



# UNDER THE INFLUENCE

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*Body dissatisfaction among Canadian girls and young women in the digital age*

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# CONFLICTS OF INTEREST

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- None.

# BACKGROUND

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- Body dissatisfaction = subjective negative view of one's body weight/shape
- High rates and several associated poor health outcomes among young females
- Linked to media exposure including the Internet
  - Images, messages, and ads promoting the thin ideal
- In Canada: 85% of households are connected (vs. 40% in 2000), 18.5 million are using Facebook (launched 2004), and young people constantly connected.
- Yet **no previous study** has examined this relationship among this demographic in Canada **using nationally representative data.**

# RESEARCH QUESTION

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- What is the relationship between Internet use and body dissatisfaction among Canadian female adolescents and young adults aged 12-29?
- Hypothesis: Higher amounts of Internet use will be associated with increasing odds of body dissatisfaction.



# METHODS

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- **Design:** Canadian Community Health Survey 2011-2012
- **Sample:** Females 12-29 who reported valid responses to study measures
  - **Outcome = Body dissatisfaction** (5-point Likert, “very dissatisfied” to “very satisfied”)  
*Question: “How satisfied are you with the way your body looks?”*
  - **Explanatory = Internet use** (6-levels, “none or <1 hour” to “>20 hours”), assessed by proxy question:  
*Question: “In a typical week in the past 3 months, how much time did you usually spend on a computer, including playing computer games and using the Internet or World Wide Web?”*
  - **Confounders = Age, Household Income**
- **Analysis:** Bivariable (unadjusted) & multinomial (adjusted); weights applied

# RESULTS – BIVARIABLE (N=2,983\*)

\*Sampled to represent 940,786

| Variables                                    | n (%) <sup>a</sup> | Body (Dis)satisfaction                           |                           |                              |                                  | p-value |
|--|--------------------|--|---------------------------|------------------------------|----------------------------------|---------|
|  |                    | Very Dissatisfied/Dissatisfied<br>(n=440, 14.7%) | Neutral<br>(n=349, 12.8%) | Satisfied<br>(n=1604, 53.4%) | Very Satisfied<br>(n=590, 19.0%) |         |
| <b>Explanatory</b>                           |                    |  |                           |                              |                                  |         |
| Internet Use (per week in the past 3 months) |                    |  |                           |                              |                                  | 0.0001  |
| None/less than 1 hour                        | 159 (5.0)          | 33 (6.1)   | 14 (3.7)                  | 79 (4.4)                     | 33 (6.8)                         |         |
| 1-2 hours                                    | 529 (16.3)         | 64 (13.4)  | 63 (13.5)                 | 270 (16.8)                   | 132 (19.0)                       |         |
| 3-5 hours                                    | 556 (17.5)         | 61 (11.7)  | 64 (17.2)                 | 324 (19.5)                   | 107 (16.4)                       |         |
| 6-10 hours                                   | 749 (23.1)         | 98 (18.0)  | 80 (17.4)                 | 415 (24.4)                   | 156 (27.3)                       |         |
| 11-14 hours                                  | 358 (12.0)         | 53 (11.1)  | 46 (18.1)                 | 194 (11.5)                   | 65 (9.7)                         |         |
| 15-20 hours                                  | 167 (6.6)          | 33 (6.8)   | 21 (8.2)                  | 86 (6.8)                     | 27 (4.6)                         |         |
| More than 20 hours                           | 465 (19.5)         | 98 (33.0)  | 61 (21.9)                 | 236 (16.4)                   | 70 (16.3)                        |         |
| <b>Socio-demographic</b>                     |                    |  |                           |                              |                                  |         |
| Age in years                                 |                    |  |                           |                              |                                  | <0.0001 |
| 12-14  | 473 (13.2)         | 24 (5.7)   | 32 (9.4)                  | 240 (11.8)                   | 177 (25.6)                       |         |
| 15-17  | 517 (15.4)         | 66 (13.6)  | 41 (10.5)                 | 284 (15.6)                   | 126 (19.3)                       |         |
| 18-19  | 325 (9.4)          | 33 (7.6)   | 34 (8.5)                  | 204 (10.2)                   | 54 (9.1)                         |         |
| 20-24  | 726 (30.7)         | 120 (28.9)                                       | 91 (37.0)                 | 394 (30.7)                   | 121 (27.7)                       |         |
| 25-29  | 942 (31.3)         | 197 (44.2)                                       | 151 (34.5)                | 482 (31.6)                   | 112 (18.3)                       |         |
| Annual household income                      |                    |  |                           |                              |                                  | 0.089   |
| Less than \$20,000                           | 210 (7.9)          | 33 (7.4)   | 26 (6.7)                  | 113 (7.5)                    | 38 (10.3)                        |         |
| \$20,000 to \$39,999                         | 505 (16.7)         | 83 (15.8)  | 52 (18.2)                 | 272 (17.3)                   | 98 (14.8)                        |         |
| \$40,000 to \$59,999                         | 487 (15.6)         | 80 (16.4)  | 63 (18.9)                 | 268 (16.6)                   | 76 (10.2)                        |         |
| \$60,000 to \$79,999                         | 471 (15.1)         | 68 (18.8)  | 68 (18.7)                 | 255 (14.4)                   | 80 (11.8)                        |         |
| \$80,000 or more                             | 1310 (44.6)        | 176 (41.7)                                       | 140 (37.3)                | 696 (44.2)                   | 298 (52.9)                       |         |

<sup>a</sup> Column percentages are shown. Percentages have survey weights applied.

# RESULTS – MULTINOMIAL (N=2,983\*)

\*Sampled to represent 940,786

Referent group: *very satisfied*.

| Variable  | Very Dissatisfied/Dissatisfied |                          | Neutral            |                           | Satisfied         |                          |
|---|--------------------------------|--------------------------|--------------------|---------------------------|-------------------|--------------------------|
|   | Unadjusted OR                  | Adjusted OR <sup>a</sup> | Unadjusted OR      | Adjusted OR <sup>a</sup>  | Unadjusted OR     | Adjusted OR <sup>a</sup> |
|   | (95% CI)                       | (95% CI)                 | (95% CI)           | (95% CI)                  | (95% CI)          | (95% CI)                 |
| <b>Internet Use (per week in the last 3 months)</b> |                                |                          |                    |                           |                   |                          |
| None/less than 1 hr                                 | Reference                      | Reference                | Reference          | Reference                 | Reference         | Reference                |
| 1-2 hours   | 0.79 (0.33, 1.91)              | 0.88 (0.35, 2.21)        | 1.31 (0.46, 3.73)  | 1.41 (0.48, 4.19)         | 1.36 (0.67, 2.76) | 1.48 (0.71, 3.11)        |
| 3-5 hours   | 0.79 (0.32, 1.98)              | 0.90 (0.34, 2.36)        | 1.93 (0.66, 5.66)  | 2.17 (0.72, 6.60)         | 1.82 (0.87, 3.79) | 2.05 (0.94, 4.47)        |
| 6-10 hours  | 0.74 (0.31, 1.72)              | 0.89 (0.36, 2.21)        | 1.17 (0.42, 3.31)  | 1.36 (0.46, 3.99)         | 1.37 (0.68, 2.75) | 1.55 (0.74, 3.26)        |
| 11-14 hours   | 1.28 (0.52, 3.18)              | 1.46 (0.55, 3.84)        | 3.46 (1.13, 10.59) | <b>3.66 (1.17, 11.45)</b> | 1.83 (0.87, 3.86) | 1.95 (0.88, 4.32)        |
| 15-20 hours   | 1.66 (0.58, 4.77)              | 2.51 (0.84, 7.45)        | 3.34 (0.93, 12.02) | <b>4.36 (1.18, 16.13)</b> | 2.28 (0.93, 5.60) | <b>2.82 (1.14, 7.01)</b> |
| More than 20 hours                                  | 2.27 (0.92, 5.56)              | <b>3.03 (1.19, 7.70)</b> | 2.49 (0.82, 7.47)  | 2.85 (0.92, 8.81)         | 2.49 (0.82, 7.47) | 1.76 (0.80, 3.86)        |

<sup>a</sup>Adjusted for age and household income. AORs excluding the null are in bold.

# DISCUSSION

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- A substantial proportion (19.5%) spent 20+ hours on the Internet each week and body dissatisfaction was more likely in this group
- Those who spent 11-20 hours online were also more likely to be less satisfied with their bodies
- Findings are consistent with past research linking Internet exposure to body image concerns
- Future research should explore effects by age, gender, and time.

# EXPLORATORY POST-HOC

## ANALYSES

### Entire sample, 2011-2012:

- Clearer dose-response: **1.29** (0.97, 1.71), **1.28** (0.95, 1.71), **1.41** (1.07, 1.86), **1.78** (1.26, 2.52), **2.46** (1.62, 3.74), and **3.31** (2.34, 4.69)
- Of those with body dissatisfaction: most were women (66.2%) with a roughly equal distribution (18.9% to 22.3%) of people across age strata: <30, 30-39, 40-49, 50-59, 60+

### ➤ Males 12-29, 2011-2012:

- Prevalence of body dissatisfaction was lower (6.1% vs. females: 14.7%) and Internet use was higher (32% reported using it for 15 or more hours per week vs. females: 26.1%)
- Odds of neutral relative to very satisfied were 3.53 times (95% CI: 1.17, 10.69) among males online for 15-20 hours vs. those reporting no use or <1 hour (vs. females: 4.36(1.18, 16.13))

### ➤ Females 12-29, 2003 (Cycle 2.1):

- Internet use was lower, with only 6.5% using it for 15+ hours per week (vs. 26.1% in 2011) and prevalence of body dissatisfaction was the same (14.8%)
- Only two adjusted estimates were above 2 and excluded the null, both comparing neutral in reference to very satisfied

# DISCUSSION

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## ➤ **Limitations:**

- Internet use: broad, lacked specificity, excluded mobile use, measured up to 20 hours (ceiling effect)
- Self-reporting may be influenced by social desirability bias or memory distortions
- Cross-section study design

## ➤ **Strengths:**

- Large size
- Representative sample

# CONCLUSIONS AND RECOMMENDATIONS

- Public health efforts are needed to help women achieve and maintain a positive body image in today's digital age
  - Guidelines for healthy usage
  - Education campaigns in schools and online
  - Policies for advertisers/corporations to limit editing and show realistic and diverse representations of women



Our photo shoot and interview series features fresh faces without make-up, photo editing or filters, from around the world. It is also where we dive into real, honest and raw conversations about what beauty, confidence and self-love mean to women today.



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