significant.

3. Results

3.1. Descriptive statistics

Overall, 400 parents completed the questionnaire, with most being female (70.0%), white/non-Hispanic (76.5%), without a college degree (52.3%), and with children in elementary school playing organized sports (72.0%). The mean parent age was 36 ± 8 years. The mean competitiveness score was 61 ± 11. In addition, 24.3% of parents reported a concussion history, while 15.5% of parents reported a concussion history for their children in elementary school.

We observed median scores of 39/50 (IQR = 32–44) for concussion symptom knowledge (Fig. 1) and 32/35 (IQR = 28–35) for concussion care-seeking attitudes (Fig. 2). Symptoms that were the most commonly answered correctly were: headache (79.3%), blurred vision (79.3%), confusion (77.3%), and nausea/vomiting (74.0%; Table 2). Parents were less likely to answer emotional symptoms correctly such as: sadness (30.0%), more emotional (33.3%), and feeling nervous or anxious (34.3%). For concussion care-seeking attitudes, the mean scores for each item were high, ranging from 5.62 to 6.25 (on a 7-point scale), with the lowest item mean being “extremely difficult…extremely easy” for care seeking. Data for both outcomes were skewed left, with 70.0% and 82.0% of parents in the highest-level groups for concussion symptom knowledge and care-seeking attitudes, respectively. In contrast, 4.5% and 2.8% of parents were in the lowest level groups for concussion symptom knowledge and care-seeking attitudes, respectively (Table 1).

3.2. Multivariable ordinal logistic regression models

In the multivariable model for concussion symptom knowledge, odds of greater knowledge level were higher with increased parental age (10-year increase aOR = 1.59; 95%CI = 1.10–2.28), with increased competitiveness (10% scale increase aOR = 1.25; 95% CI = 1.04–1.50), in female versus male parents (aOR = 3.90; 95% CI = 2.27–6.70), in white/non-Hispanic parents versus parents that were not white/Non-Hispanic (aOR = 1.79; 95%CI = 1.07–2.99), and in parents with a personal concussion history versus without a concussion history (aOR = 2.34; 95%CI = 1.25–4.36; Table 3). However, odds of greater knowledge level were lower in parents whose elementary school children did not have versus had a concussion history (aOR = 0.40; 95%CI = 0.21–0.78). In the multivariable model for concussion care-seeking attitudes, odds of more positive concussion care-seeking attitudes were only higher among parents with a college degree versus no college degree (aOR = 1.98; 95% CI = 1.09–3.60). In both models, higher levels of respective outcomes were not associated with whether parents’ elementary school children aged 5–10 years played organized sports.

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4. Discussion

Elementary school age is a formative time for developing healthy and safe sport practices. It is important to understand how parents of elementary aged children perceive concussion safety because of their involvement with children's activities. This is one of the first studies utilizing a national sample to examine parent concussion knowledge and care seeking attitudes for elementary school children (aged 5–10 years). In combination with previous work in youth sports (Rice & Curtis Jun, 2019; Thomas et al., 2018; Waltzman & Sarmiento, 2019), these findings provide key data to inform parental education strategies to maximize health and safety for schools and other community programs that include this younger age group.

Generally, parents overall had a high level of knowledge about concussion and positive attitudes toward seeking care. However, our study noted factors associated with higher levels of each indicating the need to tailor educational efforts to specific demographics and cultural considerations. Older parents, females, white/non-Hispanic parents, those with a personal concussion history and whose children had a concussion history, and those with higher competitiveness scores displayed higher levels of concussion knowledge. Older parents potentially had more time to accrue concussion-related knowledge, however, specific reasons for this difference are unknown. As such, younger parents may benefit from additional concussion-related education. While it is also not fully known why female parents displayed higher concussion knowledge levels, this difference suggests varied education may be needed to provide foundational knowledge to both male and female parents. The findings of higher knowledge in those parents who identify as white/non-Hispanic illustrate potential disparities in concussion education. Such findings may be due to lack of availability of concussion materials in languages other than English (Krochus, Gonzalez, Chrisman, & Jimenez, 2019). Additionally, these findings highlight the need for more culturally relevant materials and diverse strategies for elementary school parents. Our competitiveness findings are novel, as the current study is one of the first to include competitiveness as a potential factor concerning concussion-related outcomes. The reasons between these associations are unknown; however, provide a foundation that varied parent characteristics, including competitive nature, may impact concussion knowledge.

Concussion knowledge in parents with a personal history of concussion was higher, implying that following a concussion parents may have more exposure to information that could improve knowledge levels. However, parental concussion knowledge was lower among those with a child with a history of concussion. This finding was unexpected. Our findings concerning concussion history differed from previous work in youth athletes (Kay, Register-Mihalik, Ford, Williams, & Valovich McLeod, 2017), where few associations were observed between parental and child experiences and concussion related knowledge and attitudes. Future studies should examine other factors that mediate parent concussion knowledge in the presence or absence of their child's experience with concussion; however, this may be tied into relationships with parents' own personal experiences.

Level of education (i.e., having at least a bachelor's degree) showed a positive relationship to care-seeking attitudes for concussion in elementary school children. This finding, as

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with previous findings, highlights potential disparities and access to information that may influence concussion perceptions. Future work should examine how to improve the gap in concussion perceptions that may be present among different levels of education and other factors closely associated with socioeconomic status.

In addition to understanding parent characteristics related to concussion education, elementary school aged children are able to understand about vulnerabilities for risk taking and how to follow rules that will contribute to their understanding of concussion and the importance or reporting this type of injury to their parents or a trusted adult. It is important to create developmentally appropriate materials on concussion symptoms, reporting, and prevention for this younger age group that parents can use to provide education to children.

In summary, many of our findings align with previous work suggesting various parent and child characteristics are related to parental concussion knowledge in studies of older children (Kroshus et al., 2018; Lin et al., 2015; Sarmiento et al., 2019). Additionally, no differences in concussion knowledge were observed between parents with children who played organized sport and those who do not. Our combined findings highlight that the diversity of parent and child characteristics may also indicate the need to ensure that concussion prevention and sport safety information is tailored for specific audiences to aid dissemination among parents of elementary aged children. Furthermore, in combination with previous literature, findings illustrate the importance of devising approaches for concussion prevention and management that involve education of all elementary school parents, regardless of child sport participation. Efforts for this age group can include guidance for return to activities since children can experience concussion from a wide variety of injury mechanisms such as falls, playground injuries, in gym class and recess at school, dancing, and so forth (Haarbauer-Krupa et al., 2018). It is particularly important to begin concussion education for children at a young age to help shape future attitudes for concussion safety (Kroshus et al., 2016).

As many youth settings lack on-site access to athletic trainers or other medical professionals, children are increasingly seen in the emergency department for concussion care, especially following the passage of legislation in 50 states that requires medical clearance for return to play in organized sports (Tamimalam et al., 2018; Thomas et al., 2018). However, a recent study identified that parents may not always understand specific discharge advice or concussion symptoms and follow-up instructions provided in the healthcare setting (Thomas et al., 2018). Even for parents seeking care, they may not always know what to do to ensure safe return to activities and when to be seen for follow-up care, especially for persistent symptoms in young children. The current study findings provide the foundational considerations around parental and child factors that should be considered in educational initiatives to address such concussion-related information. Additionally, schools are important community resources to provide education and information through school health initiatives and parent groups (such as the Parent Teacher Association (PTA)). School professionals recognize the importance of care for a concussion (Romm et al., 2018) and can also offer further information to parents in their setting.

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5. Limitations and future research

There are several limitations to this study. First, the questionnaire used was developed by investigators for this study and internal and external validity have not been confirmed. Responses obtained are from a cross-sectional sample that reflected respondents' knowledge and opinions at a particular time point. Although we used a nationwide sampling pool that SSI used to recruit participants for this study, we acknowledge the potential for different profiles of parents who completed the survey compared to those who did not. Further, although participant demographics varied across the sample, it is difficult to comprehend the representativeness of this sample in generalizing to the entire population. Second, parent responses to the survey may have been biased based on their level of education, which could have contributed to their understanding of the survey questions. Third, we acknowledge that additional parental-, child-, and community-level factors exist that we were not able to collect through the questionnaire used for this study. Third, race/ethnicity is often a proxy for SES and this study did not examine these areas specifically. Further prospective studies that can quantify aspects of the community (i.e., urban/rural communities, SES, and race/ethnicity), parents, and children as contributors to parent knowledge and willingness to seek care for concussions will be helpful for devising educational products and prevention efforts.

6. Conclusions

Parent demographics/characteristics were associated with concussion symptom knowledge and care-seeking attitudes for children aged 5–10 years. Such differences highlight the need for targeted strategies for parents regarding concussion prevention and management for their young children to achieve optimal health and safety. Further, the lack of associations with children's organized sports participation points to approaches offering messages to all parents and considering all causes of concussion beyond sport participation. Parent knowledge and care-seeking attitudes influence management of young children, which contributes to health and wellness in this age group.

7. Practical implications

The findings from this study offer key information to inform community safety initiatives concerning concussion among elementary school parents and their children.

Funding

This work was partly supported by awards (U01CE002885 and 1U01CE002880) from the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. The University of North Carolina Injury Prevention Research Center gratefully acknowledges the support of an Injury Control Research Center award (R49/CE002479) from the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

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Abbreviations:

TBI	traumatic brain injury
SSI	Survey Sampling International
IQR	interquartile ranges
aOR	adjusted odds ratio

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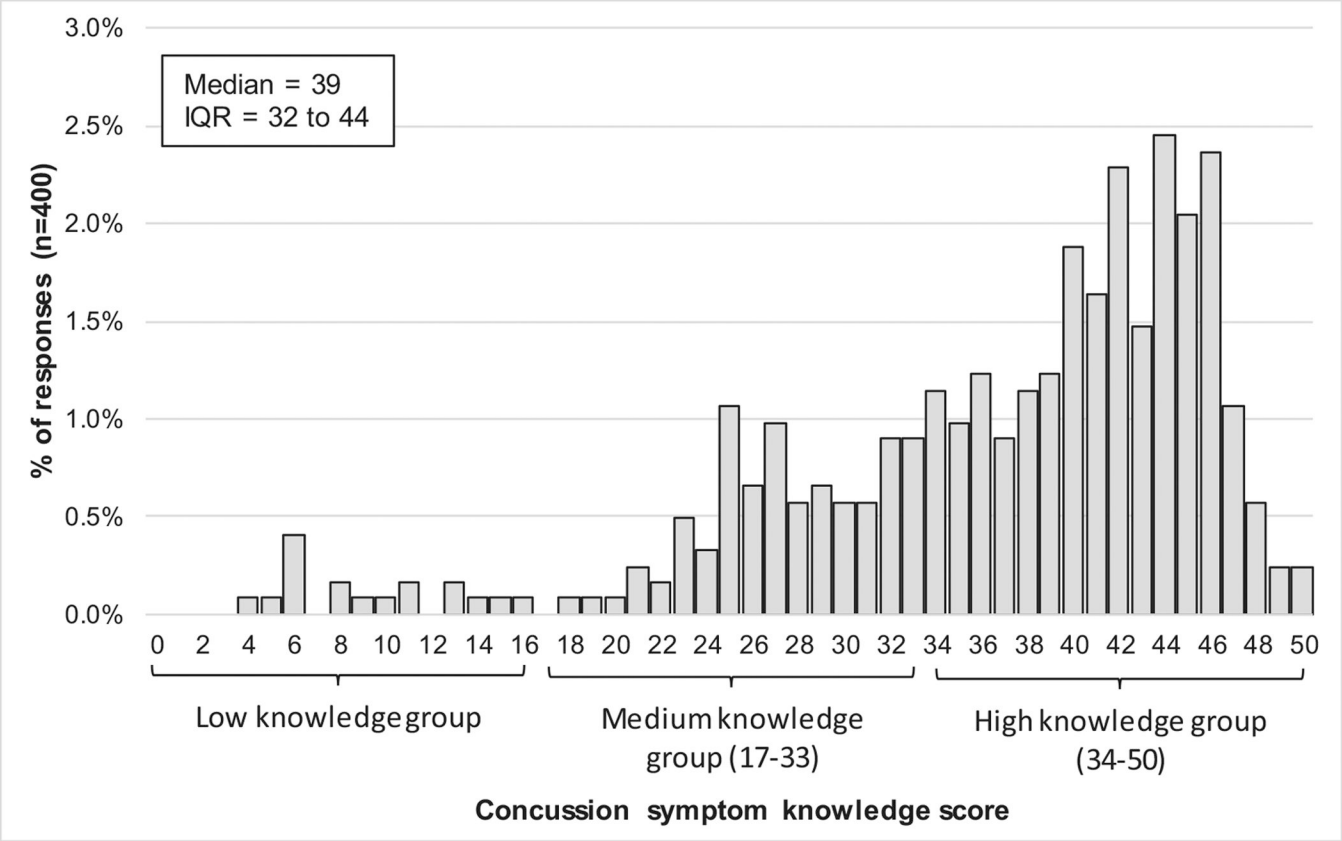

Fig. 1.

Distribution of scores of concussion symptom knowledge among sample of 400 United States parents of elementary school children, September–October 2018.

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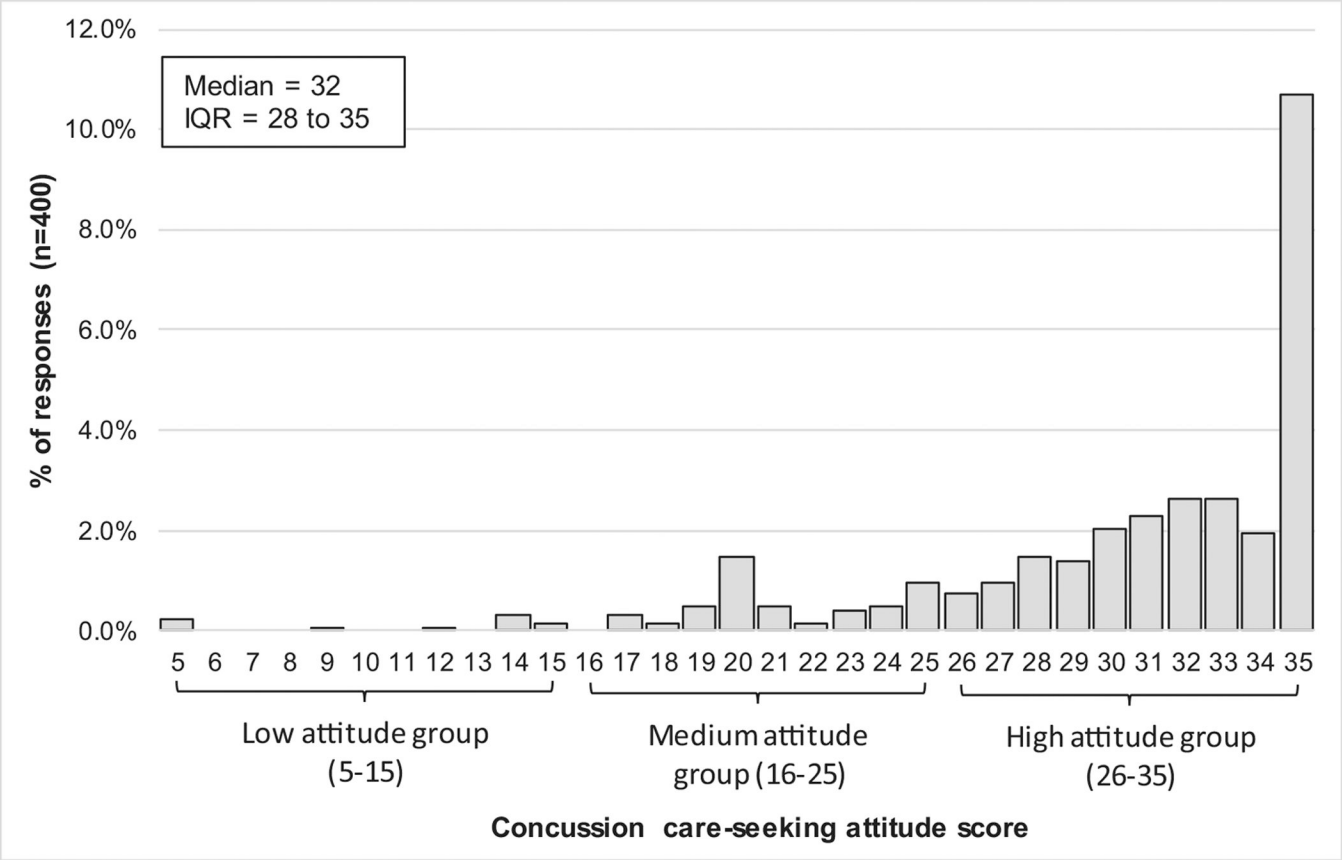

Fig. 2.

Distribution of scores of concussion care-seeking attitudes among sample of 400 United States parents of elementary school children, September–October 2018.

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Table 1:

Demographics of parents of elementary school children (n = 400).

Variable	*n* (%)
Parent characteristics	
Age in years	(Mean ± SD = 36 ± 8)
<30	78 (19.5)
30–39	231 (57.8)
40–49	67 (16.8)
>49	24 (6.0)
Gender	
Male	120 (30.0)
Female	280 (70.0)
Race/Ethnicity	
White/non-Hispanic	306 (76.5)
Person of color	94 (23.5)
Black/African-American	23 (5.8)
Asian/Pacific Islander	13 (3.3)
Latinx	46 (11.5)
Mixed race/other	12 (3.0)
Education	
Less than a bachelor's degree	209 (52.3)
Less than high school	9 (2.3)
High school graduate or GED	73 (18.3)
Some college; no degree	84 (21.0)
Associate's degree	43 (10.8)
Bachelor's degree and above	191 (47.8)
Bachelor's degree	116 (29.0)
Master's degree	51 (12.8)
Doctorate	18 (4.5)
Professional degree	6 (1.5)
Parent concussion history	
No	303 (75.8)
Yes	97 (24.3)
Competitiveness Index	(Mean±SD = 61 ±11)
20–39	17 (4.3)
40–59	164 (41.0)
60–79	198 (49.5)
80–100	21 (5.3)
Children characteristics	
Played organized sports within past year	
No sports	112 (28.0)
Yes, non-/limited contact sports	32 (8.0)

Variable	*n* (%)
Yes, contact sports	227 (56.7)
Yes, football	29 (7.3)
Child concussion history	
No	338 (84.5)
Yes	62 (15.5)

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Table 2:

Concussion symptom knowledge descriptive statistics for parents of elementary school students (n = 400).

Concussion symptom knowledge (Options of Yes, Maybe, No)[a] ***Question: Do you think the following are signs and symptoms of a concussion***	**Responses, *n* (%)**		
	Yes	**Maybe**	**No**
Headache	317 (79.3)	58 (14.5)	25 (6.3)
“Pressure in the head”	273 (68.3)	98 (24.5)	29 (7.3)
Skin rash	47 (11.8)	93 (23.3)	260 (65.0)
Nausea or vomiting	296 (74.0)	81 (20.3)	23 (5.8)
Dizziness	326 (81.5)	45 (11.3)	29 (7.3)
Blurred vision	317 (79.3)	57 (14.3)	26 (6.5)
Balance problems	305 (76.3)	65 (16.3)	30 (7.5)
Sensitivity to light	243 (60.8)	119 (29.8)	38 (9.5)
Neck pain	224 (56.0)	139 (34.8)	37 (9.3)
Joint pain	89 (22.3)	185 (46.3)	126 (31.5)
Feeling slowed down	238 (59.5)	119 (29.8)	43 (10.8)
Feeling like “in a fog”	267 (66.8)	100 (25.0)	33 (8.3)
“Don’t feel right”	284 (71.0)	81 (20.3)	35 (8.8)
Difficulty concentrating	282 (70.5)	87 (21.8)	31 (7.8)
Difficulty remembering	280 (70.0)	89 (22.3)	31 (7.8)
Fatigue or low energy	239 (59.8)	122 (30.5)	39 (9.8)
Confusion	309 (77.3)	63 (15.8)	28 (7.0)
Drowsiness	286 (71.5)	82 (20.5)	32 (8.0)
Sensitivity to noise	200 (50.0)	144 (36.0)	56 (14.0)
Trouble falling asleep	150 (37.5)	158 (39.5)	92 (23.0)
More emotional	134 (33.5)	182 (45.5)	84 (21.0)
Irritability	166 (41.5)	173 (43.3)	61 (15.3)
Sadness	120 (30.0)	166 (41.5)	114 (28.5)
Nervous or anxious	137 (34.3)	177 (44.3)	86 (21.5)
Teeth pain	99 (24.8)	178 (44.5)	123 (30.8)

[a]Yes = correct answer, except for “skin rash,” “joint pain,” and “teeth pain”.

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Table 3:

Concussion care-seeking attitudes descriptive statistics for parents of elementary school students (n = 400).

Concussion care-seeking attitudes (rated on a 1–7 scale with 7 being more favorable								
Question: For thefollowing, select the number closest to each word that describes howyoufeel aboutseeking medical careforyour child(ren) in middle school when he/she may have a concussion.								
	***n* (%)**							**Mean ± SD**
	1	**2**	**3**	**4**	**5**	**6**	**7**	
Irresponsible…Responsible	6 (1.5)	2 (0.5)	5 (1.3)	32 (8.0)	31 (7.8)	77 (19.3)	247 (61.8)	6.25 ±1.23
Harmful…Beneficial	8 (2.0)	7 (1.8)	7 (1.8)	28 (7.0)	48 (12.0)	74 (18.5)	228 (57.0)	6.09 ±1.38
Extremely difficult…Extremely easy	5 (1.3)	6 (1.5)	17 (4.3)	70 (17.5)	70 (17.5)	73 (18.3)	159 (39.8)	5.62 ±1.44
Bad…Good	7 (1.8)	5 (1.3)	9 (2.3)	30 (7.5)	44 (11.0)	84 (21.0)	221 (55.3)	6.09 ±1.34
Unimportant…Important	6 (1.5)	6 (1.5)	8 (2.0)	33 (8.3)	32 (8.0)	74 (18.5)	241 (60.3)	6.16 ±1.34

J Safety Res. Author manuscript; available in PMC 2022 May 27.