



House the Homeless founded in 1989, is the oldest, all volunteer, action organization in Texas fighting to combat, end and prevent homelessness all across North America.

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TBI Survey 2016

By Richard R. Troxell

Since 1997, House the Homeless! Inc. has conducted surveys focusing on people experiencing homelessness in Austin, Texas. We have conducted multiple surveys in the areas of health, welfare, jobs, wages, disability, causation of individual homelessness, personal goals, and the criminalization of homelessness. I have selected topics based on my day-to-day personal interaction with people in the homeless community in my role as Director of Legal Aid for the Homeless at TRLA. I studied survey mechanics under Dr. Robert Ambrosino from the University of Texas¹.

Traumatic Brain Injury indicators found among people experiencing Homelessness

Expected Survey Results:

People growing up in America, as a matter of normal daily activity, have experienced rough and tumble activity or play. Additionally, many people have often engaged in formal or informal contact sports (often without protective headgear.) Our purpose in surveying adults in the general homeless population, is to determine if there might be *indicators* or *symptoms* that point to past head trauma. This is significant when looking at the 2010 House the Homeless, Health Survey when we learned that 49% of people experiencing homelessness, by their own self-reporting, have become so disabled that they cannot work a full 40 hour a week job.

Survey Venue

600 people attended the 15th Annual House the Homeless Thermal Underwear Party when we attempt to winterize anyone in Austin who is abjectly homeless at the start of our winter-January 1st. The party consists of a feast, new thermal winter clothing, a live band, fellowship and our annual survey. The Kitchen served 500 people and a total of 248 people took the survey focused primarily on health issues relating to head injuries.

Traumatic Brain Injury, TBI

It is only within the last half decade that head injuries have begun to get as much attention as other bodily injuries. Today, the medical community understands that getting one's "bell rung" is

evidence of a concussion. Simply put, a concussion or a traumatic brain injury, TBI, is an injury caused by an outside force that “disrupts the normal function of the brain.” A TBI occurs when the brain is bounced back and forth within an intact skull. This is what occurs during the event that doctors describe as *shaken baby syndrome*.

Of the 225 people responding to the question asking, “Have you ever been hit hard enough to ‘see stars’ or ‘get your bell rung’,” 181 said they had.

While TBI is in no way limited to sports activity, within high school sports, it has been found that football and women’s soccer lead to the number one and number two sources of concussions. The third highest sports related incidents come from wrestling. However, concussions can also occur from falling out of a tree. Falling just a few feet to the ground can result in a serious concussion as can as can crashing one’s bicycle, being in a car accident or being caught in an explosion. However, any event that results in a bump, jolt or blow to the brain that interferes with the normal function of the brain, results a concussion.

Of the 185 people responding to the question, “Have you ever played contact sports?” 125 informed us that they had played football. 37 had played soccer, 12 had participated in hockey, 26 in wrestling and 39 in boxing/fighting.

Of the 225 people answering the question, “Have you ever suffered a fall/ off a roof, out of a tree, etc.” 173 people said that they had.

The brain is protected from a concussion by having a layer of *cerebrospinal fluid* that envelops and thereby protects, and cushions, the brain. But an individual can stop so suddenly that the brain continues its forward motion with such force that it will penetrate the fluid and slam into the interior of the skull. The brain can then bounce back with such force that it slams into the opposite side of the interior skull. This causes the cells within the brain to stretch and tear causing chemical changes in the brain. This results in a concussion.

Of the 258 people responding to the question, “Have you ever been in a car accident?” 177 had answered in the affirmative and acknowledged that they had been in a car accident.

Unfortunately, no brain scan, blood test, or any other medical examination can diagnose a concussion. Additionally, this means that as observers or diagnosticians, we can only look to *symptoms* or *indicators* to give us clues as to whether or not someone has had a concussion. Also, while there are 26 symptoms/indicators, people rarely display more than a few at a time. Additionally, only 10% of concussions are coupled with being knocked unconscious. While every concussion is different, *all* are considered to be very serious.

When people had acknowledged that they had “seen stars” when struck or gotten their “bell rung,” 162 of them had also admitted to having been dazed. 145 confessed to being confused while 102 suffered headaches and 65 became irritable.

Remarkably, while only 10% of concussions are usually coupled with being knocked out as cited above, this population, with 228 people responding to the question, reported to have been knocked out an astonishing 109 times when having reported 169 incidents of being beaten or hit hard in the head!

It is now believed that the number of concussions suffered in the general population is much higher than the number reported. They are under-reported and under-recognized.

It is important to note that just as Veterans are over represented in the population of people experiencing homelessness, of the 239 people answering the question, “Have you ever been in an explosion? 26 people answered in the affirmative.

There are two types of blunt-force trauma that can lead to concussion. One is *linear* acceleration and the other is *rotational* acceleration. Rotational acceleration occurs when hit from off center or from the side (e.g. a quarter back being “blindsided”). Here, the brain in response to the blow, will rotate and then hit the skull. The medical community now believes that this “rotational acceleration” does more damage than “linear rotation” since the blood vessels can stretch and tear as the brain rotates. In both instances, a chain reaction begins as chemicals in the brain move around in chaos creating disruption. “Messages carried by our brain’s neurotransmitters are interrupted before they reach the axon.” Instantly, the brain is unable to send or receive messages properly. The long term implications can be devastating.

Note- A blow to the head is not necessary for a concussion to occur. **Even a jolt to the body that causes the brain to rapidly change speed or direction can result in a concussion.**

We now believe that the best treatment for a concussion is rest and time. We *must* introduce a period of rest with no further physical or mental exertion. **Also, it is imperative that there be no further head trauma during the recovery period.** Without taking full advantage of the recovery period, the length of the concussion can be extended. Suffering a *second* concussion without having fully recovered from the first concussion leaves the individual subject to **Second Impact Syndrome, SIS**. This occurs even when experiencing a second (even minor blow) when massive amounts of blood flood the brain that can lead to “catastrophic brain damage.” This can lead to a serious unexpected medical condition where a person is simply not diagnosed with having had a concussion because of a lack of indicators or symptoms. At the very least, continued head knocking after a concussion can result in no symptoms *but can cause damage to working memory*.

Post-Concussive Syndrome is a condition when intense concussion symptoms last an unusually long time. Symptoms include headaches, poor memory, problems concentrating, and on-going sleep problems. **CTE**, otherwise known as *Chronic Traumatic Encephalopathy*, means long-term disease caused by brain trauma. Once started, this condition cannot be stopped.

The Survey takers were asked the general question, “Are you currently experiencing any of the following?”

Headaches-	Yes-92	 ringing in Ears-	Yes-62
Dizziness-	Yes-72	Irritability-	Yes-59
Memory Problems-	Yes-115	Sleep Problems-	Yes-92
Balance Problems-	Yes-65		

CTE cannot be diagnosed in a living person. In order to determine if a person had CTE their brain must be analyzed post mortem. However, as the symptoms worsen the damaged cells can no longer transmit messages in a normal fashion. This is when the long-term symptoms become noticeable and manifest as poor judgment, drug taking, dementia, severe memory loss, lack of insight, decreased concentration, inability to multi-task, depression, ear ringing, and balance problems.

Summary

While it is unclear whether or not concussions or Chronic Traumatic Encephalopathy, CTE, run rampant throughout the pool of people experiencing homelessness, we do know that there is something that is growing this pool of damaged people. Many of the symptoms and indicators of brain injury are found within and being exhibited by this population. Because at this time, definitive, conclusive evidence cannot be attached to any living human being as to whether or not they have had a concussion or are permanently afflicted with CTE, it is *imperative* that further study involving this population be conducted.

It is also clear that little is known and very few steps have been taken to prevent head injuries that affect the brain. It was only as recently as 1943 that the National Football League, NFL, began to require helmets. While their design have helped prevent skull fractures we have only recently come to realize the inherent irony that while a good helmet can help a race car driver or a fullback from cracking their skull open, *a closed head injury* can cause severe brain damage. Post trauma, the closed skull cannot yield to the expanding brain and permanent damage can occur. So collapsible fins encased in double hulled layers with a cushioned outer covering is being explored even as this document is being written. But what about jungle gyms and falling out of tree injuries? Until we understand the nature of these injuries we will not know their suspected connections with Dementia, Parkinson’s disease, memory problems, ALS (Lou Gehrig’s disease) and even Bi-polar Disorder, etc. All of the debilitating conditions share neurotransmitter disruption.

Again this year, 3.5 million people will experience homelessness. 49% or half of them are so disabled that they cannot work. Perhaps this is where we should start looking for the origins of these medical questions.

Survey Results

1. Have you ever been in a car accident? **Yes 172 No 76 Total Responding 248 [69% yes]**

Have you ever been hit from the rear while in a car? * **Yes 112 No 127 Total 239 [47% yes]**

***Note-** 2 people indicated that they were “T-boned” and 6 other people indicated that they were hit from the side. While rotational shearing is more damaging than straight line linear brain damage, there may have been no reason for distinction here regarding front and rear collisions.

2. Have you ever been in an explosion? **Yes 26 No 206 Total 232 [11% yes]**

The 26 affirmative respondents may be veterans.

Have you ever suffered a fall (off a roof/ out of tree, etc.)?

Yes 173 No 52 Total 225 [77% yes]

3. Have you ever been mugged? **Yes 96 No 128 Total 224 [74% yes]**

Note. The dictionary defines *mugging* as “assault with intent to rob.” This was our understanding when we used it here. However, we have since learned that some people define mugging as not necessarily involving assault but rather as a purse snatching (for example) without physical abuse. This could possibly skew this particular tabulation, to what degree is undeterminable at this point.

Have you ever been beaten up or hit very hard in the head?

Yes 169 No 55 Total 224 [75% yes]

4. Have you ever been knocked out? **Yes 109 No 119 Total 228 [48% yes]**

5. Have you ever been hit hard enough to “see stars” or get your “bell rung”?

Yes 181 No 44 Total 225 [80% yes]

If yes, indicate all that apply:

Dazed 162 Confused 145 Suffered Headache 102 Irritability 65

6. Have you ever played contact sports? **Yes 125 No 60 Total 185 [68% yes]**

(Indicate the sports below)

- | | | | |
|-------------|------------|--------------------|-----------|
| a. Football | 116 | d. Wrestling | 26 |
| b. Hockey | 12 | e. Boxing/Fighting | 3 |
| c. Soccer | 37 | | |

f. Other: Baseball-**19**, Basketball-**5**, Softball-**4**, Rugby-**2**, Break-Dance, Acrobatics, Racquetball, Track, Snow Ski, Dirt-Bikes, Karate, Bowling, Volleyball, Gymnastics, Tae Kwon Do, Swimming⁺, Dancing/Ballet.

⁺Before the reader scoffs at “swimming” as a contact sport, I’ll share my own traumatic brain injury when doing a back flip off a low diving board when at age 12, I tore off the top of my head, sunk to the bottom of the pool momentarily “dazed” to the point of nearly drowning. I had to be saved by my best friend. I retain a lump on the top of my skull the size of a chicken egg. As far as skiing... we need to look no further than Sonny Bono who flew top speed into a tree that ended his life.

The Grand Total answering in the affirmative is 398. Note. Some people played more than one sport.

7. Have you ever been **told** that you might have a concussion?

Yes 110 No 112 Total 222 [50% yes]

***This would seem notably high given only the recent focus on this issue.**

8. Are you **currently** experiencing any of the following that make you think you had a head injury or concussion? If so, **circle all that apply:**

- | | | | |
|----------------------|----------------|---|---------------|
| a. Headaches- | Yes 92 | g. Sleep problems- | Yes 92 |
| b. Dizziness- | Yes 72 | h. Other: Chronic pain, Hearing loss, Poor blood flow to brain, Seeing and hearing problems, Anxiety Disorder, agitation, Schizophrenia, Depression, Bell’s Palsy | |
| c. Memory problems- | Yes 115 | | |
| d. Balance problems- | Yes 65 | | |
| e. Ringing in Ears- | Yes 62 | | |
| f. Irritability- | Yes 59 | | |

9. How long have you been homeless all together? **7.1 years** (on average)

10. What caused you to become homeless? **Please check all that apply:**

- | | | | |
|------------------------------|------------|---|-----------|
| a. Economics e.g. poor wages | 175 | e. Health issues | 61 |
| b. Unable to afford housing | 149 | f. Drugs | 55 |
| c. Criminal background | 81 | g. Alcohol | 50 |
| d. Failed relationship | 80 | Other: paranormal activity, by choice, my life crisis | |

11. Last grade of school completed: **11.57 years**

Special Education: **Yes 42** GED **Yes 56** Certificate: **Yes 54**

Note. While the average school career completed is only half way through the 12th grade, 56 people went on to get their GEDs and 54 others attained some certificate like welding, auto mechanics, nurses assistant etc.

12. What is the #1 thing that will make your life better? **Please check all that apply.**

Housing **195** Living Wage Job **187**

Livable Income from Disability Benefits **80**

Note. 19 people selected all three choices which indicate to us that they just want enough money to have a home

Other: Better Health, Jesus in my life, being absorbed into care by my fiancé, getting off the street, peace, freedom, a car, a job, affordable job, transportation, good people in my life, any, Love (2), move to Malaysia, God Choice, Social Security, Education, (and finally) Salvation.

Note- There was only 9 totally non-responsive cards. They were not included in the results.

From all indications, (2010 House the Homeless Medical Survey), it seems that half, (49%) of people experiencing homelessness are so disabled that they cannot work. Now, we learn that 80% had been hit in the head hard enough to “see stars” or get their “bell rung,” 47%

were in car accidents, 77% fell from a roof/tree etc, 74 % were mugged, 75% were beaten or hit in the head and an astonishing 48% were knocked out.

Just considering the 75% who were beaten or hit in the head and the 48% who were knocked unconscious, and the 80% who “saw stars” or “got their bell rung, ” we see that an enormous number of people experiencing homelessness have experienced a very high rate of head trauma. What if what we are seeing is that many of the nation’s homeless population has suffered some kind of head injury not necessarily because they are homeless, but rather, *causing them to fall into homelessness* and even *preventing them from escaping it*. Wouldn’t it make sense to try and find out if that’s what is taking place...not just that people are funneling into homelessness, *not only due to economics*, but also due to reasons related to health issues...specifically *brain injuries*? Perhaps, ultimately, we can take preventative measures to counter these life-altering events that are so costly to the individual and to our nation as a whole.

End Note-

1. It is the work of Dr. Ambrosino at The University of Texas that led to the creation of the Lone Star card/food program that was the original precursor to the Food Stamp- SNAP program of today. <http://www.utsa.edu/roadrunners/profiles/2015/01/21-Robert-Ambrosino.html>

Reference-

McClafferty, Carla Killough. *Fourth down and Inches: Concussions and Football's Make-or-break Moment*. Minneapolis: Carolrhoda, 2013. Print.