



The **P**roblematic and **R**isky Internet **U**se
Screening **S**cale (**PRIUSS**)
for Adolescents and Young Adults:
Initial Scale Development and Refinement

Lauren Jelenchick, MPH Candidate
Adolescent Health Research Team, Department of Pediatrics

Background



- + Internet use is nearly ubiquitous and increasingly influential in the lives of adolescents and young adults**
 - + 95% are online
 - + 75% own a computer or laptop
 - + Average Internet use of 2 hours a day
 - + 80% use a social networking site

Background



+ Overuse of the Internet linked with:

- + Sleep disorders
- + Depression and anxiety
- + Drug and alcohol use
- + Poor academic performance
- + Poor social adjustment

Background



Problematic Internet Use (PIU)

Overuse of the Internet leading to adverse health and life consequences

- + May affect between 4-15% of adolescents and young adults
- + Emerging condition → Lacking available intervention capabilities
 - + Screening instruments
 - + Prevention strategies

Project purpose

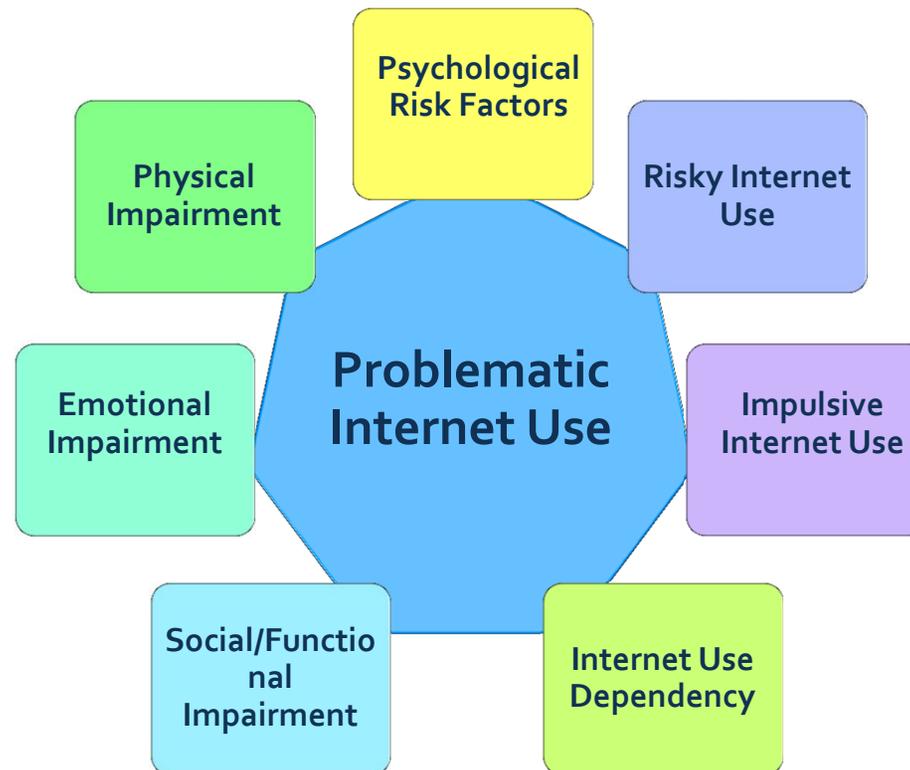
+ Develop and validate a theory-based screening instrument for PIU for use with adolescents and young adults in research and clinical settings

+ Objectives

- ① Define a guiding theoretical model
- ② Develop an item pool
- ③ Reduce items to a reliable screening instrument
- ④ Survey health providers for feedback on use of the scale

Methods

PIU Theoretical Framework



Methods

Item Pool Development



- + List of symptoms and characteristics of PIU developed by adolescents/young adults and health providers
 - + 75 total items
- + Review of the literature for existing measurements
 - + 5 additional items
- + Reviewed by a group of adolescents/young adults for clarity/comprehension

Methods

Item Reduction: Data Collection



- + 716 students recruited from UW-Madison and UW-Milwaukee
- + Completed an online survey
- + \$5 gift card for participating

Methods

Item Reduction: Data Analysis



+ Exploratory factor analysis

- + Reduce total number of items
- + Determine number of factors

+ Confirmatory factor analysis

- + Assess the overall fit of the model

+ Examine associations with self-reported Internet use

- + Construct validity

Results

Exploratory Factor Analysis



Figure 1. Scree plot of exploratory factor analysis

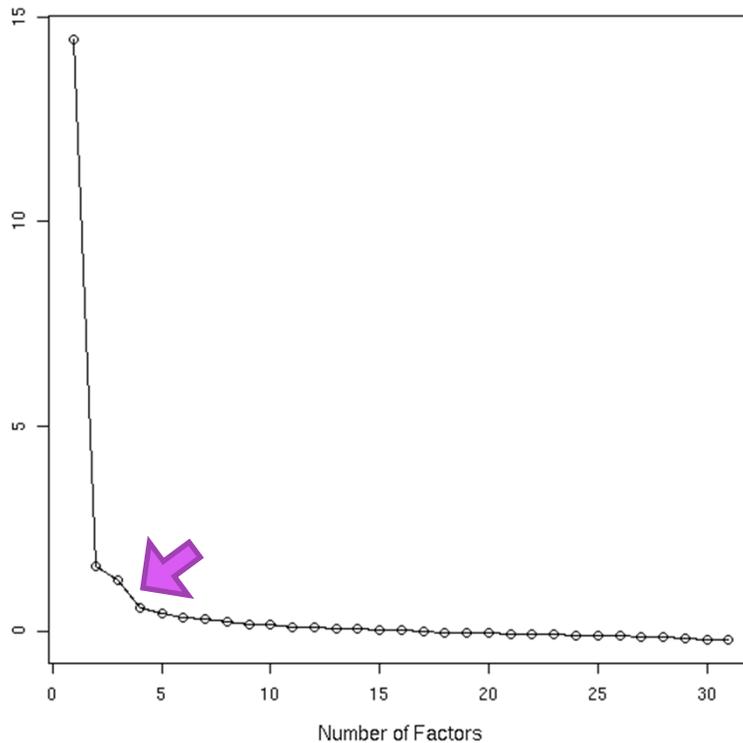


Table 1. Eigenvalues and variance explained by top four factors extracted in the exploratory factor analysis

Number of factors	Eigenvalue	Proportion of variance explained	Cumulative proportion of variance explained
1	14.5	79.0%	79.0%
2	1.6	8.6%	87.6%
3	1.2	6.8%	96.2%
4	0.6	3.2%	97.6%

¹ Comprised of items with an item-scale correlation ≥ 0.60

Results

Confirmatory Factor Analysis



Table 2. Findings from the Confirmatory Factor Analysis of the Three Factor Model in the Development Subsample

Item	Abbreviated text	Factor Loading (SE)
Factor 1 – Social Consequences		
18	Problems with communicating face to face	0.79 (0.039)
19	Experience increased social anxiety	0.79 (0.039)
34	Fail to create real-life relationships	0.78 (0.039)
79	Offline relationships suffer	0.78 (0.039)
74	Choose to socialize online instead of in-person	0.74 (0.040)
52	Skip out on social events	0.73 (0.040)
		Cronbach's alpha 0.89
Factor 2 – Emotional Consequences		
44	Feel anxious when away from internet	0.88 (0.036)
25	Feel irritated when not using the internet	0.86 (0.036)
38	Experience feelings of withdrawal when not using the internet	0.82 (0.037)
13	Feel angry when away from the internet	0.75 (0.039)
22	Feel vulnerable when the internet isn't available	0.73 (0.039)
		Cronbach's alpha 0.90
Factor 3 – Risky and Impulsive Internet Use		
55	Allow time on the internet to negatively affect your school performance	0.77 (0.039)
60	Lose motivation to do other things that need to get done	0.76 (0.039)
40	Neglect responsibilities	0.75 (0.040)
32	Avoid other activities in order to stay online	0.72 (0.040)
16	Put internet use in front of important, everyday activities	0.70 (0.041)
70	Lose sleep due to nighttime internet use	0.65 (0.042)
61	Use the internet excessively	0.64 (0.042)
		Cronbach's alpha 0.88

Model fit statistics

GFI: 0.92

RMSEA: 0.06

Results

Construct Validity



Table 3. Spearman's rank correlations coefficients between daily Internet use duration and PRIUSS scores

	Subscale Scores			
	Overall Score	Social Consequences	Emotional Consequences	Risky/Impulsive Internet Use
Self-reported Internet use	0.28 (p<0.0001)	0.18 (p<0.0001)	0.19 (p<0.0001)	0.29 (p<0.0001)

Table 4. Subscale and overall PRIUSS scores by Internet use categories¹

PRIUSS Scores	M (SD) Range				p-value
	Average Users (n=579)		At-Risk Users (n=133)		
	M (SD)	Range	M (SD)	Range	
Overall	14.1 (9.6)	0 – 51	20.7 (12.9)	0 – 61	< 0.001
Subscales					
Social	2.3 (3.0)	0 – 16	3.9 (4.5)	0 – 20	< 0.001
Emotional	2.7 (3.1)	0 – 15	4.4 (4.6)	0 – 20	< 0.001
Risky/Impulsive	9.1 (5.2)	0 – 23	12.3 (5.9)	0 – 28	< 0.001

¹ Self-reported total hours of daily Internet use used to categorize participants as average (< 6 hours/day), or at-risk (≥ 6 hours/day) users

PROBLEMATIC AND RISKY INTERNET USE SCREENING SCALE (PRIUSS)

Please answer the questions below based on how you have felt and conducted yourself over the **past 6 months**. Please do your best to interpret these questions as they apply to your own experiences and feelings.

Place an **x** in the box which best describes your answer.

How often ...

	<i>Never</i>	<i>Rarely</i>	<i>Sometimes</i>	<i>Often</i>	<i>Very Often</i>
1. do you choose to socialize online instead of in-person?	0	1	2	3	4
2. do you have problems with face to face communication due to your internet use?	0	1	2	3	4
3. do you experience increased social anxiety due to your internet use?	0	1	2	3	4
4. do you fail to create real-life relationships because of the internet?	0	1	2	3	4
5. do you skip out on social events to spend time online?	0	1	2	3	4
6. do your offline relationships suffer due to your internet use?	0	1	2	3	4
7. do you feel irritated when you're not able to use the internet?	0	1	2	3	4
8. do you feel angry because you are away from the internet?	0	1	2	3	4
9. do you feel anxious because you are away from the internet?	0	1	2	3	4
10. do you feel vulnerable when the internet isn't available?	0	1	2	3	4
11. do you experience feelings of withdrawal from not using the internet?	0	1	2	3	4
12. do you put internet use in front of important, everyday activities?	0	1	2	3	4
13. do you avoid other activities in order to stay online?	0	1	2	3	4
14. do you neglect your responsibilities because of the internet?	0	1	2	3	4
15. do you lose motivation to do other things that need to get done because of the internet?	0	1	2	3	4
16. do you lose sleep due to nighttime internet use?	0	1	2	3	4
17. does time on the internet negatively affect your school performance?	0	1	2	3	4
18. do you use the internet excessively?	0	1	2	3	4

Add columns + + + + =

Total score

Results

Health Provider Feedback



I think that in a physical, when someone is coming in for guidance on their health, [the PRIUSS] could slip in quite easily, if the clinician is aware of the issues we are talking about

Results

Health Provider Feedback



One interesting thought about this is that if you gave it to the majority of parents and asked them to fill it out, they may have the same problematic internet use as their kids. So, it'd be interesting if you gave it to parents and children, if you're even gearing at the children

Results

Health Provider Feedback



It's a hard thing, unlike smoking or drugs or alcohol, you can't say, "You can't do it at all." There's never that option which is difficult.

Conclusions



- + The PRIUSS showed strong reliability and preliminary validity
- + Built on a strong theoretical foundation → construct validity
- + Promising tool for screening and prevention efforts

Limitations



- + Generalizability
- + “Healthy-sample” approach
- + Predicative validity



Next steps ...

- + Validation study
- + Apply scale to other populations
 - + Younger adolescents
 - + At-risk groups
- + Pilot study assessing PIU and alcohol/drug use

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Capstone Committee

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Questions?