

Media Multitasking: Costs & Benefits



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Intro to Media Multitasking

- Background
- Learning multitasking skills
- Benefits
- Costs
 - Cognitive
 - Social

Background



P.M. Greenfield, *Mind and Media: The Effects of Television, Video Games, and Computers* (Harvard University Press, 1984)

Background



Lauren Greenfield

Crossroads School Graduation, Santa Monica, CA, 1992

Learning: Technology's effects in enhancing skills for dividing visual attention

An experiment showed that video game expertise enhanced college students' strategies for dividing attention in an attentional monitoring task that required visual attention to two locations on a screen (Greenfield, Dewinstanley, & Kaye, 1994)

The same basic point was made again in 2003 by Green & Bavelier. The games had become more sophisticated and exposure was even earlier: the effects were correspondingly stronger.

Matt Dye has now done similar experiments with children, which I think we will see in a poster at noon.

Learning: Almost-Real-World Transfer

- Kearney (2005): Playing 2 hours of a shooting game, Counterstrike, improved performance in a simulated multitask work environment (called *SynWorki*); it comprised 4 simultaneous tasks that are useful in the military job of standing guard).
- Remaining question: Could each task have been done better if done alone?

Benefits

- Can keep many balls in the air
- Can monitor many locations

Costs

- COGNITIVE

- Can distract from main message (Bergen et al.)

- Can distract from socially important tasks (Gross, 2004)

- Can decrease reflection or metacognition as it shifts neural activity to areas that deal with more habitual processing, rather than metacognition (Foerde et al.)

- Can cause situationally based ADD (irritability, declining productivity, disorganization) (Hallowell, 2005, as reported by Wallis, 2006)

- SOCIAL

- Decreases family interaction, creates generational boundaries, undermines family rituals and shared communication, and magnifies importance of peer group

Example of within-medium multitasking: the news crawl

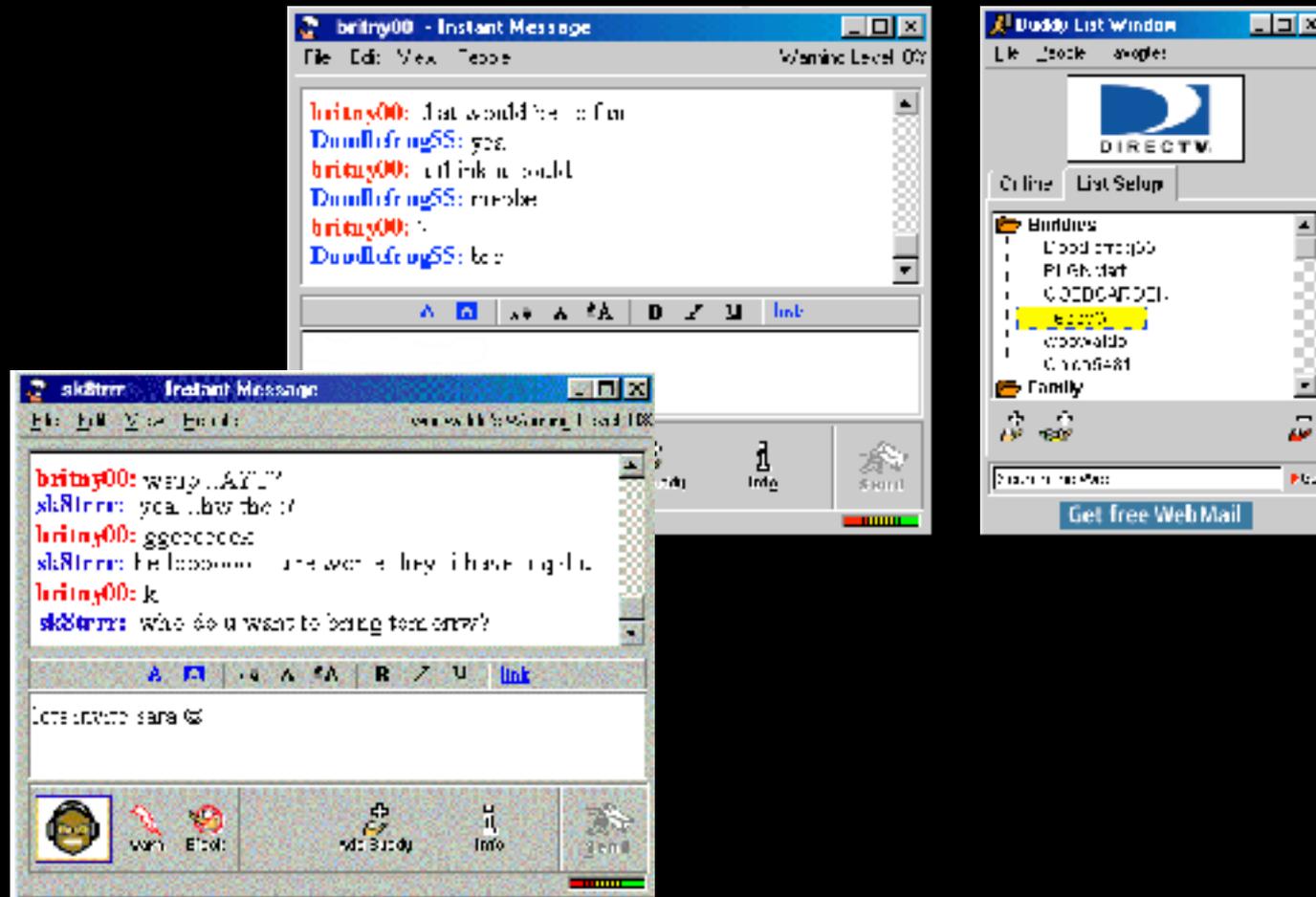


Cognitive cost: Distracting from main message



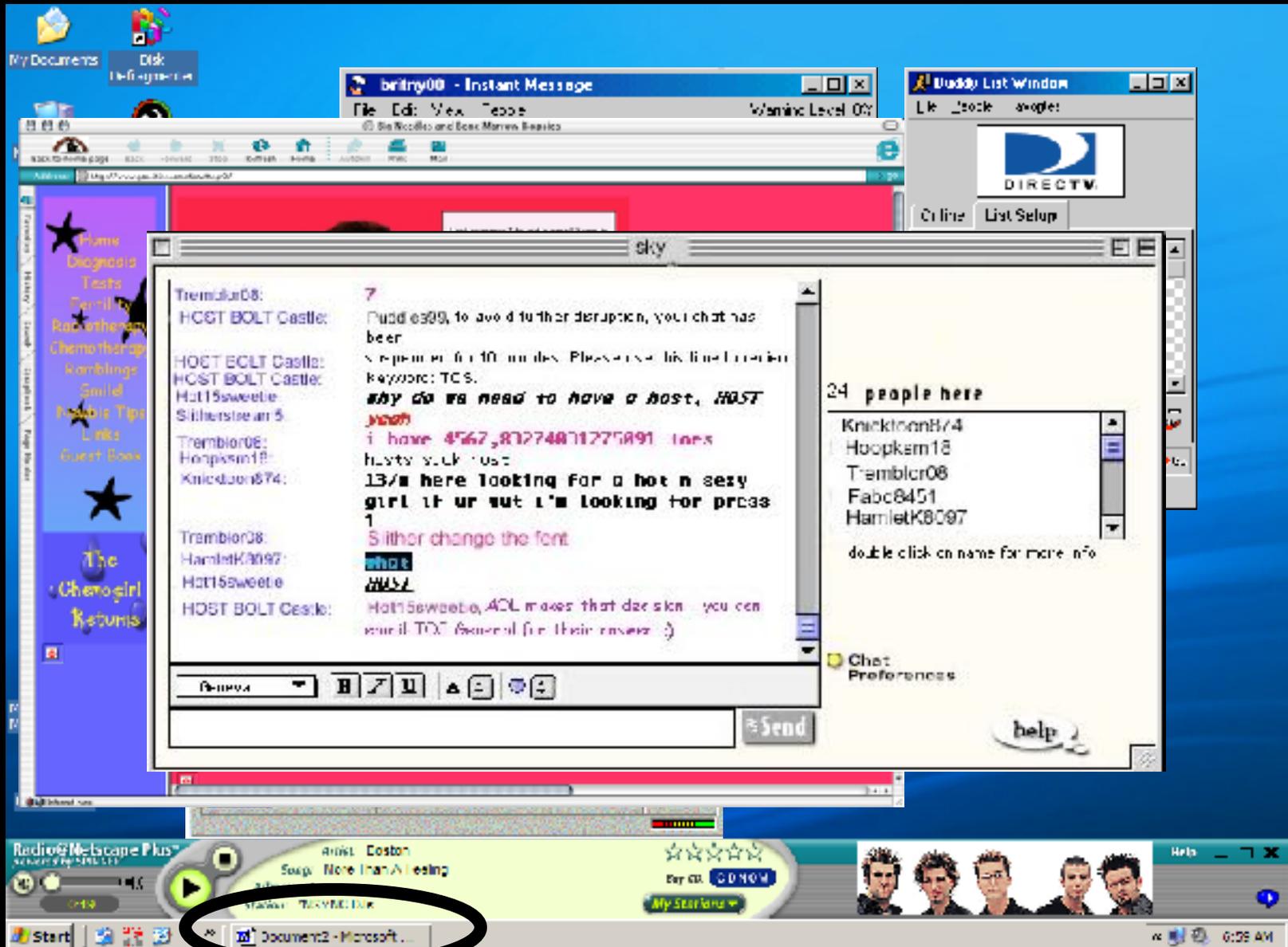
Bergen et al., 2005

Cognitive Cost: Distracting from school work



(Gross, 2004)

Cognitive cost: Distracting from school work



What medium can counteract the cognitive weaknesses of media multitasking?

Reading!

Reflection - Kagan (1965): From 1st grade on, better readers more reflective

Critical thinking – Terenzini et al. (1995): Amount of out-of-class reading done in college years is a statistically significant predictor of critical thinking skills.

WAS IRAQ WORTH IT? • POLITICS OF FAT • MEL'S NEW FILM

TIME

ARE KIDS TOO WIRED FOR THEIR OWN GOOD?

What science tells us about the pluses—and minuses—of doing everything at once

BY CLAUDIA WALLIS

PHOTOGRAPH BY JEFFREY M. HARRIS

LEADER OPINION

THE STATE OF THE UNION

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FORUM

IN JUNE 2006

Social Costs

DECLINE OF FACE TO FACE FAMILY INTERACTION, INCREASE IN INTERACTING WITH TECHNOLOGY, INCLUDING ELECTRONICALLY MEDIATED

- Sloan Center, UCLA, Anthropologist Elinor Ochs - intense (4-yr) video study of 30 families - study of modern family life
- Video ethnography. About 50 hours per family
- Reported by Claudia Wallis:
- When working spouse (usually father) comes through the door, the other spouse and children are so absorbed in what they are doing, they greet him only about one-third of the time, usually with perfunctory “hi”; about half the time, children ignored him or did not stop what they were doing, multitasking and monitoring their various electronic gadgets. Parents had a hard time penetrating their children’s world and often retreated.

- Glimpse of one family one night at 9:30 p.m.
 - Boy, age 14, in bedroom, where has been logged into MySpace chat room and AOL Instant Messenger for past 3 hours. Has multiple windows open, including Itunes, Google images and several IM windows.
 - Twin sister, in living room using dad's iMac to IM while chatting on her cell phone and doing homework.
- This type of electronic multitasking was a major change from a similar study of 20 years ago.
- (E. Ochs, reported by Claudia Wallis, 2006)

Multitasking with the Cell Phone: Effects on the Family

- Ling & Yttri study in Norway
- Focus groups held in 1999: 40 teenagers, 20 19-23 year olds, and 20 parents
 - Each demographic had own groups, 10 groups in all
- Establishes generational boundaries: EXAMPLE
- Undermines family rituals in favor of peer communication: ELABORATION
- Individualizes mediated communication: EXAMPLE

The End!



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