Internet use and health among children and adolescents in the United States

by
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* Thank you for your interest in this presentation. Please note that analyses included herein are preliminary. More recent, finalized analyses may be available by contacting CiPHR for further information.

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Decoding how technology influences and can improve public health

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Today's talk outline

- General Internet usage data
- Internet as a healthcare resource
- Online experiences and relationships
- Review of Internet-based interventions
- Opportunities for future research
- Questions

Background

The first step in building a successful targeted intervention online is to understand how young people *use* the Internet.

General Internet usage data

Youth Internet use characteristics

- 97% of youth between the ages of 12 and 18 use the Internet (UCLA Center for Communication Policy , 2003)

- Home Internet access (US Department of Commerce, 2002)
  - Half of youth 10-13 years old
  - 61% of youth 14-17 years old

Youth Internet use characteristics (cont)

- The majority of youth use the Internet for an hour or less a day (Finkelhor, Mitchell & Wolak, 2000; Woodard, 2002);
  - 14% spend three hours or more per day online (Ybarra, Mitchell & Wolak, 2005).

- Boys and girls are equally likely to have used the Internet (Rideout, Foehr, Roberts & Brodie, 1999)

Internet activities

- 95% of youth use the Internet for email (Lenhart, Rainie, & Lewis, 2002).

- 85% of teens use the Internet for school work (US Department of Commerce, 2002)

- 76% of older teens (15-17 y.o.) have searched for health information (Kaiser Family Foundation, 2001)

Internet as a healthcare resource

Internet use for health care information

- Somatic health (Kaiser Family Foundation, 2001)
  - HIV/AIDS: 31%
  - Sexually transmitted diseases: 24%
  - Pregnancy or birth control: 21%
- Mental health
  - Drug and alcohol abuse: 25% (Kaiser Family Foundation, 2001)
  - Depression or mental illness: 18-23% (Kaiser Family Foundation, 2001; Rideout, 2001)
  - Violence: 23% (Rideout, 2001)
  - Suicide: 12% (Gould, Munfakh, Lubell et al., 2002)

Impact of online health information

- 53% have had a conversation with their caregiver about what they learned (Rideout, 2001)

- 41% have changed their behavior (Kaiser Family Foundation, 2001)

- 14% have sought healthcare services (Rideout, 2001)

Online experiences and relationships

Friendships online

Communication tool with 'traditional' peers (Ybarra, Mitchell & Alexander, 2005):
- 67% talk with peers seen often
- 46% talk with peers seen infrequently

Communication with online peers (Ybarra, Mitchell & Alexander, 2005; Finkelhor et al., 2000):
- 56% have talked with a 'stranger' online
- 16% have formed a close friendship with someone met online
  - 3% have a close online friendship with an adult

Sharing information

- Self-disclosure (Finkelhor et al., 2000)
  - 7% of youth sent a picture of themselves to someone else online

 - 11% of youth posted personal information (e.g., home address) online

Cross-section of Internet and mental health

## Internet usage and depression

- Most studies have reported that both cross-sectionally (Ybarra, Mitchell & Wolak, 2005; Sanders, Field, Diego et al., 2000; Gross, Juvonen, Gable, 2002) and longitudinally (Kraut, Kiesler, Boneva, 2002), general Internet usage* does not significantly differ by the report of depressive symptomatology.

*the average number of days / week a youth is online

Odds of Internet harassment given report of depressive symptomatology
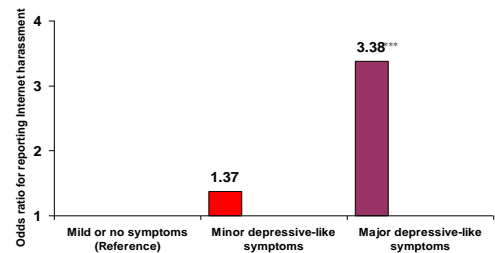
Internet harassment by sex and depressive symptomatology
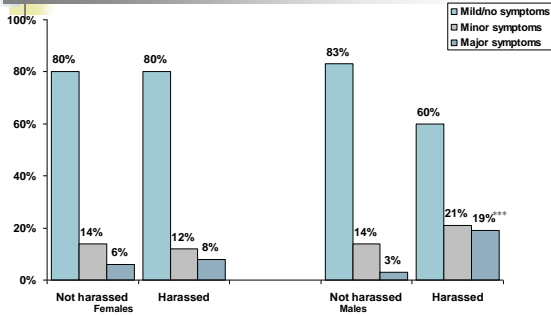
Review of Internet-based interventions (Ybarra & Eaton, 2005)

Advantages of Internet-based interventions

- Cost-effective
- Easy to scale up
- Overcome some barriers to traditional services: stigma, anonymity, transportation, cost
- Ensures fidelity of intervention
- Self-paced and allows the user to tailor the intervention to them

The healthcare provider and the Internet

- The Internet will never *replace* traditional services.

- Because of it's wide reach however, the Internet can *enhance* the care received from providers.

- Also, the Internet may provide services or information for people who would not otherwise access care for various reasons: stigma, transportation/distance to clinic, money, etc.

Online support groups

- Bring together a group of people with similar interests / challenges to support each other in their behavior change efforts.

- Similar to traditional support groups

- Anonymously explore feelings

- Social factors neutralized

Online support groups

- Demand for online support groups is high.

- 28% of a self-selected sample of online users in the United States indicates that their online searches are mostly for online support groups (Boyer et al., 2002).

Online support groups

Comprehensive Health Enhancement Support System (CHESS) is a replicable online support including discussion groups, resource area, etc. Reported outcomes for HIV (Boberg, Gustafson, & Hawkins, 1995) and breast cancer (Gustafson et al., 2001; Gustafson et al., 1998) modules include significant improvements in:
- Emotional health,
- Cognitive functioning,
- Quality of life measures,
- Relationship with their provider,
- Confidence in making decisions, and
- Information competence

Group therapy for behavioral change

- Tends to be more structured than online support groups

- Has a trained healthcare provider 'leading' group

Group therapy for behavioral change

Smoking cessation (Schneider & Tooley, 1986).

- Pilot study, N=16, motivated to quit
- Online support group moderated by a mental health professional.
- Enhanced with 4-week self-directed behavior management program (e.g., self-report diary of smoking, supportive messages)
- 5 participants were abstinent 90 days post-quit, a rate similar to many traditional programs

Group therapy for behavioral change

Eating disorder prevention (Winzelberg et al., 2000)

- Randomized control trial, N=60, college woman at risk
- 8-week structured intervention with a moderated-led psycho-educational component. Discussion group, self-monitoring journals, and behavior monitoring exercises.
- Intervention group had significantly lower drive to be thin and improved body image 3 months post-intervention.

Self-directed therapy

- Similar to 'bibliotherapy'

- Individuals access the Internet site and work through the modules on their own.

Self-directed therapy

- Depression
  - Overcoming Depression on the Internet (ODIN; Clarke et al., 2002):
    - 8 modules, homework guide, "thought helper"
    - Depressive symptomatology similar between intervention and control groups at RCT study end.

  - MoodGYM (Christensen, Griffiths, & Korten, 2002:
    - 5 modules, homework, interactive game
    - Significant decreases in depressive and anxiety symptomatology observed pre-post test among self-selected sample.
    - Ybarra and colleagues are preparing to modify MoodGYM for adolescents

Self-directed therapy

- Anxiety
  - FearFighter (Kenwright, Liness, & Marks, 2001)
    - Aimed at reducing symptoms of anxiety disorder.
    - 4 sections: Fear, panic, phobia, and education
    - Clinical sample using the program while in an office-setting:
      - Significant symptom alleviation pre-post test;
      - Results similar to traditional therapy.
      - High drop-out rate.

Self-directed therapy

Substance abuse prevention/early intervention:

- Coping matters (Matano, Futa, Wanat, Mussman, & Leung, 2000)
  - Offered through employers
  - Supplement traditional services from managed care organization
  - Aimed at moderate drinkers
  - RCT (N=8,567) ongoing

Self-directed therapy

- Others being studied (National Institutes of Mental Health, 2005: crisp.cit.nig.gov) :
  - Parenting skills intervention (Severson et al.);
  - Youth problem behavior (Clarke et al);
  - Child / family tobacco use prevention (Sullivan et al.);
  - PTSD (Litz et al.); and
  - Families and individuals affected by schizophrenia (Rotondi et al)

Synopsis of current literature

- The Internet is an influential environment that is shaping and affecting youth today

- The Internet is a powerful tool that can modify the behavior of some youth

- Adult Internet-based behavioral interventions have reported positive results

Opportunities for future research

Interventions tailored to resource-poor populations

Given the relative cost-effectiveness of scaling up Internet-based interventions, this is a yet-untapped resource that could be integrated into a comprehensive prevention and intervention programs in resource-poor settings.

Youth-based interventions

- Child-based Internet intervention research online is lagging behind that of adults.

- This is ironic given the large numbers of youth online and the general integration of Internet technology into the daily lives of our youth (UCLA Center for Communication Policy, 2003).

Conclusions

- The Internet is an important new resource for intervention and prevention efforts.

- The web's wide scope represents an opportunity to reach people that may not otherwise seek treatment either because of stigma, access to providers, or need for privacy.

Conclusions

- Early results suggest that behavioral interventions can affect positive behavioral change and self-efficacy.

- As the Internet continues to grow in popularity, innovative and rigorous research is needed to utilize its technology as an aid in public health approaches to youth-based health treatment and prevention.