

Frontline Medical Professionals' Ability to Recognize and Respond to Suspected Youth Sex Trafficking

Kaitlin M.H. Winks, MA,* Francisco Cerda, MPH,† Corey J. Rood, MD,† and Jodi A. Quas, PhD*

Objectives: Many youth sex trafficking victims visit health care facilities while being trafficked. Little is known regarding whether frontline medical professionals recognize risk factors or are aware of effective interviewing approaches to identify and intervene for youth victims. The aim of the present study was to assess frontline medical professionals' knowledge of youth sex trafficking, adolescent development, and forensically informed interviewing to provide guidance for professional training.

Methods: Two hundred seventy-seven frontline medical professionals [first responders and emergency department (ED)/clinical professionals] in Southern California completed an online survey about their background, training, perceptions of likely youth sex trafficking scenarios, knowledge of adolescent development, sex trafficking, and forensically informed interviewing.

Results: Nearly all professionals recognized risk and the need to collect additional information, yet few (1% first responders and 12% ED) recognized that risk as sex trafficking. Forty-six percent of first responders also indicated that responding to nonmedical needs was outside of their job responsibilities. A mixed model analysis of covariance revealed significant interactions of gender by domain ($P = 0.01$) and domain by training ($P = 0.045$). Women evidenced better knowledge (78% accuracy) about sex trafficking and interviewing (73%) than adolescent development (64%), whereas men were more accurate with sex trafficking (64%) than adolescent development (61%) and interviewing (62%). For domain by training, tests of within subjects' contrasts showed a quadratic relation ($P = 0.02$) was the best fit model, where training was most strongly associated with accuracy in sex trafficking knowledge.

Conclusions: Frontline medical professionals are lacking in their knowledge of youth sex trafficking, interviewing, and especially adolescent development. An area in which interventions can be targeted is with training (because it emerged in a significant interaction). Training could combat unrepresentative depictions of victims, improve understanding of common victim characteristics, and highlight how forensically informed interviewing can improve medical professionals' ability to gather crucial history about victims' experiences and needs.

Key Words: youth sex trafficking, frontline medical professionals, first responders, adolescents, identification

(*Pediatr Emer Care* 2023;00: 00–00)

Commercial sexual exploitation or sex trafficking of minors is largely an invisible crime. In 2020, an estimated 3270 youth sex trafficking victims were detected in the United States¹—likely a small fraction of total victims, often due to poor screening and

victims rarely self-disclosing. Victims may be mistrusting of authorities, are involved in trafficking as a way of surviving, or are too afraid to disclose.^{2–4} Discovery instead is typically indirect. For instance, law enforcement question suspects of delinquency, criminal activity, or who have run away only to find out later that they have also been victimized.⁵ Yet, other victims seek medical attention while being trafficked (eg, emergency rooms or clinics) or encounter first responders when emergency situations arise. Medical professionals are generally trusted authorities⁶ or at least are far more trusted than law enforcement. Victim detection, though, by medical professionals depends on whether they recognize risk and know how to respond appropriately, especially frontline health care workers who are especially likely to encounter youth victims in emergency situations.

Surveys of medical professionals suggest that they often have a solid general understanding of trafficking laws, and a subset can describe what to do once victims are identified.^{7–9} However, surveys say little about whether medical professionals can actually identify potentially trafficked youth in their day-to-day work. Nor do surveys reveal whether frontline medical professionals have sufficient knowledge of trafficking, youth development, and interviewing approaches to recognize and respond to potential victims. Insight into such knowledge, though, is crucial to direct training toward the most appropriate topics necessary for victim identification and intervention.

The purpose of the present study was to assess frontline medical professionals' recognition of and response to youth sex trafficking. Frontline medical professionals' knowledge of adolescent development, sex trafficking risk, and history-taking approaches in situations highly suggestive of sex trafficking were assessed. These topics were of particular interest given that nearly half of sex-trafficked persons in the United States are recruited as adolescents.¹ Knowledge of adolescent behavior, especially in relation to risk, is therefore directly relevant to identification. In addition, medical professionals' knowledge of forensically informed questioning strategies is directly relevant to their ability to determine risk and elicit accurate histories, as using best-practice strategies can increase disclosures from victims of child sexual abuse.¹⁰

METHODS

Materials

The survey contained four sections. First were demographic questions (eg, participant age, gender, race/ethnicity, type of professional, years in profession). Second were three brief vignettes describing situations that alluded to youth sex trafficking but did not explicitly reference or state that trafficking or victimization was occurring. Separate versions were created for first responder and ED/clinical participants, given that the two types of professionals encounter suspected victims in different ways (eg, at the scene of a drug overdose vs in the ED treating a patient with urinary pain). Vignettes varied the victim's gender (female/male), described the youth as “teenage-looking” and the trafficker or purveyor as being “much older” and male. Each vignette included at least four cues to trafficking, taken from criminally prosecuted legal cases in California.¹¹ Participants read the vignettes and indicated

From the*Department of Psychological Science, and†Department of Pediatrics, School of Medicine, University of California, Irvine, Irvine, CA.

Disclosure: Drs. Quas and Rood received funding from American Psychology-Law Society Diversification Enhancement Grant. Dr. Quas also received funding from National Science Foundation 1921187. The other authors received no additional funding. The authors declare no conflicts of interest.

Role of Funder/Sponsor: The American Psychology-Law Society and National Science Foundation had no role in the design and conduct of the study.

Reprints: Dr. Jodi Quas, PhD, Department of Psychological Sciences, 4201 Social & Behavioral Sciences Gateway, University of California, Irvine, Irvine, CA 92697–7085 (e-mail: jquas@uci.edu).

Copyright © 2023 Wolters Kluwer Health, Inc. All rights reserved. ISSN: 0749-5161

how they would proceed, and when, what, and where would they ask of the youth/adults.

The third section assessed participants' knowledge of adolescence, trafficking risk, and best-practice history-taking approaches via a series of true and false statements (see Table 1 for items) derived from previously established research (true/false classifications were further verified by a medical professional and developmental psychologist with expertise in trafficking, youth development, and interviewing). Participants rated their agreement (1 = strongly disagree to 6 = strongly agree, with a separate do-not-know option). The first 12 statements^{12–14} concerned adolescent development, specifically typical behaviors, decision making, and relationships in adolescents that can confer different levels of risk. The next 16 statements concerned trafficking of minors,^{8,9} including who is at risk, its definition, and prevalence. The final 22 statements concerned disclosure patterns in youth victims, witnesses, and suspects as well as best-practice interviewing or history-taking tactics to elicit information from vulnerable youth. The latter statements were modified from surveys of professionals' knowledge of disclosure processes and forensic interviewing of child victims/witnesses^{15,16} and surveys of professionals' perceptions of interrogations of juvenile suspects,^{17,18} both populations that overlap with trafficked minors.

The fourth section asked about respondents' training in adolescent development, sex trafficking, and forensically informed interviewing or history-taking approaches. Questions assessed the importance of (1 = not at all to 5 = extremely important) and whether participants had received training in (yes/no) each domain, and if they had, when and the training content.

Procedures

Materials and procedures were approved by the University of California Irvine's Institutional Review Board, and there were no conflicts of interest. Funding was provided by the American Psychology-Law Society Diversification Enhancement Grant and National Science Foundation Grant #1921187. Contacts at local agencies agreed to distribute the survey link to those within their respective organizations (links sent between October 27, 2020 and June 9, 2021). The link did not mention trafficking of minors but instead invited participants to complete a survey on their knowledge and experience with high-risk youth, done to reduce potential biases in participation and capture a wide range of frontline medical professionals. Because contacts forwarded emails for recruiting, we were unable to estimate response rates. Those who wished to take part visited the link, granted informed consent, and completed the survey. They were then thanked and directed to a separate link to provide personal information for a gift card to have or donate.

Statistical Analyses

Coding

Vignettes

A reliable coding scheme was developed [via four coders, intraclass correlation (ICC) = .93] to score participants' vignette responses according to whether they (a) identified risk in general, (b) reported concerns for sex trafficking specifically, (c) reported a need for further questioning, and (d) indicated nonresponsibility. Each vignette was coded separately. Scores were summed for each of the aforementioned topics. Higher scores for codes a, b, and c reflected greater recognition across vignettes (range, 0–3); higher scores for (d) reflect perceptions that responding further is outside of the respondent's job responsibilities.

Knowledge

Three accuracy scores were created to reflect participants' knowledge of adolescent development, sex trafficking, and forensically informed interviewing. Each item was scored as correct (1) or incorrect (0) (ratings of 1–3, which reflect disagreement with false statements and ratings of 4–6, which reflect agreement with true statements = correct; ratings of 1–3, or disagreeing true and ratings of 4–6, or agreeing with false statements = incorrect). The number of correct responses was summed and divided by the number of statements in each domain to create proportion accuracy scores. Higher scores indicate greater higher accuracy within domain.

To explore the possibility of general biases in perceptions about youth sex trafficking among the participants, a separate myth endorsement score was calculated by selecting the subset of statements that reflected exaggerations of sensationalized cases, unrepresentative media portrayals, or dramatic false statements.^{19,20} Sixteen such statements or myths (equal percentages of the total in each domain) were included. A composite myth endorsement proportion score was calculated by summing the number of incorrect myths endorsed and dividing it by 16. Higher scores reflect greater myth endorsement (ie, inaccuracy).

Training

Because training may affect participants' interpretations of the vignettes and knowledge, a training score was created as the sum of the total number of hours of training participants reported across domains.

Data Analysis Plan

G*power (University of Bonn, Bonn, Germany) analyses indicated that our two sample Ns (116 first responders and 129 ED/clinical professionals) were sufficient to detect small effect size interactions, power = .95, alpha = .05, for a mixed model analysis of covariance and a multiple linear regression. Thus, our sample size of 277 was adequate to test hypotheses.

Preliminary Analyses

Descriptive data of sample characteristics are presented. Then, preliminary analyses evaluated whether demographic or training characteristics differed between first responders and ED/clinical medical professionals. Because the analyses involved nonoverlapping group comparisons, independent means *t* tests and χ^2 tests were conducted.

Vignettes

Main analyses concerning participants' recognition of risk and reported suspicions of trafficking involved descriptive statistics. These were conducted separately for first responders and ED/clinical professionals. The vignettes necessarily varied between groups to capture the types of situations each group is most likely to encounter (in the field vs in an ED/clinical setting). Thus, inferential between-group comparisons were not appropriate.

Knowledge

Main analyses first considered whether participants' knowledge varied between the two groups of professionals and across the knowledge domains (adolescent development, trafficking, interviewing). Given this interest—in both between- and within-subject effects—and given the continuous nature of the three knowledge scores, a mixed model analysis of covariance (ANCOVA) was deemed the most appropriate and parsimonious statistical approach. This analysis, conducted in SPSS 28, concurrently tested for the between-subject main effect of group (collapsed across domains of knowledge), the within-subject main effect of domain of knowledge (collapsed

TABLE 1. Percent Accuracy About Knowledge of Adolescent Development, Sex Trafficking, and Interviewing

Questions	First Responders	ED/ Clinic	Overall
<i>Adolescent Development</i>			
True			
Many adolescents experiment sexually	91%	87%	90%
High-emotion situations hinder adolescents' ability to think about the consequences of their actions before acting	85%	88%	86%
Many adolescents experiment sexually	91%	87%	90%
High-emotion situations hinder adolescents' ability to think about the consequences of their actions before acting	85%	88%	86%
Few adolescents engage in antisocial behavior (eg, stealing or truancy) during this period of development	45%	37%	42%
Peer relationships can be a risk factor for delinquency	85%	90%	87%
Few adolescents engage in antisocial behavior (eg, stealing or truancy) during this period of development	45%	37%	42%
Peer pressure can promote positive behaviors in adolescents	68%	73%	70%
Approximately half of adolescents have tried alcohol by the age of 14	60%	76%	65%
False			
Autonomy is not important until after adolescence	72%	79%	74%
It is not until adulthood that individuals can think about the long-term consequences of their actions*	46%	39%	43%
For most adolescents, physical (eg, puberty) and socioemotional development progress together	33%	55%	40%
Youth make eye contact with others more frequently than adults do*	67%	70%	68%
Alienation and disrespect for parents characterize most adolescents	43%	50%	45%
Adolescents are virtually always more impulsive than adults*	15%	12%	14%
<i>Sex Trafficking</i>			
True			
Victims of sex trafficking often report histories of having been sexually abused	72%	80%	74%
More than 25% of youth in the United States aged younger than 18 who live on the street report exchanging sex for drugs or money	53%	83%	63%
Running away, including from home, foster care, or group home, increases the likelihood of youth being sex trafficked	82%	86%	83%
Transgender youth are a particularly vulnerable population for sex trafficking	55%	87%	66%
Having a parent or close relative as a prostitute increases youth's likelihood of being trafficked	73%	76%	74%
Removal from home (ie, being placed in a foster or group home) because of maltreatment suspicion or substantiation places youth at risk for sex trafficking	63%	76%	67%
Sex-trafficked youth may be picked up by law enforcement because they are suspected of committing another crime	63%	91%	73%
Some youth believe their traffickers are their boyfriends	73%	87%	78%
There is higher risk for youth sex trafficking in areas with transient male populations (eg, military bases, truck stops, convention centers)	66%	77%	70%
False			
Mild delinquent behaviors, like vaping, act as gateway behaviors that place youth at risk for sex trafficking*	55%	32%	48%
A 15-y-old boy who has sex for money should be held criminally accountable for his actions	61%	70%	64%
Trafficking must involve travel, transfer, or movement of youth across state or national borders*	70%	76%	72%
Female sex trafficking victims rarely visit health care providers while being trafficked*	9%	29%	16%
If youth aged younger than 18 consented to having sex in exchange for money or goods, it is <u>not</u> sex trafficking*	76%	79%	77%
A 14-yr-old female prostitute should be held accountable for her actions	64%	70%	66%
Involvement with the juvenile justice system does <u>not</u> place adolescents at higher risk for sex trafficking*	61%	69%	64%
<i>Interviewing</i>			
True			
Youth are more reluctant to disclose trafficking when they have a previous juvenile justice history than when they do not	54%	62%	57%
Some youth do not disclose trafficking because the trafficker is their boyfriend or girlfriend	78%	89%	82%
Fear of retaliation in youth can reduce their willingness to disclose sex trafficking experiences	79%	93%	84%
Some youth might not tell about their experiences because they get a lot of stuff, like phones or salon visits, from their traffickers	72%	90%	78%

Continued next page

TABLE 1. (Continued)

Questions	First Responders	ED/Clinic	Overall
Open-ended (“Tell me about...”) questions are more effective at eliciting details about youth's relationship with a trafficker than about youth's actual trafficking behavior	68%	83%	73%
Youth's feelings of complicity in sex trafficking can lead them to be evasive when being questioned	77%	88%	81%
Close-ended (eg, yes or no) questions can increase how much information youth provide about trafficking	44%	36%	41%
Being relaxed, warm, and supportive when interacting with youth decreases their evasiveness when talking about abuse	83%	85%	83%
Youth are more likely than adults to falsely confess to crimes they did not commit	58%	69%	61%
Presenting youth with evidence of their trafficking experiences increases the amount of information they report	51%	46%	50%
Youth involved in trafficking can react angrily when asked about their experiences	80%	87%	82%
False			
Youth who are combative when talking to professionals are unlikely to be victims	73%	83%	77%
Having a family member in the room with youth helps them disclose trafficking*	76%	75%	76%
Youth virtually always trauma bond with the trafficker, making it necessary to interrogate them as suspects to find out what has really happened*	33%	50%	39%
Victims will tell someone about their experiences once they are separated from their trafficker*	26%	33%	29%
Stressing the seriousness of the crime of prostitution to youth increases their willingness to disclose their experiences	52%	58%	54%
Adolescents often lie and falsely claim abuse*	53%	58%	55%
It is possible to detect when adolescents are being deceptive*	19%	31%	23%
Youth who take back their stories about trafficking were probably lying in the first place	71%	80%	74%
Truly victimized youth will tell a professional about trafficking when directly asked*	65%	69%	66%
Youth who provide inconsistent information are more likely to be lying than youth who provide consistent information*	32%	41%	35%
Professionals often need to assert authority and control over suspected youth trafficking victims to gain their compliance*	61%	72%	65%
Overall	63%	72%	66%

Note. *Items are included in the myth endorsement scale.

across groups), and their interaction. Years in profession and total number of hours of training were included as covariates, given their potential links to knowledge. Likewise, gender was included, given preliminary analyses suggesting its importance. The ANCOVA also allowed for exploratory tests of effects and interactions involving gender and between knowledge domain and the other covariates.

Second, for myth endorsement, we provide descriptive data on the types of myths most often endorsed. Then, we conducted a multiple linear regression to examine predictors of participants' continuous myth endorsement proportion scores. Predictors included professional group, along with participant gender, years in profession, group, and total training (ie, all identical to those included in the knowledge analyses).

When appropriate, post hoc comparisons, with Bonferroni adjustments, were conducted to interpret significant effects.

RESULTS

A total of 277 frontline medical professionals (ie, physicians, nurses, paramedics, emergency medical technicians, and firefighters; demographics in Table 2) served as participants. They were recruited from Southern California medical clinics, hospitals, emergency medical services, and fire departments in primarily urban and suburban areas of a diverse region with significant trafficking problems.¹ Contacts at sites distributed QR codes for interested professionals that linked to an anonymous online survey that assessed their perceptions of situations involving high-risk youth that they may encounter in their jobs. Of the final sample, 184 were field first responder (eg, firefighters, paramedics) medical professionals, and 93 were emer-

gency department (ED) or clinical (eg, physicians, nurses) medical professionals. Their ages ranged from 19 to 60, and no one self-identified as a gender other than a man/woman. For completing the survey, participants received a \$20 gift card to keep or donate.

First responders were younger, more racial/ethnically diverse, more likely to be men, and had fewer years of experience than ED/clinical professionals (Table 2). More than half [152 (55%)] of the participants had received training in adolescent development, but only 69 (25%) had received training in trafficking, and just 4% had received training in forensically informed interviewing approaches. Slightly more than a quarter [72 (26%)] reported they had encountered or knew a suspected youth sex trafficking victim. When asked how they knew, slightly more than half of these participants [40 (56%)] reported that the youth showed (unelaborated) signs of trafficking. Other reasons were the victim disclosed [15 (21%)], another professional reported the victimization [10 (14%)], or another explanation (eg, a family member provided suggested information). Finally, 91 (33% across both groups) reported their organization had a protocol for how to respond to suspected trafficking victims.

Vignette Recognition

In both groups of professionals, responses to the vignettes varied substantially in terms of what concerns were raised and how to respond (Fig. 1). An overwhelming majority of participants [174 (95%) of the first responders, 93 (100%) of the ED/clinical professionals] recognized the presence of risk beyond the immediate crisis and reported a need to collect additional information in at least one scenario. Yet, virtually none of the field first responders actually reported that

TABLE 2. Comparisons Between Field and ED/Clinic Samples

	First Responders	ED/Clinic	Total	P
Ns	184	93	277	—
Mean age (SD)	28.49 (8.75)	39.36 (12.62)	32.12 (11.40)	<0.001
Women	40 (23%)	53 (66%)	37.2	<0.001
White	87 (47%)	56 (60%)	143 (52%)	0.14
Mean/median years of experience (IQR)	5.88/3 (7.42/4.50)	13.30/10 (11.59/20.50)	8.30/10 (9.63/21.50)	<0.001
Mean/median hours training: adolescent development (SD/IQR)	1.38/0 (1.83/1.50)	2.43/1.50 (2.05/3.50)	1.72/1.50 (1.96/5)	<0.001
Mean/median hours training: sex trafficking (SD/IQR)	0.33/0 (0.88/0)	1.01/0 (1.44/1.50)	0.55/0 (1.14/1.50)	<0.001
Mean/median hours training: forensic-informed interviewing (SD/IQR)	0.09/0 (0.54/0)	0.14/0 (0.65/0)	0.11/0 (0.58/0)	0.32
Reported they had encountered a youth sex trafficking victim	42 (23%)	41 (44%)	83 (30%)	0.001

Note. SD indicates standard deviation, IQR indicates interquartile range. The total ethnicity distribution included 1% Black, 20% Hispanic/Latino, 18% Asian, 1% Native American, and 6% multiracial (2% other/missing). Significant differences between groups via independent means *t* tests (normally distributed variables) or Mann-Whitney (non-normally distributed variables).

the scenarios depicted situations involving likely sex trafficking. In fact, only 2 (1%) indicated so for at least one scenario. The ED/clinical medical professionals fared slightly better: 11 (12%) recognized trafficking risk in at least one scenario; 2 (2%) did so in all 3. Finally, and of note, 84 (46%) of first responders explicitly said that responding further to at least one scenario was outside of their job responsibilities; 24 (13%) repeated this comment for all 3 scenarios. Only 2 (2%) of the ED/clinical medical professionals indicated such.

Knowledge of Adolescent Development, Youth Sex Trafficking, and Interviewing

Knowledge

Overall, frontline medical professionals correctly identified true and rejected false statements 66% of the time (Table 1). The ANCOVA revealed a significant main effect of domain ($P < 0.001$; $\eta_p^2 = .06$), which was subsumed by significant gender by domain ($P = 0.01$; $\eta_p^2 = .04$) and domain by training ($P = 0.045$; $\eta_p^2 = .03$) interactions. Of importance, no knowledge differences emerged between first responder and ED/clinical medical professionals.

In general, both groups were the least accurate discerning true and false statements about adolescent development ($M = .63$,

$SE = .01$). However, Bonferroni-adjusted pairwise comparisons of the gender by domain interaction suggested that differences in knowledge of sex trafficking and interviewing varied by sex, with mean differences significant at the .05 level. Women's proportion accuracy scores for sex trafficking ($M = .78$, $SE = .02$) and interviewing ($M = .73$, $SE = .02$) were significantly higher than their scores about adolescent development ($M = .64$, $SE = .02$), whereas men's proportion accuracy scores for sex trafficking ($M = .64$, $SE = .02$) were slightly though significantly higher than for adolescent development ($M = .61$, $SE = .02$) and interviewing ($M = .62$, $SE = .02$).

To examine the domain by training interaction, tests of within-subjects' contrasts were used. A quadratic relation was most appropriate ($P = 0.02$), with the trend analysis revealing that training was most strongly associated with accuracy of sex trafficking knowledge. Training's associations with accuracy of knowledge about adolescent development and interviewing were more modest. Thus, although training was universally helpful, it was especially so in terms of improving knowledge of trafficking.

Myth Endorsement

The final analyses explored frontline medical professionals' tendencies to endorse myths about victims more so than the actual

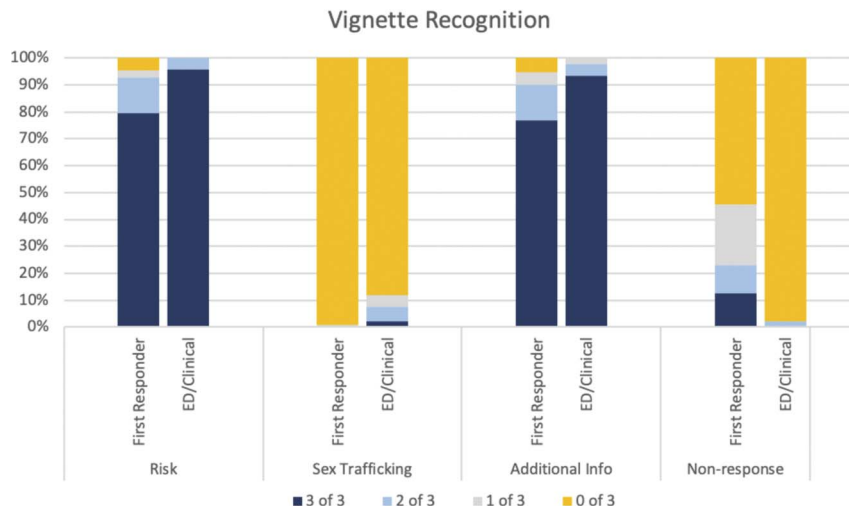


FIGURE 1. Recognition of risk, sex trafficking, additional information, and nonresponse in vignettes separated by frontline medical responder group.

victim characteristics and experiences. On average, participants incorrectly endorsed 9 of the 16 myths ($M = 8.89$; $SD = 3.46$) (Table 1). Errors were most common for: “Adolescents are virtually always more impulsive than adults” [238 (86%) incorrectly agreed], “Female sex trafficking victims rarely visit health care providers while being trafficked” [232 (84%) incorrectly agreed], and “It is possible to detect when adolescents are being deceptive” [210 (76%) incorrectly agreed]. When assessing predictors of myth endorsement, the multiple linear regression was significant ($P < 0.001$) and accounted for 12% of the variance. Gender [$\beta = .26$, 95% confidence interval (.86–2.64), $P < 0.001$] and total number of hours of training [$\beta = .24$, 95% confidence interval (0.13–0.43), $P < 0.001$] were significant predictors, and differences between professional groups ($P = 0.94$) and years in profession ($P = 0.31$) were not observed. Women endorsed more myths than men ($M = 10.05$, $SD = 2.88$; $M = 8.18$, $SD = 3.61$) and, somewhat concerning, for every additional 10 hours of training, respondents endorsed 2.8 more myths.

DISCUSSION

The present study assessed frontline medical professionals' recognition of situations highly suggestive of youth sex trafficking and their requisite knowledge about adolescence, youth sex trafficking risk, and effective history-taking approaches. Overall, frontline medical professionals do recognize risk when situations are highly suggestive of harm, and many (but not all) medical professionals know that there is a need to gather more information in a sensitive manner. However, the same professionals do not seem to recognize, or at least report, concerns about youth sex trafficking, which could mean that they will not ask the right questions to ascertain how best to intervene. More training does seem to enhance participants' knowledge of youth sex trafficking. However, more training may also lead to greater sex trafficking myth endorsement, perhaps particularly so with women. The content provided in trainings, therefore, needs to be evaluated to ensure that it is not only providing basic information, but also describing common characteristics of victims, specifically high-risk youth (eg, runaway and thrown-away youth; youth with histories of delinquent activity; or youth who may be engaging in survival sex while living on the streets^{4,21,22}) to promote accurate knowledge, rather than stereotypical myths.

The groups' responses diverged most noticeably in response to the vignettes. First responder medical professionals, that is, those in the field, were slightly less likely to recognize risk in general and risk of sex trafficking than were the ED/clinical medical professionals (eg, clinic/emergency nurses/physicians). But, both groups also had difficulty with identification of sex trafficking. At the same time, first responders were more likely to say that they need not follow up further in the situation because doing so was outside of the realm of their job responsibilities, whereas ED/clinical medical professionals saw a need for further intervention and reported a willingness to address that need. Thus, for these field-based professionals, challenges for victim identification are not solely due to a lack of general knowledge of risk, but also lie in the need for better education about sex trafficking of youth specifically and their roles in identifying and responding when potential victims are encountered.

For both groups of medical professionals, other key domains of training seem to be needed. First, it will be important to provide frontline medical professionals with concrete knowledge about the various types of trafficking situations that they are likely to encounter,^{23,24} and that victims often do not conform to common mythic media depictions, such as forced kidnappings into sex trafficking. Instead, traffickers are likely to be acquaintances, friends, or family members who manipulate victims into intimate

relationships and subsequent trafficking, often exploiting preexisting vulnerabilities in the youth.^{21,22,25} Applied trainings have already shown some success within the medical field to overcome these biases,²⁶ such as with emergency medical professionals reporting a 50% increase in recipients' confidence in identifying youth trafficking victims after brief interventions.²⁷

Another key domain of training pertains to adolescent development. Although a significant number of sex trafficking victims are first exploited during adolescence,⁴ this developmental window is rarely addressed in training directly. Hallmark characteristics of adolescent development may affect minors' responses when asked about their experiences, actions, and needs by professionals.^{3,28} Suggestive, manipulative interviewing strategies during this vulnerable developmental stage may lead to stoic and distant responses when asked about trafficking, as well as overall distrust of health care professionals. Medical professionals' knowledge of adolescent development could improve, therefore, not only their recognition of youth sex trafficking in high-risk situations, but also their history-taking approach to gathering further information from this important age group.

Finally, within psychological science, entire fields have been devoted to best-practice approaches for eliciting sensitive information from suspected youth victims, and social service, law enforcement, and legal professionals regularly receive training on these approaches.^{10,29} There is a notable gap in this type of training within medical settings, especially those involving first responders and emergency/clinical medical professionals. Such professionals' questioning is crucial to gathering health and safety-related information from sometimes frightened and reluctant patients. Each domain should be added to standard training curricula, given medical professionals' unique position to gather crucial histories from youth.

Although the current study provides valuable information directly relevant to improving training and education of medical professionals, limitations need to be acknowledged. Given that the findings are from a specific region, replication is needed across regions, ideally with larger sample sizes, to accurately assess the generalizability of findings. Related is the need for analysis of existing medical training content on such topics as minor trafficking, adolescent development, and forensically informed history-taking approaches, including whether training extends to identification of especially vulnerable populations (eg, gender-minority victims). Findings from surveys, as well, cannot fully capture the complexity of medical professionals' experiences and decisions when confronted with actually high-risk situations. For instance, professionals may seek additional information to ascertain risk, and may, if such risk is identified, still respond. Moreover, and related, endorsing myths in general may not translate into actions when clinically examining risk. Nonetheless, quick decisions based on incomplete information are too often necessary given the time constraints medical professionals at times face, highlighting the value of insight into their initial responses to brief vignettes. Finally, although we were unable to estimate response rates due to distribution methods mentioned previously, research would benefit from comprehensive assessments (eg, embedding survey questions in required continuing education programs) and from evaluations of response rates and potential biases in who completes surveys.

Together, these results suggest frontline medical professionals are unlikely to consider sex trafficking when they encounter high-risk situations, and in addition may not have the interviewing skills necessary to elicit disclosure from adolescent victims. Many endorse it is not their responsibility to take action beyond the immediate crisis, even though, by law, they are considered mandated reporters. These trends have major implications for developing more intensive and targeted training protocols for frontline medical professionals that promote application of knowledge to better identify youth sex trafficking victims and act on that identification.

REFERENCES

1. Polaris. Polaris Analysis of 2020 Data from the National Human Trafficking Hotline. Available at: <https://polarisproject.org/wp-content/uploads/2022/01/Polaris-Analysis-of-2020-Data-from-the-National-Human-Trafficking-Hotline.pdf>. Accessed January 10, 2022.
2. Farrell A, Dank M, Vries I, et al. Failing victims? Challenges of the police response to human trafficking. *Criminol Public Policy*. 2019;18:649–673.
3. Lavoie J, Dickerson KL, Redlich AD, et al. Overcoming disclosure reluctance in youth victims of sex trafficking: New directions for research, policy, and practice. *Psychol Public Policy Law*. 2019;25:225–238.
4. Varma S, Gillespie S, McCracken C, et al. Characteristics of child commercial sexual exploitation and sex trafficking victims presenting for medical care in the United States. *Child Abuse Negl*. 2015;44:98–105.
5. Finklea K, Fernandes-Alcantara A, Siskin A. *Sex Trafficking of Children in the United States: Overview and Issues for Congress*. Washington, DC: Congressional Research Service; 2015.
6. Hardin HK, Bender AE, Hermann CP, et al. An integrative review of adolescent trust in the healthcare provider relationship. *J Adv Nurs*. 2020;77:1645–1655.
7. Havig K, Mahapatra N. Health-care providers' knowledge of human trafficking: implications for building service capacity in a frontier state. *Journal of Human Trafficking*. 2020;7:366–383.
8. Beck ME, Lineer MM, Melzer-Lange M, et al. Medical providers' understanding of sex trafficking and their experience with at-risk patients. *Pediatrics*. 2015;135:e895–e902.
9. Titchen KE, Loo D, Berdan E, et al. Domestic sex trafficking of minors: Medical student and physician awareness. *J Pediatr Adolesc Gynecol*. 2017;30:102–108.
10. Lamb ME, Orbach Y, Sternberg KJ, et al. Use of a structured investigative protocol enhances the quality of investigative interviews with alleged victims of child sexual abuse in Britain. *Applied Cognitive Psychology*. 2009;23:449–467.
11. Quas JA, Mukhopadhyay S, Hardin KM, Dianiska RE, Lyon TD. 2022. Criminal prosecutions of commercial sexual exploitation and sexual abuse of minors: A comparative analysis. Submitted for publication.
12. Blum RWM, Bearinger LH. Knowledge and attitudes of health professionals toward adolescent health care. *J Adolesc Health Care*. 1990;11:289–294.
13. Larsen JJ, Juhasz AM. The knowledge of child development inventory. *Adolescence*. 1986;21:39.
14. Stevens JH. Child development knowledge and parenting skills. *Family Relations*. 1984;33:237.
15. Quas JA, Thompson WC, Clarke-Stewart KA. Do jurors "know" what isn't so about child witnesses? *Law Hum Behav*. 2005;29:425–456.
16. Wright R, Powell MB, Ridge D. What criteria do police officers use to measure the success of an interview with a child? *Psychology, Crime & Law*. 2007;13:395–404.
17. Meyer JR, Reppucci ND. Police practices and perceptions regarding juvenile interrogation and interrogative suggestibility. *Behav Sci Law*. 2007;25:757–780.
18. Redlich AD, Kelly CE, Miller JC. The who, what, and why of human intelligence gathering: Self-reported measures of interrogation methods. *Applied Cognitive Psychology*. 2014;28:817–828.
19. Baker CN. An intersectional analysis of sex trafficking films. *Meridians*. 2014;12:208–226.
20. Curtis RR. *Sex Trafficking: How the Media Portrays Victims and Reflects Legislation*. Ames, IA: Iowa State University; 2012.
21. Sprang G, Cole J. Familial sex trafficking of minors: Trafficking conditions, clinical presentation, and system involvement. *Journal of Family Violence*. 2018;33:185–195.
22. Havlicek J, Huston S, Boughton S, et al. Human trafficking of children in Illinois: Prevalence and characteristics. *Children and Youth Services Review*. 2016;69:127–135.
23. Chisolm-Straker M, Baldwin S, Gaïgbé-Togbé B, et al. Health care and human trafficking: We are seeing the unseen. *J Health Care Poor Underserved*. 2016;27:1220–1233.
24. Lederer LJ, Wetzel CA. The health consequences of sex trafficking and their implications for identifying victims in healthcare facilities. *Annals of Health and Law Sciences*. 2014;23:61.
25. Latzman NE, Gibbs DA, Feinberg R, et al. Human trafficking victimization among youth who run away from foster care. *Children and Youth Services Review*. 2019;98:113–124.
26. Kenny MC, Helpingstine C, Long H, et al. Increasing child serving professionals' awareness and understanding of the commercial sexual exploitation of children. *J Child Sex Abus*. 2019;28:417–434.
27. Chisolm-Straker M, Richardson LD, Cossio T. Combating slavery in the 21st century: The role of emergency medicine. *J Health Care Poor Underserved*. 2012;23:980–987.
28. Steinberg L, Morris AS. Adolescent development. *Annu Rev Psychol*. 2001;52:83–110.
29. London K, Bruck M, Wright DB, et al. Review of the contemporary literature on how children report sexual abuse to others: findings, methodological issues, and implications for forensic interviewers. *Memory*. 2008;16:29–47.