

## TBloptions

ONLINE RESOURCES TO ENHANCE THE HEALTH  
AND WELL-BEING OF PEOPLE WHO EXPERIENCE  
TRAUMATIC BRAIN INJURY

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School of Family Studies & Human Services

## K-State Research & Extension

- Part of the nationwide land-grant system of universities with a mission of “extending” research to state citizens
- Partners the university and federal, state, and county government with offices in every county
- Extension agents provide educational programming within their local communities

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## Today's Objectives

1. Describe the different aspects of TBloptions (Connecting to Resources & Promoting Knowledge)
2. Identify 2-3 ways the online resources of TBloptions may apply to your clinical practice
3. Discuss research that supports online public education about TBI

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## Overview of Presentation

- Background for development of TBloptions
- TBloptions: Connecting to Resources – online directory of agencies and organizations (community specific)
- TBloptions: Promoting Knowledge – online educational program to promote awareness and understanding about TBI
- Discussion and questions

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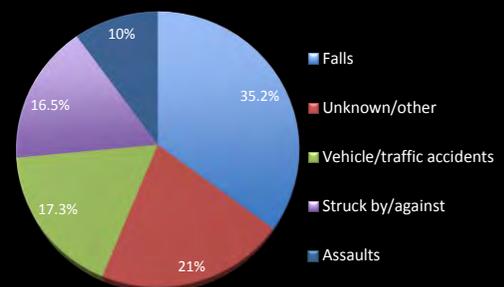
## A TBI Results From **External** Impact

- Bump, blow or jolt to the head
  - Causes violent head motions that distribute injury throughout the brain
- Penetrating injury
  - Causes a pathway of destruction

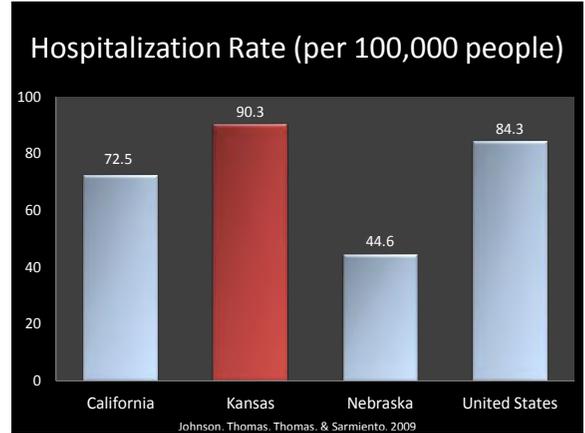
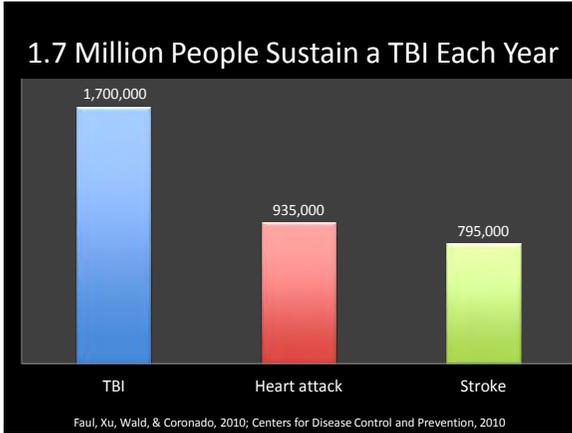


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## Leading Causes of TBI



Faul, Xu, Wald, & Coronado, 2010



### TBI Impacts People Across the Lifespan

Children (0-4 years)

Adolescents (15-19 years)

Adults (65 & older)

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### The overall burden of TBI in the US is underestimated...

- The numbers do not include:
  - Physician visits (est. 430,000 )
  - Outpatient settings (est. 89,000)
  - Individuals who do not seek care
  - Military-related injury

Faul, Xu, Wald, & Coronado, 2010

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### The Military

About 20% of service members returning from deployment self-report probable TBI

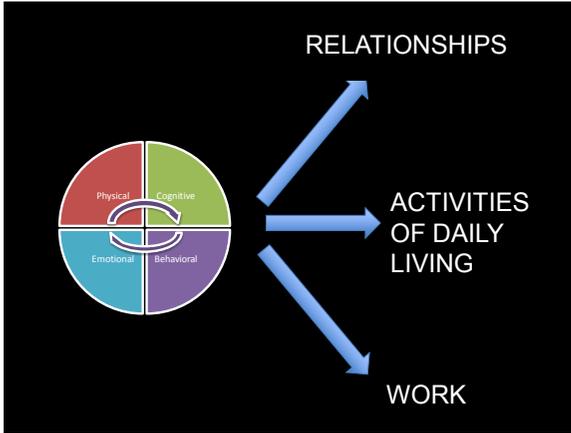
Tanielian & Jaycox, 2008

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*“Trauma to the brain can change the core of a person’s being – their thinking, memory, personality, and behavior”*

Chen & D’Esposito, 2010, p. 11

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## Traumatic Brain Injury

- Many individuals return to their communities with various needs and life-long challenges
- Successful community integration encompasses areas that relate to independent living, work, and social activities

Sander, Clark, & Pappadis, 2010

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## TBOptions: Connecting to Resources

- Online directory of agencies and services within local communities to help address needs (primarily for adults with TBI)
- Useful for:
  - Survivors & family members
  - Care providers & health professionals
  - Interested community members

Financial support provided by the Kansas Department of Social and Rehabilitation Services and by grant H21MC06764 from the Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau.

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www.TBOptions.ksu.edu

<b>Resource: Manhattan Adult Learning Center</b>
<b>Address:</b> 205 S. 4th Street Upper Level, Manhattan, KS 66502 Phone: 785-539-9009 Website: <a href="http://manhattanalec.webnode.com/">http://manhattanalec.webnode.com/</a>
<b>Description:</b> The Manhattan Adult Learning Center provides adult education services such as, basic computer skills, workplace and employment skills, and literacy tutoring.
<b>Resource: Manhattan Area Traumatic Brain Injury Support Group</b>
<b>Address:</b> 1609 College Ave., Manhattan, KS 66502 Phone: 785-532-1483; 785-532-4879
<b>Description:</b> The support group is a network of individuals who survived TBI and their family and friends created to work through the issues of recovery with others who are experiencing a similar situation. The TBI support group meets monthly to discuss various informational topics and new ideas important for recovery. The group meets the 4th Thursday of the month from 5:30 to 7:00 pm at the College Avenue United Methodist Church located at 1609 College Ave. in Manhattan.
<b>Contact info:</b> Jane Garcia ( <a href="mailto:fgarcia@ksu.edu">fgarcia@ksu.edu</a> ), KSU Speech and Hearing Center
<b>Resource: Manhattan Emergency Shelter, Inc.</b>
<b>Address:</b> 416 South 4th Street, Manhattan, KS 66502 Phone: 785-537-3113 Website: <a href="http://www.mesokansas.org/">http://www.mesokansas.org/</a>
<b>Description:</b> Manhattan Emergency Shelter, Inc. provides emergency shelter, transitional living opportunities, and individualized case management to meet the immediate needs of the homeless in Riley and surrounding counties. Additional programs are offered to improve the success of clients including referral services, life skills classes, limited transportation services and advocacy.
<b>Resource: North Central Flint Hills Aging and Disability Resource Center (ADRC)</b>
<b>Address:</b> 401 Houston, Manhattan, KS 66502 Phone: 785-776-9234 Website: <a href="http://www.fchaak.com/">http://www.fchaak.com/</a>
<b>Description:</b> The Aging and Disability Resource Center (ADRC) is designed to help survivors and families make informed decisions about important services and supports. The ADRC can refer individuals to an array of in-home, community-based and institutional services, as well as offer decision-making support through a service called Oylsang Counseling. It also provides functional assessment for home and Community Based Services (HCSB) including the Traumatic Brain Injury waiver.

## TBloptions: Connecting to Resources

- Offers brief description of each resource and contact information
- Organizes community resources into 4 main areas (Community Supports, Financial, Health Related, Treatment & Rehabilitation)

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## How did we identify, locate, and contact community resources in different areas of the state?

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## K-State Research & Extension

Extension agents (N = 28) participated in initial development of the online directory:

- Took part in training to learn about traumatic brain injury and outreach efforts for TBI
- Partnered with a community member who had knowledge about TBI
- Collected information about relevant resources and entered into electronic database

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## Survey about Perceptions (pre and post-assessment questionnaires)

Sellers, D. & Garcia, J. (2012). Traumatic brain injury: Exploring the role of Cooperative Extension in Kansas communities. *Journal of Extension* [On-line], 50(2). Available at: <http://www.joe.org/joe/2012april/iw4.php>

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## Perceptions of Extension Agents

Question	Pre	Post
How confident are you in your knowledge about TBI?	2	5
How would you rate your familiarity with local community resources?	6	7
How would you rate your ability to locate community resources for people with TBI?	4	7

1 2 3 4 5 6 7 8 9  
 "1" = no confidence/not strong  
 "9" = extremely confident/very strong



## Equally important...

- Is to acknowledge that a lack of public understanding about the physical, cognitive, behavioral, and psychosocial impacts of an injury may be an obstacle to successful community integration
- The “invisible” aspect of TBI may lead to misperceptions, e.g., attributing undesirable behavior to another reason such a personality trait

Hux, Deuel-Schram, & Goeken, 2006; McClure, 2011

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## Survivors say that...

- The attitude of other people is one of the barriers that they encounter that affects them the most
- Community-wide education and awareness is important to help improve acceptance and become integrated members of a community

Whiteneck, Gerhart, & Cusick 2004; Sander et al., 2010;  
Rotondi, Sinkule, Balzer, Harris, & Moldovan, 2007

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## TBLoptions: Promoting Knowledge

- A health education program designed to increase public awareness and understanding of traumatic brain injury (TBI) through two modes of delivery:
  - In-person (classroom)
  - Computer-based (electronic)

Financial support provided by Rural Health and Safety Education Competitive Program of the USDA Cooperative State Research, Education and Extension Service, grant number 2010-46100-21790.

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Promoting Knowledge

## TBLoptions: Promoting Knowledge

- Three main areas of content:
  - Background knowledge about TBI, including impacts (physical, cognitive, emotional, behavioral)
  - Consequences of TBI to all aspects of living to emphasize the importance of individual/community support
  - Use of the online directory (Connecting to Resources)

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Promoting Knowledge

## Features of the Program

- Lecture content presented with multiple learning strategies (e.g., charts, graphs, photos, animations)
- Use of print materials to reinforce key messages
- Carefully constructed video vignettes from survivors of TBI who share first-hand experiences that complement main areas of content

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Promoting Knowledge

## Video Vignettes (of Kansans)

- Designed to complement lecture content (2-4 min. in length)
  - My Story (circumstances surrounding the injury)
  - Impact (comments about cognitive status, physical, emotional well-being, & changes in behavior)
  - Consequences (adjustments to relationships, activities of daily living, and/or work)
  - Community (importance of individual & community supports in each person's continuing recovery)

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Promoting Knowledge

## ...Features (continued)

- Interactive components
  - Choices regarding survivor videos (whose story to follow)

## Let's Meet...



Mother of two  
Western Kansas



Volunteer fire fighter  
North eastern Kansas



Husband, father, service member  
North central Kansas

## Whose Story Should We Follow?



Mother of two  
Western Kansas



Volunteer fire fighter  
North eastern Kansas



Husband, father, service member  
North central Kansas

## ...Features (continued)

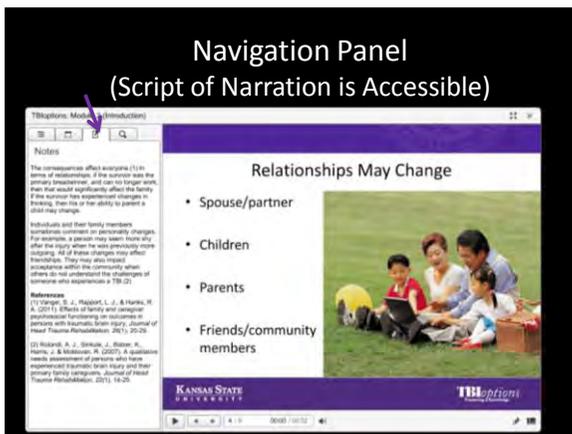
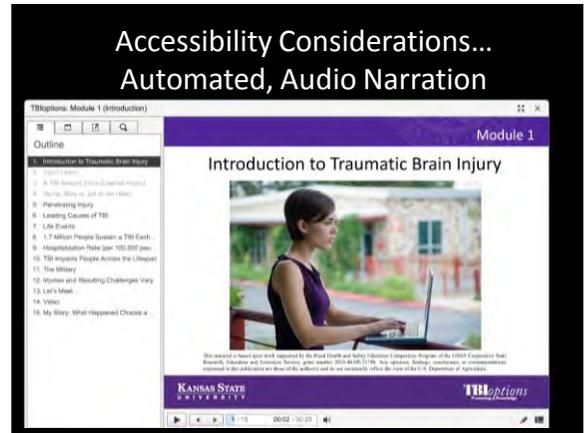
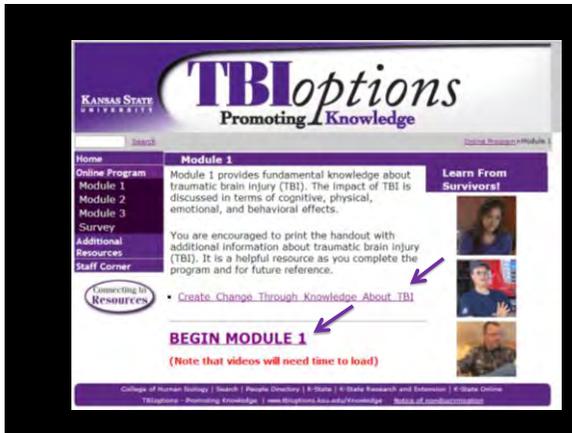
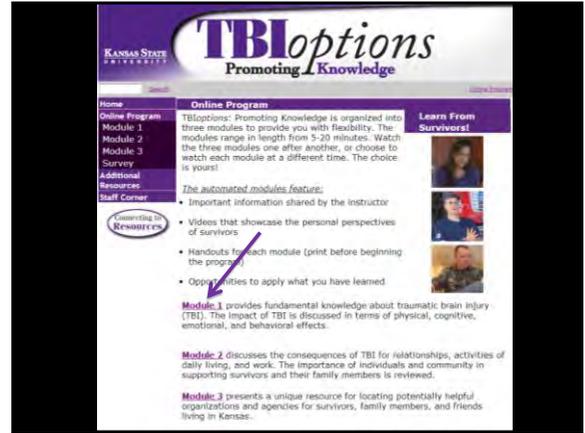
- Interactive components
  - Reflective questions that support application of knowledge to real-life scenarios within videos (help evaluate self-learning)

## Example Reflective Questions (to evaluate self-learning)

- Was there an impact that surprised you?
- How do you think impacts have changed or not changed over time?

## ...Features (continued)

- Two modes of delivery
  - In-person (currently offered as a program through Cooperative Extension in the State of Kansas)
  - Electronic (computer-based learning)



## Research Study

Designed to evaluate the overall program, and to compare the two modes of delivery (classroom & electronic)

Garcia, J. M., Sellers, D. M., Hilgendorf, A. E., & Burnett, D. L. (under review). Evaluation of a Health Education Program about Traumatic Brain Injury. *Health Education Journal*.

## To determine if...

- the educational program changed participants' perceptions about TBI based on:
  - Quantitative results (comparison of pre- and post-program self-ratings of understanding)
  - Qualitative comments about program content
- there were differences in quantitative outcomes in comparing two modes of delivery (classroom & electronic conditions)

## Methods

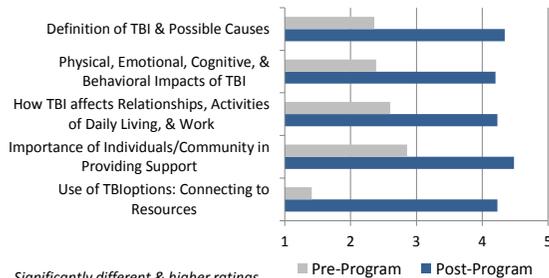
- 44 participants (20-78 years of age) randomly assigned to each condition
  - N=22 classroom
  - N=22 electronic
- Each group experienced the same educational program (primary difference was the use of individual computer & headphones to access automated version for electronic condition)

## Methods

- Assessment measures included:
  - Pre and post-program ratings of understanding for 5 primary areas of program content
  - Written responses to 3 open-ended questions about major themes of the program

## Self-Ratings of Understanding (N=44)

(1 = Very Low; 5 = Very High)



## No Differences between Delivery Modes

Areas of Understanding	Classroom (N = 22)		Electronic (N = 22)	
	Pre-Test Mean (S.D.)	Post-Test Mean (S.D.)	Pre-Test Mean (S.D.)	Post-Test Mean (S.D.)
The definition of traumatic brain injury and possible causes of a TBI	2.45 (0.67)	4.36 (0.58)	2.27 (0.77)	4.32 (0.57)
The physical, emotional, cognitive and behavioral impacts of TBI	2.36 (0.66)	4.18 (0.66)	2.41 (0.91)	4.23 (0.69)
How TBI can affect relationships, activities of daily living, and work	2.68 (0.78)	4.27 (0.63)	2.55 (0.60)	4.18 (0.73)
The importance of individuals /community in supporting survivors and families	2.95 (1.13)	4.41 (0.59)	2.77 (1.02)	4.55 (0.51)
The use of TBIoptions: Connecting to Resources website	1.50 (0.60)	4.14 (0.71)	1.32 (0.48)	4.32 (0.65)

## Qualitative Analysis of Written Comments in Response to:

- Impact of TBI that would be most challenging or frustrating for you?
- Difficult changes or consequences to overcome after a traumatic brain injury?
- Ways you or your community could provide support to a survivor and his or her family?

## Most challenging or frustrating impact?

### Most Prominent Theme:

Cognitive - 39% of participants

*"Cognitive, because not being able to think clearly and difficulty in reasoning would be very frustrating."*

*"Cognitive – not being able to remember certain things, things I have done for years would make me very frustrated and want to give up everything. Memories are very important to a person and being able to do daily activities."*

## Difficult changes or consequences to overcome?

### Most Prominent Themes (41% of participants):

#### Relearning or Readjusting to a New Normal

*"Knowing that things may never be the same again or that it may take a very long time to return to a more normal way of doing things like you'd done before."*

#### Social Consequences

*"One's change in personality, others might view the new you as fake."*

## Ways you or your community can provide support?

### Most Prominent Themes (39% of participants):

#### Responsiveness

*"...Ask what they need help with. Call once in a while to see if they need or want anything that you can provide."*

#### Emotional Support

*"Take time to treat them like a person, be their friend, listen and be patient."*

## Summary Findings

- Written comments provided additional information about areas of content that especially impacted participants
  - Recognition of **Cognitive & Social** changes suggest that participants may have gained increased awareness about the "invisible" aspects of TBI
  - Absence of visible injury contributes to misconceptions about recovery and disability

Hux et al., 2006; Katz et al., 2007; McClure, 2011

## Summary Findings (cont.)

- Participants provided consistently higher ratings of understanding (pre- to post-program experience)
- Results reflected a similar patterns of ratings across both modes of program delivery
- Findings are supportive of other studies showing the effectiveness of electronic learning for health education

Cason & Stiller, 2011; Laasko, Armstrong, & Usher, 2012

## Promoting Knowledge: Considerations for SLPs

- Your own professional development (introductory content)
- Help staff in different disciplines learn about TBI
- Important information for survivors and/or families and friends of a survivor
- Print (handout) materials
- Personal accounts for survivors and families

## Comments Supported Importance of First-Hand Accounts

*"The people telling their stories is what really grabbed me. Charts and graphs are very impersonal but when 'mothers' tell her story you can feel her emotions and it really hits you."*

- Personal accounts provide a means to learn from others & benefit from personal insights

Marsh, 2000

## Discussion & Questions

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