


# Forgone injury treatment among young adult skateboarders

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## ABSTRACT

Adolescents and young adults have high levels of forgone healthcare relative to other age groups, placing those who participate in action sports at particularly high risk for untreated injuries. Because skateboard injury data typically involves treated injuries, research to understand unmet health needs in non-clinical samples is needed. This exploratory study used qualitative content analysis of survey and structured interviews with young adult skateboarders (n = 26, mean age = 22.9 years) recruited at skate parks in a small U.S. city to examine the degree, type, and reported reasons for untreated skateboard injuries in that population. Participants completed a paper survey followed by a structured interview regarding their untreated skateboard injuries and reasons for avoiding medical treatment. A majority of respondents (80.8%) described at least one skateboarding injury that they did not have medically treated but now believe they should have done so. Injury types were deep soft tissue injuries (50.0% of respondents), bone fractures (15.4%), concussions (11.5%), and superficial soft tissue injuries (3.8%). Of respondents who avoided treatment, 76.2% considered treatment unnecessary at the time, 38.1% cited avoiding treatment due to cost, and 23.8% cited lack of knowledge. Findings suggest a need to address forgone injury care among young adult skateboarders through increased support and knowledge regarding when and how to seek affordable medical treatment.

**Keywords:** Sport medicine; Health; Action sports; Injuries; Risk attitudes.

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## INTRODUCTION

Adolescents and young adults have high levels of forgone healthcare and unmet health needs (Ford et al., 1999; Marshall, 2011), due in part to financial (Elliott & Larson, 2004) and trust (Davey, et al., 2013) concerns. Skateboarders may be at additional risk for untreated injuries for several reasons. Skateboarding involves hazardous physical acts performed in challenging settings, without on-site medical care such as is often provided in school or organized sports settings (Caine & Provance, 2018). Further, skateboarders have been described as a marginalized youth sub-culture (Taylor & Khan, 2011), which could further distance them from societal institutions.

Emergency Department (ED) health records have led to estimates of 8.9 injuries per 1,000 skateboarders, with ankle injuries and wrist fractures most common (Kyle et al., 2002). Increased ED visits for treated skateboard injuries in the 15-20+ age groups were seen 2000-2017, in contrast to decreased visits by younger age groups (Tuckel et al., 2019). However, scholars have noted challenges of collecting comprehensive and accurate skateboard data and a need for exposure-based data collection (Feletti & Brymer, 2018). A few studies that collected data directly from skateboarders (e.g., at skateparks, websites, skate shops) suggest a particularly high incidence of injuries, with one study reporting 2.4 injuries per skateboarder involving medical professional consultation (Kern et al., 2014), and another study finding 87.8% of respondents reported injuries while skateboarding (Rodriguez-Rivadulla et al., 2020).

Whereas research has examined skateboarding injury treatment rates and associated factors (e.g., Kern et al., 2014), little research has focused on untreated skateboarding injuries. The current study collected data from young adult skaters in a naturalistic setting to identify forgone injury care prevalence, types, and reasons.

## MATERIAL AND METHODS

### **Participants**

Data were collected by recruiting young adult skateboarders at a public skatepark. The sample included 26 young adults (25 males, 1 female), with ages averaging 22.9 years (SD = 4.2, range 18 – 33). A majority of the participants identified as White (84.6%), 11.5% as Black, 7.7% as Hispanic, and 1.4% as American Indian (two respondents marked multiple categories). Respondents reported an average of 9.1 years of skateboarding (SD = 6.4, range 1 – 29).

### **Measures**

A paper survey included 23 demographics and skateboarding-related items, including a question that asked whether respondents had a skateboarding injury that they, “*probably should have gone to get medical treatment for but did not do so?*” Those answers were probed further in the structured interview. Respondents received a granola bar and sport drink as compensation.

### **Procedure**

Recruitment took place at two public skateboard parks in a small Midwest USA city in summer, 2019. IRB approval was obtained for the study. A researcher approached individuals to screen their eligibility (age 18+ years and involved in skateboarding) and willingness to participate. Eligible recruits who gave informed consent completed an anonymous paper survey followed by an audio-recorded interview (average 3:29 minutes, range 2:01 – 5:42).

## Analysis

Paper survey data were transcribed by hand, and interview recordings were transcribed using an online transcription service. Two rounds of content analysis were then conducted. The first identified injury types, and the second identified reasons for not seeking treatment. Interview transcripts were reviewed individually, and meaning units (i.e., phrase, statement, sentences that expressed a singular idea) relevant to each purpose were extracted. Both analyses involved the same steps of conventional inductive content analysis, with open coding followed by establishing and defining a set of exhaustive, exclusive themes (Hsieh & Shannon, 2005; Elo & Kyngäs, 2008). Two researchers then coded the entire set of responses into those categories, and inter-rater reliability was assessed. Discrepancies were resolved through researcher discussion. When respondents mentioned multiple injuries, only the first was coded. When respondents mentioned multiple reasons for failing to seek treatment, those meaning units were coded separately. As a result, interview data from a single respondent could include multiple reason meaning units and thus be coded into more than one reason category.

## RESULTS

In survey responses, a large majority (92.3%) of young adult skateboarders in this sample responded “yes” to having “*ever suffered any injury as a direct consequence of skateboarding.*” Additionally, most participants (80.8%) described an injury that they *probably should have* sought medical treatment for but did not do so. Table 1 reports the four thematic categories identified in content analysis based on the respondent’s descriptions, with Cohen’s kappa of = .83 indicating satisfactory interrater reliability. The most frequently reported injury type that participants reported forgoing treatment for were deep soft tissue injuries, which they often described as torn cartilage, muscle strains, and dislocations to ankles, knees, wrists and shoulders. The second most common injury type was suspected bone fractures (e.g., “*I fell and hit it really hard and my arm went really numb*”). Three respondents cited head impact/concussions, with one describing being, “*out on the ground like seizing and when I woke up,*” but refusing to be taken to the hospital due to concern about the ambulance cost. The final category was superficial soft tissue injuries (“*I cut my shin open.*”) Respondents sometimes reported persisting effects of injuries they skipped treatment for. For example, one participant described ongoing problems with knee ligaments, and explained “*I don’t think they healed right.*” Another respondent said, “*my ankle is kind a like deformed in a way. Now I have weakened ankles.*”

Table 1. Injury types of participants reported that they “*probably should have sought treatment for*” (n = 26).

Category <sup>a</sup> (κ = .83)	n (%) <sup>b</sup>	Description	Sample Quote
Deep soft tissue injury	13(50.0)	Damage to cartilage, muscle strain, and/or dislocations	“Multiple times in my knee. I’m pretty sure I’ve torn something, but I just haven’t gotten it checked out or anything.”
Bone fracture	4(15.4)	Break in the structural integrity of a bone	“They did x-rays and saw that there was multiple fractures that had healed on their own.”
Concussion	3(11.5)	Head impact	“I think I might’ve gotten a concussion once or twice skating, but I never went to a doctor for it.”
Superficial soft tissue injury	1(3.8)	Cut skin	“I cut my shin open. I probably needed stitches, but I didn’t get them.”
None	5(19.2)		“Not that I know of”

Note. <sup>a</sup>Themes identified in responses to, “Have you ever had a skateboard injury that you probably should have gone to get medical treatment for but did not do so?”. <sup>b</sup>Number and percent of responses (of 26 total) coded into this thematic category.

Respondents cited three thematic reasons for failing to seek treatment (see Table 2), and Cohen's kappa indicated satisfactory inter-rater reliability for all four thematic categories (kappa = .73, .88, .10). The most common thematic reason was that professional treatment did not seem necessary at the time. Sub-themes with that category included that the respondent considered the injury too common to need treatment, chose to self-treat it instead (*"I would put it in little restraint and left it there for a few days until it got a little better"*), assumed that nothing further could be done by a professional, or expected that time would heal the injury. The second thematic reason for failing to seek treatment was financial, due to inability/unwillingness to pay or lack of insurance. The final reason for forgoing treatment was lack of knowledge regarding the type or extent of care needed, or uncertainty about whom to contact.

Table 2. Reasons for failing to seek injury treatment (n = 21)<sup>a</sup>.

Category <sup>b</sup>	n (%) <sup>c</sup>	Description	Sample Quotes
Seemed unnecessary (κ = .88)	16 (76.2%)	Seemed unnecessary or chose an alternative.	<i>"Just, you know, everyone thinks, you know, if I just wait it out, it will heal."</i> <i>"I don't think there's anything they can do for that anyway."</i> <i>"I didn't think it was that serious. I just put it in little restraint and left it there for a few days until it got a little better."</i>
Financial (κ = .10)	8 (38.1%)	Due to financial considerations.	<i>"Because, mainly at that time, it wasn't really affordable"</i> <i>"Definitely it would be because of a health insurance cost."</i>
Lack of knowledge (κ = .73)	5 (23.8%)	Due to limited knowledge or misunderstanding the situation or consequences.	<i>"I didn't know that it needed it, so I was just, I just tried to wrap it up and call it good."</i> <i>"At the time I just didn't know a lot about it, so I didn't know who to call, who to go to and things like that."</i>

Note. <sup>a</sup>Analysis of responses from the 21 respondents who reported having received a skateboard injury that they "probably should have gone to get medical treatment for but did not do so." <sup>b</sup>Themes found in participant's interview responses to, "Why didn't you go get treatment?". <sup>c</sup>Number and percent of responses (of 21 total) coded into this thematic category.

## DISCUSSION

Whereas adolescents and young adults are healthy relative to other age groups, they rank high in preventable injuries and have high levels of unmet healthcare needs. Skateboarders may be at even higher risk by participating in an action sport that involves risk of injury without organized health services or support (e.g. team doctors). Research on skateboard injuries typically involves data from clinical samples (e.g., physician visits, medical records), but data collected in naturalistic settings is also needed to better understand the injury experiences of skateboarders. The current pilot study found that a majority of young adult skateboarders recruited from a US skatepark reported having received skateboarding injuries that they probably should have sought treatment for but did not do so. Those injuries included deep soft tissue injuries, suspected bone fractures, concussions, and superficial soft tissue injuries. Reasons for failing to seek treatment included feeling able to get by without it, financial and insurance concerns, and lack of knowledge about the injury or treatment.

Noteworthy limitations are that the sample was recruited from skateparks in a single city and not necessarily representative, along with a relatively small sample size. Additionally, because injuries were self-reported and based on self-assessment, the accuracy of those assessments is unclear. Still, these preliminary findings document high levels of forgone injury care in one segment of young adults and possible reasons. Practitioners might use the results to design outreach efforts to better understand and address potential outcomes (e.g., physical, quality of life, financial) associated with forgoing injury care among high-risk young adults.

## CONCLUSIONS

In this sample of US young adult skateboarders (ages 18-33), a majority reported injuries that they believed they should have gotten treatment for but failed to do so. This finding is consistent with prior concerns regarding unmet healthcare in young adults (Ford et al., 1999; Marshall, 2011; Elliott & Larson, 2004; Davey, et al., 2013). Reasons for failing to seek treatment included feeling able to get by without it, financial/insurance concerns, and lack of knowledge about the injury or treatment. Health professionals might use these findings to engage the skateboard community in providing injury care information and low-cost services to reduce prevalence and impacts of untreated injuries. Taking similar naturalistic data-collection approaches targeting other high-risk subgroups may also serve useful in better preventing short- and long-term impacts of unmet young adult health needs.

## AUTHORS CONTRIBUTIONS

The authors confirm contribution to the paper as follows: study conception and design: R. Ravert, K. Oberfranc, E. Dannecker; data collection: K. Oberfranc; analysis and interpretation of results: R. Ravert, K. Oberfranc, E. Dannecker; draft manuscript preparation: R. Ravert, K. Oberfranc, E. Dannecker.

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## DISCLOSURE STATEMENT

No potential conflict of interest were reported by the authors.

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