



## I16 What Constitutes Typical Adolescent Behavior and How Is It Different From Adult Conduct?

Alison G. Vredenburg, PhD\*, Vredenburg & Associates, Incorporated, 2588 El Camino Real, F353, Carlsbad, CA 92008

Attendees to this presentation will gain an understanding of the process involved in conducting original research as part of a behavioral sciences forensic investigation as well as gaining insight into how to evaluate psychological factors that often interact with engineering issues.

This presentation will impact the forensic community by demonstrating an approach to evaluating issues that cannot be addressed using standard site inspection and laboratory techniques. This presentation will discuss typical behavior and expectations of adolescent product users.

In the field of forensic human factors, a relevant question when performing an analysis of an injury incident is: Was the person involved in the incident acting as expected? In the forensic arena, this translates to "reasonableness of conduct" and are behaviors consistent with societal

norms for a given population? Age is an important consideration when evaluating reasonableness of conduct because behaviors that are perceived as unreasonable for an adult may be typical for adolescents.

In order to assess typical adolescent behaviors and injury occurrence of injuries, a survey to address actual risk-taking behavior in the common adolescent injury categories described above as perceived by the adolescents themselves. This methodology differs from previous studies in the field as the adolescents themselves were surveyed, not their parent or guardian, in determining the level of risk taking behaviors in high school students.

In this research project, there were 144 adolescent participants ranging in age from 13 to 18 with a mean of 14.7-years-old and a SD=1.04. There were 69 males and 70 females (5 did not report their sex) in the study. Their GPA ranged from 1.0 - 4.8 with a mean GPA of 3.23 and a SD=0.88. Overall, 48% of the participants reported experiencing injuries resulting from an accident that required medical treatment.

Participants were asked to what extent they protect themselves by wearing personal protective equipment (PPE) when riding bikes, skateboards and scooters. Table 1 depicts the frequencies and percent of participants who use protective gear. Ninety-five (71.97%) of the participants of these activities report that they wear PPE half of the time or less.

Table 1. Use of protective equipment

Frequency of use	Frequency	Percent
Almost Never	65	49%
50% of time	30	23%
Most of the time	27	20%
100% of time	10	8%

Many accidents involving teenagers involve water sports. Therefore, participants were asked if they have ever been injured while diving head first into water without knowing how deep it was; 48% of the respondents reported that they had. They were also asked if they ever ignored posted warnings indicating that it is not safe to swim or dive; 48% reported that they ignored warnings.

Of the 25 (18.4%) participants who drive, 65% drive with a learner's permit and 35% with a license. New drivers and those with a permit are not allowed to drive non-family under 18 years of age. When asked if they have driven other kids when their license did not allow it, 14% of the drivers reported that they did. Of the drivers, 13% reported that they had been in an accident while driving.

Participants were asked if they were injured from accidentally falling from a height or while jumping down from a height. Forty-six (34%) reported injuries after accidentally falling and 31 (23%) were injured after intentionally jumping.

Participants were asked if they ever played with fire and had it get out of their control. Forty (29.4%) respondents lost control of fire and 20 (15%) were burned enough to seek medical care. Eighty-nine (65%) have been with other adolescents who were playing with fire. Participants were asked if they ever needed medical treatment after being injured while using a consumer product; 45 (39%) reported an injury. Of those injured, most have been injured while using sporting equipment. Table 2 depicts the injury categories.



## Psychiatry & Behavioral Sciences Section – 2009

Table 2. Product-related injuries

Product	Frequency	Percent
Tools/Knives	25	48.1
Sporting Equipment	20	38.5
Chemicals	4	7.7
Toys	1	1.9
Other	2	3.8
<b>Total</b>	<b>52*</b>	<b>100</b>

\*The injuries total more than 45 because some participants had multiple injuries.

Participants were then asked how often, if ever, they would read instructions or warnings on products. They were also asked under what types of conditions they would read warnings. Table 3a provides the frequencies that they read instructions and warnings. Table 3b describes situations when they read warnings (for those who read them).

Table 3a. Frequency that participants read instructions and warnings

	Always	Sometimes	Rarely	Never
<b>Instructions</b>				
Freq.	29	72	24	14
%	20.9	51.8	17.3	10.1
<b>Warnings</b>				
Freq.	25	64	32	17
%	18.1	46.4	23.2	12.3

Table 3b. Situations when warnings were read

Situation	Frequency	Percent
New product	60	44.8
Looks dangerous	63	47.0
Know someone injured	11	8.2
<b>Total</b>	<b>134*</b>	<b>100</b>

\*Some participants read warnings for multiple reasons. Participants were asked if they had been injured in school. Sixty-

five (47%) reported that they were injured enough to require medical treatment. While most of these injuries occurred in PE, sports or lunch, there were two injuries in science class and one that occurred in English class. Nine (6.8%) were caused by fighting. Twenty-eight (20%) reported that they injured other students while fighting. Throwing of objects at students is very common; 113 (82%) of the respondents reported seeing other students throwing objects. Seventy-six (56%) admitted to throwing objects themselves and 31 (23%) said that they had been injured by an object thrown at them.

Of the 158 objects reported to have been thrown by the participant or observed being thrown, the most common objects thrown were pencils and pens (47; 30%), food (26; 16%), paper (24; 15%), balls (18; 11%), rocks (18; 11%), erasers (8; 5%), books (4; 3%), chairs (4; 3%), paper clips (3; 2%), and scissors (2; 1%). Also thrown were a trashcan, knife, bullet, and a shoe.

Overall, there was no significant difference in accident rates between male and female participants. Females were found to be more likely to ski and snowboard than males ( $t(133)=3.12, p<.01$ ); they were also injured significantly more than males while skiing and snowboarding ( $t(77) = 2.16, p<.05$ ). Males were significantly more likely to have been burned while playing with fire ( $t(129)=2.51, p<.05$ ). Males were also injured more in fights ( $t(135) = 2.18, p<.05$ ) and threw objects at other students more often than females ( $t(134)=2.45, p<.05$ ). Males reported that they read instructions ( $t(137)=2.49, p<.05$ ) and warnings ( $t(136)=1.99, p<.05$ ) significantly more frequently than females did.

Despite the fact that the majority of respondents have been injured in one of the investigated categories, half of them almost never wear protective equipment. This indicates adherence to the personal fable that bad things only happen to other people. Similarly, the reported frequency of reading warnings was low.

These results reinforce the notion that what is typical behavior for an adult may not necessarily be the same for adolescents. Although many adolescents are at the cognitive developmental stage to be able to make well-informed decisions, it is the norm for this age group to be strongly influenced by outside forces.

Therefore, decisions based on some of these outside forces may not lead to what can be considered typical



## Psychiatry & Behavioral Sciences Section – 2009

---

adolescent behavior.

**Adolescent, Safety, Accidents**