Non Suicidal Self Injury in Youth:

From Evidence to Practice

Child Guidance Clinic, Singapore
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A Review of Current Evidence

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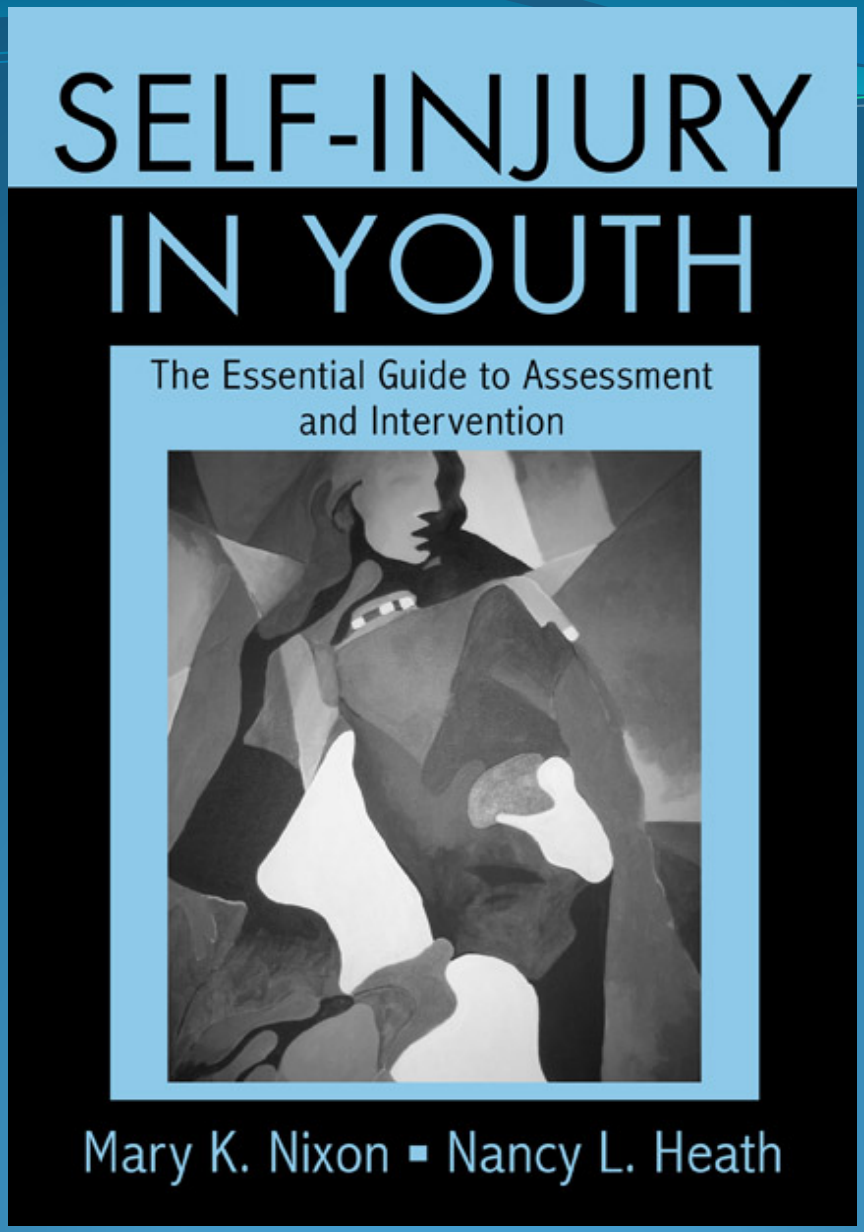


Routledge Press, Taylor and Francis, NY, 2009

A nice deep gash
To change my pain.
My heart hurts no more,
Solid as rock

Scars lining my skin
To forget my emotions
My pain inside
Shows on the outside

No tears in my eyes
Blood drops streak my skin
Those trusty scissors
Make me alive again

Self harm terms

- **Self mutilation**
  - Socially sanctioned vs non-socially sanctioned
  - Deliberate destruction or alteration of one's body tissue without conscious suicidal intent
- **Deliberate self harm**
  - Definitions vary- often refers to a broad range of self harm activities and often fails to distinguish between acts completed with & without suicidal intent"
- **Parasuicide**
  - Deliberate self harm without suicidal intent
- **Self-injurious behaviour**
  - Often used in discussion of self injury (eg self hitting) in individuals with cognitive impairment and developmental disorders

Defining Non-Suicidal Self Injury

Nixon and Heath, 2009

- Purposefully inflicting injury that results in immediate tissue damage
- Without suicidal intent
- Not socially sanctioned within one's culture
- Nor for display
- Occurs within the broader range of non-suicidal self harm behaviors such as minor overdosing, ingesting non ingestible objects etc.

Types of Self Injury/Age of Onset

- Scratching
- Cutting
- Burning
- Self hitting
  - In community samples, the majority self injure once or twice
  - Those who repeat often have multiple methods
- Arms, hands, wrists, thighs, stomach
- Mean age of onset: 12-15 years

Forms of NSSI

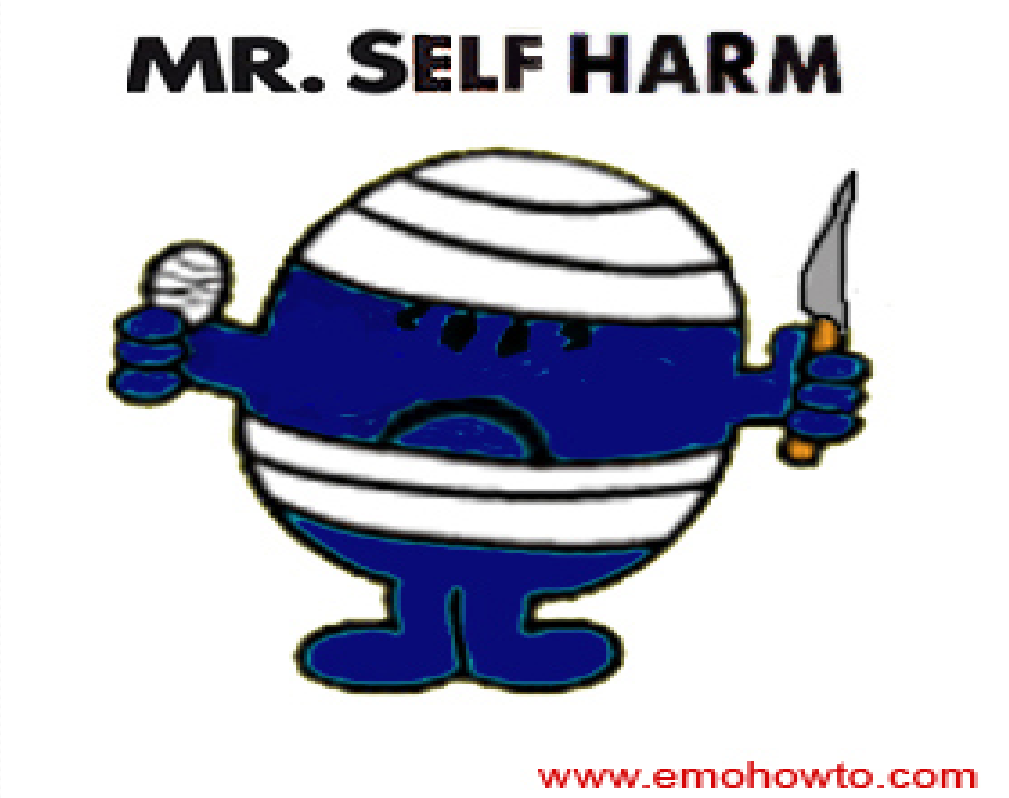
- Cutting
- Scratching
- Hitting
- Interfering with wound healing
- Burning,
- Carving
- Biting
- Head-banging
- Trying to break bones

- Many individuals who repeat use more than one method

Nixon, M.K., Cloutier, P.F., & Aggarwal, S. (2002). Affect regulation and addictive aspects of repetitive self injury in hospitalized adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1333-1341

Klonsky, E.D., Oltmanns, T.F., & Turkheimer, E. (2003). Deliberate self harm in a non-clinical population: Prevelance and psychological correlates. *American Journal of Psychiatry, 160,* 1501-1508

Not just a girl thing



Gender

- Adolescent boys and girls both engage in self injury
  - Some large scale studies have found equal incidence in males and females (Klonsky et al., 2003, Whitlock et al, 2006)
  - Other studies have found more prevalence in females (Nixon et al., 2008)

Gender differences and self injury

- Differences in method of self injury:
  - Males are more likely to engage in burning, banging and self hitting
  - Females are more likely to cut and to overdose
- Differences in location of injury:
  - Males are more likely to injure their hands
  - Females are more likely to injure their wrists and thighs
  - Males less likely to injure lower limbs or abdomen
- Differences in population setting:
  - Females are more likely than males to be found in clinical settings

Lloyd-Richardson, E. et al. (2007). Characteristics and functions of non-suicidal self-injury in a community sample of adolescents. *Psychological Medicine*, 37 (8), 1183-1192.
Rodham, K., Hawton, K., & Evans, E. (2004). Reasons for deliberate self-harm: Comparison of self-poisoners and self cutters in a community sample of adolescents. *Journal of American Academy of Child and Adolescent Psychiatry, 43*, 80-87.
Whitlock, J., Eckenrode, J., & Silverman, D. (2006). Self-injurious behaviors in a college population. *Pediatrics, 117*, 1939-1948.
Nixon, M.K., Cloutier, P.F., & Aggarwal, S. (2002). Affect regulation and addictive aspects of repetitive self injury in hospitalized adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 41, 1333-1341

Adolescence: A challenging stage

- Rapid physical, sexual, emotional and cognitive development
- Increased desire for independence and autonomy from parents
- Heightened peer pressure and need for peer acceptance
- Questioning of individual identity
- Contemplation of future life plans and transition into adult roles
- Elevated academic, financial and employment responsibilities
- First intimate relationship experiences
- Increased sensation seeking behaviour

Risk Taking

- Adolescents engage in more risky behaviour than adults
- Logical reasoning capacity is comparable between teens and adults
- But…
- Psychosocial capacities such as impulse control, resistance to peer influences etc lag behind logical reasoning capacity in terms of matching adult levels

Steinberg, L. (2007). Risk Taking in Adolescence: New Perspectives From Brain and Behavioural Science. *Current Direction in Psychological Science* Vol 16, Number 2, p. 55-58.

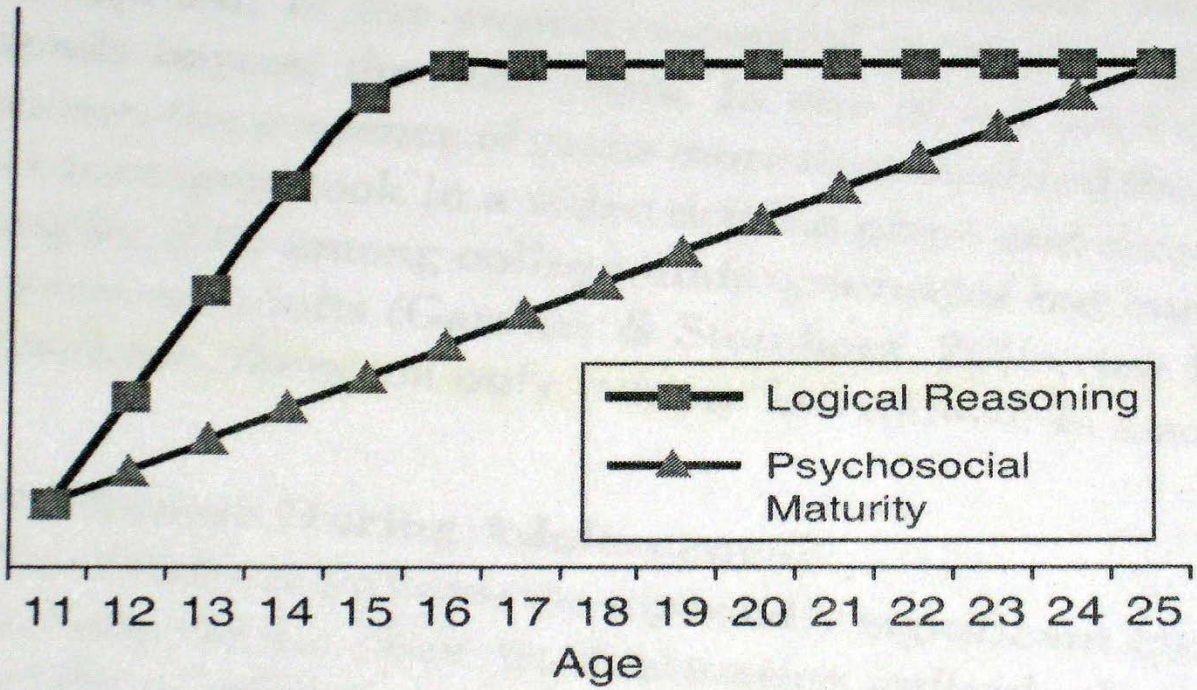


Fig. 1. Hypothetical graph of development of logical reasoning abilities versus psychosocial maturation. Although logical reasoning abilities reach adult levels by age 16, psychosocial capacities, such as impulse control, future orientation, or resistance to peer influence, continue to develop into young adulthood.

Steinberg, L. (2007).

The Social Context of “Digital Natives”

- TV, Phone, Text Messaging, Google, You Tube, FaceBook, Twitter, Blogs … provide an expansive multi-media interface for peer and popular influence never seen in prior generations

- Adolescents remain particularly sensitive to interpersonal influences

The Virtual Cutting Edge…

- Adolescents group themselves by common interest and behaviour both on and off line
- 400 self injury message boards, most used by females, 12 to 20 years old
- Co-morbid issues such as depression, eating disorders and suicide often mentioned on message boards
- Easy access to an abundance of NSSI related content online may ultimately reinforce NSSI as an acceptable behaviour and perpetuate its occurrence in schools and other community settings as a means of group identification

Whitlock, J., Powers, J. and J. Eckenrode. (2006). The Virtual Cutting Edge: The Internet & Adolescent Self-Injury. *Developmental Psychology*, 42(3).

RESEARCH

Nonsuicidal self-harm in youth: a population-based survey

CMAJ 2008;178(3):306-12

Mary K. Nixon MD, Paula Cloutier MA, S. Mikael Jansson PhD

ABSTRACT

Background: Nonsuicidal self-harm includes cutting, scratching, burning and minor overdosing. There have been few studies that have examined the rate of self-harm and mental-health correlates among community-based youth. We performed a population-based study to determine the prevalence of nonsuicidal self-harm, its mental-health correlates and help-seeking behaviour.

Methods: We used data from the Victoria Healthy Youth Survey, a population-based longitudinal survey of youth aged 14–21 in Victoria, British Columbia. The survey included questions about the history, method, frequency, age of onset and

Nonsuicidal self-harm includes behaviours such as self-cutting, scratching and burning, done without the conscious intent to take one's life. Onset typically occurs between 14 and 24 years of age.[1,2] The most common reasons for this type of harm are regulation of affect (e.g., to reduce tension or relieve dysphoric feelings), but reasons may also include self-punishment, interpersonal reasons, sensation seeking and anti-dissociation mechanisms.[3] Factors associated with nonsuicidal self-harm include being female, awareness of self harm in peers, family members who self harm, drug misuse, depression, anxiety, impulsivity, disruptive disorders and low self-esteem.[4,5] Suicide ideation and attempts are more likely to be reported among those with repeated nonsuicidal self-harm.[6]

Method

- 664 randomly selected youth,
  - aged 12 to 18, participated in wave 1 in 2003
- 580 participated in a second wave in 2005
  - self-harm questions were asked

Survey Sample N=568		
sex	n	%
Male	258	45.5%
Female	310	54.6%

Results

Mean age of onset - 15.3, range 10-20

Mean duration – 1.78 yrs

58% stopped (N=50/93)

Have you ever harmed yourself in a way that was deliberate and not intended as a means to end your life? N=568		
	n	%
Yes	96	16.9%
No	472	83.1%

Number of males and females who have self-harmed N=95		
Sex	n	%
Male	23	24.3%
Female	72	75.8%

Which statements best describe the self harm behaviour? (Yes/No)

N=95		
Type	n (yes)	% (yes)
Self Injury as cutting, scratching, self-hitting, etc.	79	83.2%
Ingesting a substance in excess of the prescribed or generally recognized therapeutic dose	28	31.5%
Ingesting a recreational or illicit drug or alcohol as a means to harm yourself	15	16.9%
Ingesting a non-ingestible substance or object	0	0%
Other	8	9.4%

Frequency and Origin

- How frequently did (does) this self-harm behaviour occur?
  - One occasion only
    - 29%
  - One to three times
    - 33%
  - More than three times
    - 38%
- Where did you get the idea: n=95
  - It was my own idea: 72%
  - Heard about it from my friends: 17%
  - I saw it in a movie or television: 16%
  - I read about it: 12%
  - From family: less than 5%

- "…what puzzles me is *why* would anyone actually hurt themselves in the first place… it would never ever have occurred to me to stick anything into myself. It hurts!" (Anonymous mother)

Oldershaw, A. et al. (2008). Parents' perspectives on adolescent self-harm: qualitative study. *The British Journal of Psychiatry*, 193, 140-144.

Functions of NSSI

(Suyumoto, 1998)

- Affect Regulation
- Self Punishment
- Interpersonal Influence
- Anti-dissociation
- Sensation seeking
- Interpersonal Boundaries

Affect Regulation and Addictive Aspects of Repetitive Self-Injury in Hospitalized Adolescents

MARY K. NIXON, M.D., PAULA F. CLOUTIER, M.A., AND SANJAY AGGARWAL, M.D.

ABSTRACT

Objective: The incidence of self-injurious behavior (SIB) in adolescent psychiatric inpatients has been reported to be as high as 61%, yet few data exist on the characteristics and functional role of SIB in this population. Because of the repetitive nature of SIB and its potential to increase in severity, features of SIB and its specific reinforcing effects were examined. **Method:** Participants were 42 self-injuring adolescents admitted to a hospital over a 4 month period. Data sources consisted of self-report questionnaires and medical chart review. **Results:** Mean age was 15.7 ± 1.5 years. Reported urges to self-injure were almost daily in 78.6% of the adolescents ($n = 33$), with acts occurring more than once a week in 83.3% ($n = 35$). The two primary reasons endorsed for engaging in self-injury were "to cope with feelings of depression" (83.3%, $n = 35$) and "to release unbearable tension" (73.8%, $n = 31$). Of the sample, 97.6% ($n = 41$) endorsed three or more addictive symptoms. **Conclusions:** SIB in hospitalized adolescents serves primarily to regulate dysphoric affect and displays many addictive features. Those with clinically elevated levels of internalized anger appear at risk for more addictive features of this behavior. *J. Am. Acad. Child Adolesc. Psychiatry*, 2002, 41(11):1333–1341. **Key Words:** self-injury, addiction, affect regulation.

Various terms such as "delicate self-cutting," "self-wounding," "pathological self-mutilation," and "deliberate self-harm" have been used to describe a range of self-injurious behavmonly known as a symptom of borderline personality disorder (BPD) (American Psychiatric Association, 1994).

In a recent study, Briere and Gil (1998) reported adult

Demographics (n=42)

- 42/50 had SI freq of at least 1/month over past 6 months
- age: 15.7 ± 1.5
- female 85.7%, male 14.3%
- age of onset 12.7±3.2
  - males 15.2 ± 1.7
  - females 12.3 ± 3.2
- Inpatients: 27/91 (30%)
- Partial hospitalization pts: 15/39 (39%)

Clinical Characteristics

- **GAF** 49.2 ± 9.6
- **BDI-II** 37.6 ± 10.4 (Severe range (≥ 29) 78.6% (33))
- **STAXI** (percent in the clinical range)

state anger	59.5% (25)
trait anger	31.0% (13)
internalized anger	52.4% (22)
externalized anger	52.4% (22)
anger control	16.7% (07)

- **Self -reported (Self Injury Inventory)**

problems with drugs/alcohol	42.9% (18)
eating disorders	50.0% (21)

Characteristics of rNSSI

•Initial idea their own	76.2% (32)
•Solitary activity	95.2% (40)
•Disclosed to peer or parents	81.0% (34)

•Associated with psychosocial stressors (usually or sometimes) 100% (42)

Why do you self-injure?
(mean number of reasons 8.2 ±3.8)

- Cope with depression ---------- 83.3% (35)
- Release unbearable tension ---------- 73.8% (31)
- Cope with nervousness/fear---------- 71.4% (30)
- Express frustration ---------- 71.4% (30)
- Express anger/revenge ---------- 66.7% (28)
- Feel pain in one area, when the other pain I feel is unbearable ---------- 61.9% (26)
- Distraction from unpleasant memories------ 59.5% (25)
- Punish self for being bad / bad thoughts ----- 50.0% (21)
- Stop suicidal ideation/attempt ---------- 47.6% (20)
- Stop feeling alone/empty ---------- 42.9% (18)

endorsed at least one affect regulation reason 97.6% (41)

endorsed all five affect regulation reasons 40.5% (17)

Addictive Features

Feels relief after NSSI (92.9%, n=39)

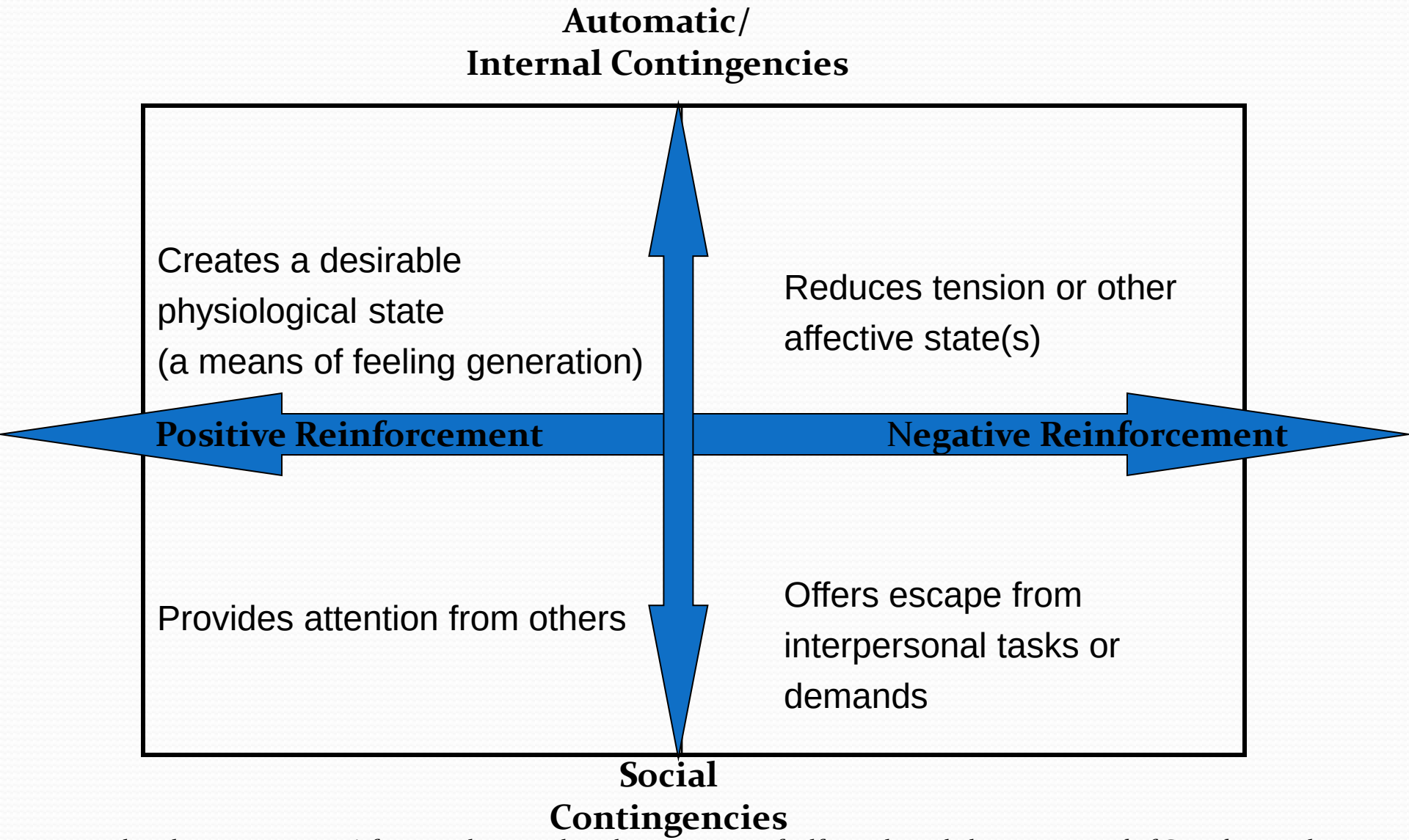
Since you started to self-injure have you found that:

- NSSI occurs more often and/ or severity increased since started ---------- 97.6% (41)
- NSSI continues despite recognizing it as harmful 95.2% (40)
- Tension recurs without NSSI---------- 85.7% (36)
- Urges are upsetting, but not enough to stop NSSI 81.0% (34)
- NSSI causes problems socially ---------- 73.8% (31)
- Frequency and/or intensity has increased to achieve the same effect ---------- 73.8% (31)
- Time consuming ---------- 64.3% (27)

98% endorsed 3 or more items

81% endorsed 5 or more items

A Four Factor Functional Model of NSSI



Nock and Prinstein, 2004: A functional approach to the assessment of self mutilative behaviour. *Journal of Consulting and Clinical Psychology*

Co-Occurrence and NSSI in Youth

- Psychiatric diagnoses
  - Mood disorders eg depression, bipolar disorder
  - Anxiety
  - Eating Disorders
  - ADD/ADHD
  - Substance abuse
  - Borderline Personality Disorder

- Abuse
  - Only a modest association exists between childhood abuse and SI (Klonsky et al, 2007)
    - Examined 43 studies and concluded that child sexual abuse could be considered a "proxy risk factor" for NSSI
    - ie child abuse may play a role for some regarding SI but there are many who self injure who have not been abused and many who self injury who have not been abused

Psychological Characteristics and NSSI

(Klonsky and Muehlenkamp, 2007)

- Negative emotionality
  - More frequent and intense negative emotions
- Deficits in emotion skills
  - Difficulties with their experience, awareness and expression of emotions
- Self derogation
  - Self critical, self directed anger

Is self injury contagious?

- Increased rates of self injury have been observed amongst adolescent inpatients and peer groups in schools and community settings
- There is growing concern that NSSI has a contagious effect amongst adolescents
- Scottish study (Young et al, 2006): identification with Goth culture was strongly associated with lifetime presence of self harm (53%) and attempted suicide (47%)

Lofthouse, N and L. Katz (2009). Chapter 13 - Adolescent Nonsuicidal self-injury in an inpatient setting in: *Self Injury in Youth* (Nixon and Heath)

Lieberman, R. (2004). Understanding and responding to students who self mutilate. Principal Leadership (High School Ed.), 4, 10-13.

Young, R, Sweeting, H., & P. West, (2006). Prevalence of deliberate self harm and attempted suicide within contemporary Goth youth subculture: Longitudinal cohort study. *British Medical Journal,* 332, 1058-1061.

Is self injury on the rise?

- Maybe
- There is currently a lack of concrete evidence to substantiate an increasing trend, however….
- Media coverage is on the rise and many clinicians and other professionals involved with youth report an observed increase

How common is self injury?

- Lifetime adolescent prevalence rates in the community vary but average ~ 15-20% in developed nations
- Higher rates are found amongst adolescent inpatient settings

Risk Factors for NSSI

- Axis I psychiatric disorders
  - Mood disorders – especially depression
  - Anxiety disorders
  - Psychotic disorders
  - Eating Disorders, among others…
- Axis II disorders
  - Particularly Borderline PD
  - Developmental disability
- Adverse childhood experiences
  - Neglect
  - Abuse (physical, emotional, sexual)
  - Attachment problems
  - Poverty
- Self derogatory beliefs
- Emotional dysregulation

Common preceding problems

- Difficulties or disputes with parents or siblings
- School or work problems
- Difficulties with boyfriends/ girlfriends and/or peers
- Physical ill health
- Depression
- Bullying
- Low self esteem
- Sexual problems
- Alcohol and drug abuse
- Awareness of self harm by friends or family

Hawton, K., & James, A. (2005). ABC of adolescence: Suicide and deliberate self harm in young people. *BMJ, 330*, 891-894.

Protective Factors

- Cohesive, supportive family environment
- Effective coping and emotional regulation skills

Depression & Self Injury

- Adolescents (especially those in inpatient settings) often report using self injury as a means to cope with feelings of depression and/or as a means of stopping suicidal ideation or attempts
- Significantly higher rates of depressed mood in a population based sample of youth with lifetime prevalence of NSSI
- Rates of depression and suicide in youth have shown an upward trend in recent decades

Guerreiro et al. (2009). Clinical features of adolescents with deliberate self-harm: A case control study in Lisbon, Portugal. Neuropsychiatric Disease and Treatment, (5) 611-617.

Nixon, M.,K, Cloutier, P.F, & Jansson, S.M. (2008). Non-suicidal self harm in youth: A population based survey. *Canadian Medical Association Journal, 178,* 306-312

Nixon, M.K., Cloutier, P.F., & Aggarwal, S. (2002). Affect regulation and addictive aspects of repetitive self injury in hospitalized adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 41, 1333-1341

Anxiety & Self Injury

- Anxiety has been suggested to have a stronger relationship to NSSI than depression in a direct comparison study and symptoms of anxiety have been reported in several studies of NSSI
- Physiologically there is often a heightened sense of inner tension prior to an episode of self injury followed by an almost immediate relief effect which parallels changes seen in acute anxiety states
- Anxiety disorders have shown an upward trend in rate of occurrence over the past half century – not fully accounted for by differences in detection & classification or biological changes

Klonsky, E.D., Oltmanns, T.F., & Turkheimer, E. (2003). Deliberate self harm in a non-clinical population: Prevelance and psychological correlates. *American Journal of Psychiatry, 160,* 1501-1508.

Nixon, M.K., Cloutier, P.F., & Aggarwal, S. (2002). Affect regulation and addictive aspects of repetitive self injury in hospitalized adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 41, 1333-1341

Twenge, J.M. (2000). The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952-1993. Journal of Personality & Social Psychology, 79 (6), 1007-1021

Personality & Self Injury

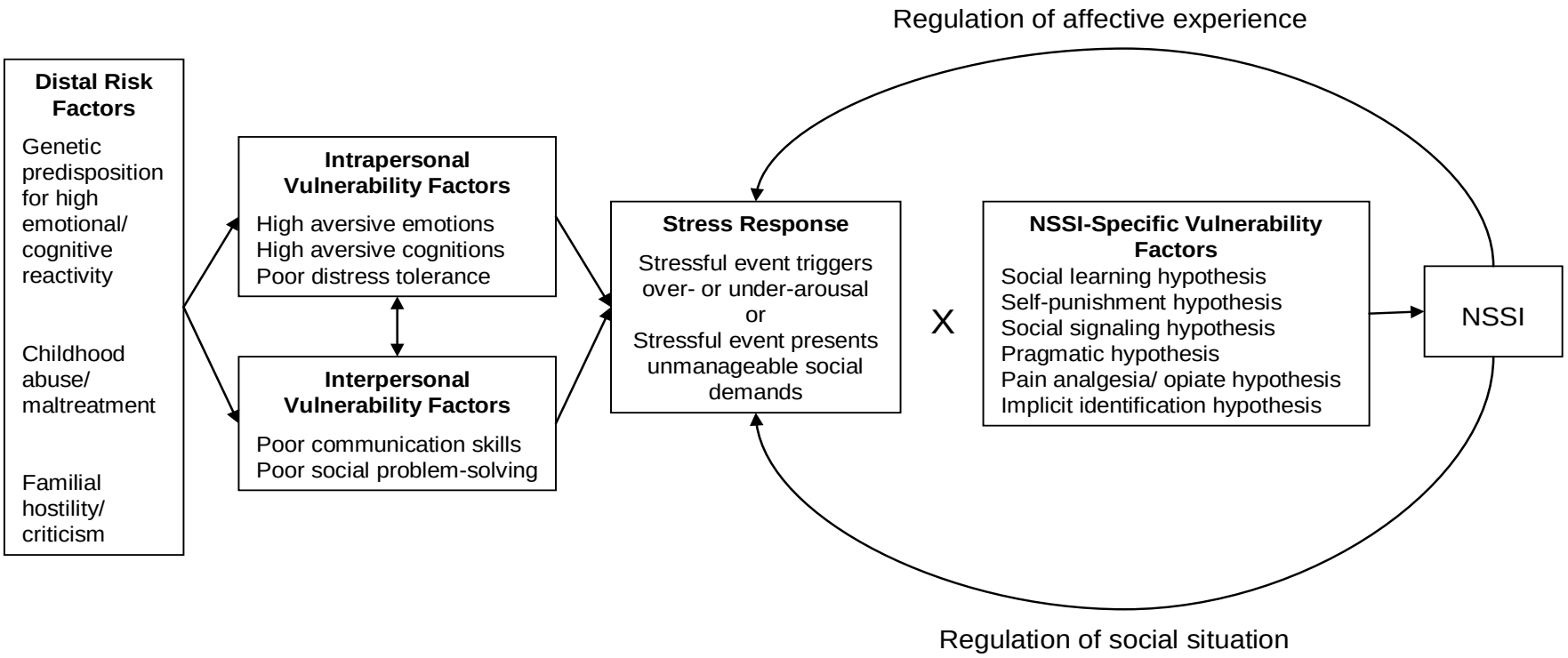
- Borderline personality disorder is the only DSM-IV diagnosis that includes self injury despite its occurrence across a variety of diagnoses & non-clinical settings
- NSSI occurs in the majority of adults with BPD (~70-80%), however, in adult studies once self injury stops many no longer fulfill the criteria for BPD
- Diagnosing youth with personality disorders is controversial & not recommended
- Various personality traits have been reported in young adults who self injure including schizotypal, borderline, dependent & avoidant traits
- Self harming adolescents compared to a control group in a Portugese study indicated their personality traits as the features they most wanted to change compared to the control group who wished to mainly change family relations and school situations

Klonsky, E.D., Oltmanns, T.F., & Turkheimer, E. (2003). Deliberate self harm in a non-clinical population: Prevelance and psychological correlates. *American Journal of Psychiatry, 160,* 1501-1508

Guerreiro, D. et al. (2009). Clinical features of adolescents with deliberate self-harm: A case control study in Lisbon, Portugal. *Neuropsychiatric Disease and Treatment*. (5) 611-617.

Proximal and Distal Risk Factors for NSSI

Nock M (2009)Why do people hurt themselves? New insights into the nature & functions of self-injury.



Suicide Behaviour and NSSI in Youth

- 50% of a community based sample had a hx of a suicide attempt (Muehlenkamp and Gutierrez, 2007)
- 70% of inpatients (Nock et al., 2006)
- 73.8% of inpatients and partial hospitalized patients (Nixon et al., 2002) with repetitive SI, at least one SA in past 6 months
- Self injurers who are more likely to attempt:
  - More repulsed by life
  - Have greater amounts of apathy
  - Are more self critical
  - Fewer connections to family members
  - Less fear re suicide

  (Muehlenkamp and Gutierrez, 2004 and 2007)

Correlates and Predictors of Non-suicidal Self Harm in Youth

M.K. Nixon [1]
G. Barnes [1]
P.Cloutier [2]
A. Kucharski [1]

Funding: CIHR

Centre for Youth & Society
University of Victoria

1 University of Victoria | British Columbia Canada

2 CHEO
CHILDREN'S HOSPITAL OF EASTERN ONTARIO

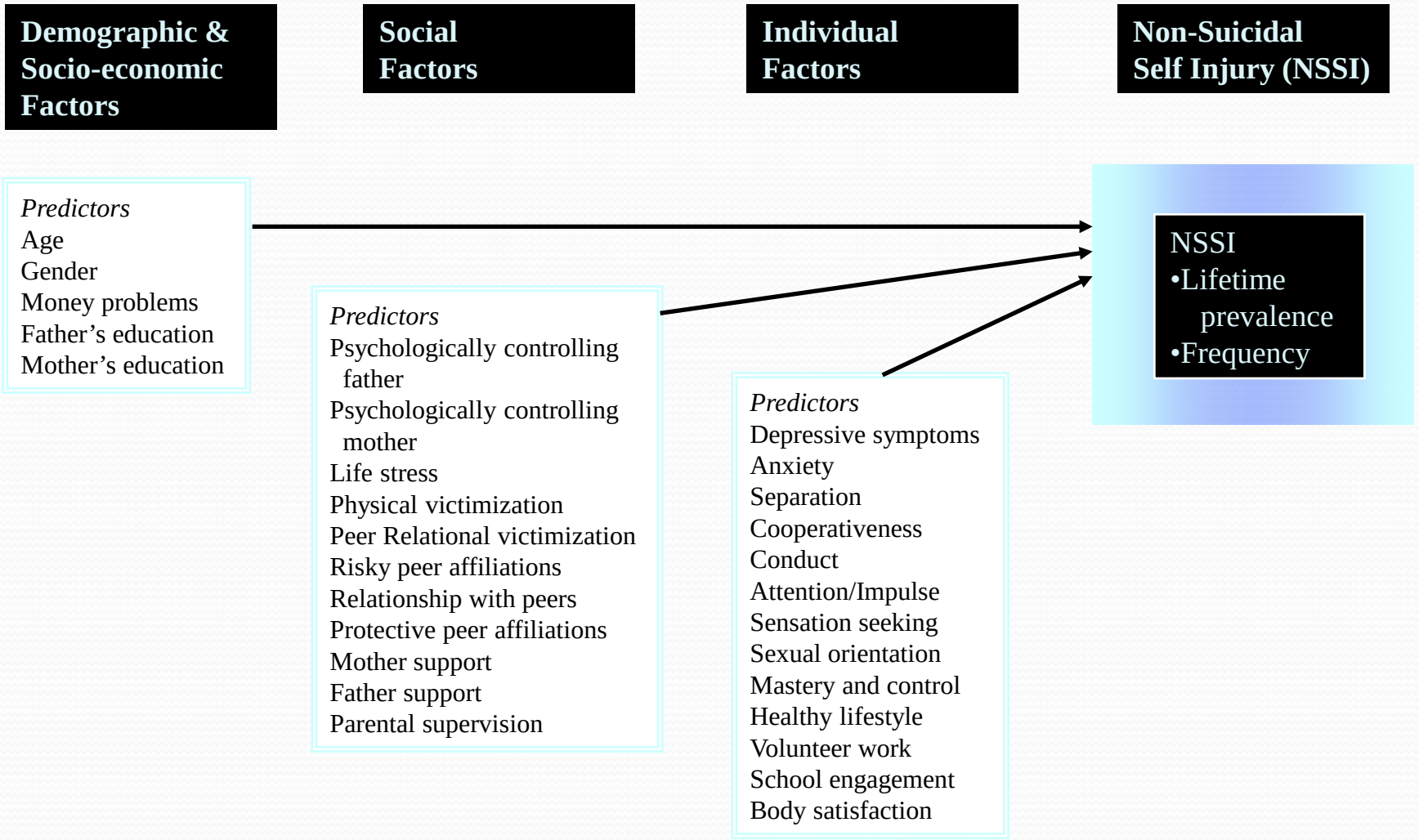
Method

- Health Youth Survey
  - Longitudinal Design/Cross sectional data
    - Three waves of data collected in 2003, 2005 & 2007
  - 580 adolescents completed the 2005 interviews
    - Interviewer administered and self report sections
  - Measures included information on:
    - socioeconomic demographics, neighborhood quality
    - life stress, victimization, peer relationships
    - parental support/quality of relationship
    - mental health (BCFPI), mastery/control, body satisfaction
    - sensation seeking (Zuckerman SS Scale)
    - nonsuicidal self harm (modified CASE definition of DSH)

Lifetime Prevalence of Non Suicidal Self Injury: 13.9%

Have you ever purposely tried to harm yourself without the intent to take your life? If so, how?	N	%
Self injury such as cutting, scratching and self-hitting	79	83
Ingesting a substance in excess of the generally recognized dosage	28	32
Ingesting recreational/illicit drug/alcohol as a means to harm yourself	15	17
Ingesting a non-ingestible substance or object	0	0
Other	8	9

Non-Suicidal Self Injury Predictor Model



Correlations Between Social Factors and Lifetime Prevalence of NSSI

Social Factors	Ever NSSI	Frequency of NSSI
Life stress	.17***	.21
Physical victimization	.10*	.20
Peer relational victimization	.19***	.13
Risky peer associations	.14***	.26***
Relationships with peers	-.03	-.20
Protective peer affiliations	-.01	-.17
Psychologically controlling father	.10*	.14
Psychologically controlling mother	.17***	.36***
Mother support	-.16***	-.30**
Father support	-.07	-.05
Neighborhood quality	-.15***	.01
Parental supervision	-.14***	-.19
Parenting style Index	-.18***	-.32**

Correlations Between Individual Factors and Lifetime Prevalence of NSSI

Individual Factors	Ever NSSI *r*	Frequency of NSSI *r*
Mental Health Symptoms		
Externalizing	.24***	.29*
Internalizing	.26***	.40***
Anxiety	.17***	.23*
Depression	.31***	.42**
Attachment	.15***	.25*
Cooperativeness	.22***	.24*
Conduct	.15***	.12
Attention	.16***	.25*
Sensation seeking	.10*	-.08
Sexual orientation (Phi)	.23***	.05
Mastery/Control	-.19***	-.12
Healthy lifestyle	-.06	-.02
Volunteer work	.02	.05
School engagement	-.08	-.05
Body satisfaction	-.25***	-.36***

Hierarchical Logistic Regression of Predictors of Lifetime Prevalence of NSSI

Step predictors	Step 1	
	OR	(95% CI)
Demographic/SES		
Age	1.00	(0.99-1.02)
Gender	3.72***	(2.04-6.80)
Money problems	2.26**	(1.30-3.90)
Social		
Parenting style Index		
Life stress		
Peer Relational Victimization		
Risky Peers		
Individual		
Body satisfaction		
Sensation seeking		
Depressive symptoms		
Sexual orientation		
Externalizing Symptoms		
Model χ^2	33.61	
Nagelkerke R^2	0.11	

Hierarchical Logistic Regression of Predictors of Lifetime Prevalence of NSSI

Step predictors	Step 1		Step 2	
	OR	(95% CI)	OR	(95% CI)
Demographic/SES				
Age	1.00	(0.99-1.02)	1.00	(0.99-1.02)
Gender	3.72***	(2.04-6.80)	4.08***	(2.17-7.66)
Money problems	2.26**	(1.30-3.90)	1.51	(0.84-2.72)
Social				
Parenting style Index			0.62	(0.36-1.06)
Life stress			1.11	(0.82-1.49)
Peer Relational Victimization			2.91*	(1.09-7.83)
Risky Peers			1.29	(1.00-1.67)
Individual				
Body satisfaction				
Sensation seeking				
Depressive symptoms				
Sexual orientation				
Externalizing Symptoms				
Model χ^2		33.61		56.75
Nagelkerke R^2		0.11		0.18

Hierarchical Logistic Regression of Predictors of Lifetime Prevalence of NSSI

Step predictors	Step 1		Step 2		Step 3	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Demographic/SES						
Age	1.00	(0.99-1.02)	1.00	(0.99-1.02)	1.01	(0.99-1.02)
Gender	3.72***	(2.04-6.80)	4.08***	(2.17-7.66)	3.72***	(1.89-7.29)
Money problems	2.26**	(1.30-3.90)	1.51	(0.84-2.72)	1.11	(0.58-2.12)
Social						
Parenting style Index			0.62	(0.36-1.06)	1.10	(0.58-2.07)
Life stress			1.11	(0.82-1.49)	1.06	(0.77-1.47)
Peer Relational Victimization			2.91*	(1.09-7.83)	1.56	(0.52-4.73)
Risky Peers			1.29	(1.00-1.67)	1.18	(0.89-1.56)
Individual						
Body satisfaction					0.64	(0.39-1.05)
Sensation seeking					1.10	(0.97-1.25)
Depressive symptoms					3.42**	(1.54-7.59)
Sexual orientation					2.63**	(1.28-5.42)
Externalizing Symptoms					2.33	(0.56-9.73)
Model χ^2		33.61		56.75		94.80
Nagelkerke R^2		0.11		0.18		0.30

Hierarchical Linear Regression of Predictors and Frequency of NSSI

	Step 1
	β
Demographic & Socio-economic Predictors	
Age	.19
Gender	.08
Father Education	-.25*
Social Predictors	
Parenting Style	
Individual Predictors	
Depressive Symptoms	
R^2 Change	.09
R^2 Total	.09

Hierarchical Linear Regression of Predictors and Frequency of NSSI

	Step 1 β	Step 2 β
Demographic & Socio-economic Predictors		
Age	.19	.20
Gender	.08	.06
Father Education	-.25*	-.19
Social Predictors		
Parenting Style		-.29*
Individual Predictors		
Depressive Symptoms		
R^2 Change	.09	.08
R^2 Total	.09	.17

Hierarchical Linear Regression of Predictors and Frequency of NSSI

	Step 1 β	Step 2 β	Step 3 β
Demographic & Socio-economic Predictors			
Age	.19	.20	.19
Gender	.08	.06	.09
Father Education	-.25*	-.19	-.17
Social Predictors			
Parenting Style		-.29*	-.14
Individual Predictors			
Depressive Symptoms			.35**
R^2 Change	.09	.08	.10
R^2 Total	.09	.17	.27

Conclusion

- Engaging in non suicidal self harm is likely determined by a constellation of demographic, social and individual factors
- Presence and frequency of NSSI was predicted by:
  - Depressive symptoms
- Presence but not frequency of NSSI was also predicted by:
  - questioning or non-heterosexual orientation
  - female gender
- In repetitive NSSI the contribution of negative parenting may be mediated by depressive symptoms and by peer victimization in the presence of lifetime NSSI
- Future Research: longitudinal study re risk and protective factors

Schemata for Investigation of the Neurobiology of NSSI & Associated Assumptions

Neurobiological Schemata	Assumption
Behavioral reinforcement-learning-exogenous reward	Rewarding quality of reinforcer overcomes aversive quality of NSSI, and/or, negative quality of NSSI is less extreme than negative reinforcer stopped by NSSI
Endogenous reward-addiction	When NSSI is repeated by an individual, it can be assumed to activate the endogenous reward neurocircuitry
Disordered sensory experiences	Tactile or other sensory abnormalities may contribute to NSSI
State regulation	Unpleasant states are characterized by high probability of acting to alter the state, sometimes very effectively with NSSI

Osuch, E, and Payne, G. Neurobiological Perspectives on Self Injury in *Self Injury in Youth* (Nixon and Heath, 2008)

Assessing Non Suicidal Self Injury in Youth

Hidden Hurt

- Many youth do not seek professional help despite severe injuries and consequences of self injury
  - 1/5 reported injuring themselves more severely than expected or that they should have received medical help – yet very few actually sought medical help

- Many physicians are unaware of self injury in their adolescent patients
  - Only 3.2% indicated their physician knew

- Overall detection rates are low
  - 36% - no one knew about their self injury behaviour

Whitlock, J., Eckenrode, J., & Silverman, D. (2006). Self-injurious behaviors in a college population. *Pediatrics, 117*, 1939-1948.

- Parents, teachers, and others close to teens in the community often feel ill equipped to respond to detection of self injury

- Many professionals also feel overwhelmed and perplexed by self injury in youth which can lead to responses that limit alliance building

How I Deal with Stress (HIDS)

- Useful screening tool for assessing coping skills and exploring possibility of self injury without overtly suggesting it
- Recent translation into Spanish

Heath, N. and S. Ross. (2007). *How I deal with stress*. Unpublished measure.

HOW I DEAL WITH STRESS

Please begin by completing the following information:

Age: _____ **Sex:** ❑ Male ❑ Female

What **languages** do you speak at home? ❑ English ❑ French ❑ Other (please specify): _____

Country of **permanent residence** ❑ Canada ❑ USA ❑ Other (please specify): _____

Country of **birth** ❑ Canada ❑ USA ❑ Other (please specify): _____

Young adults have to deal with a lot of stress. In a recent survey, young adults said they used the following list of strategies to help them deal with problems. We are interested in knowing if you have also used any of these strategies to help you deal with stress.

Please read each item and indicate whether you:

never used this strategy (0)
used this strategy **only once** (1)
used this strategy a **few times** to cope with stress (2)
frequently used this strategy to cope with stress (3)

➢ Please note that some items are printed in **bold**. If you answer that you have used a bolded strategy (once, a couple of times, or frequently), please fill out the follow-up questions at the end of the survey.

1. Try not to think about it	0	1	2	3
2. Spend time alone	0	1	2	3
3. Go out	0	1	2	3
4. **Talk to someone**	0	1	2	3
5. Try to solve the problem	0	1	2	3
6. Do something to keep myself busy	0	1	2	3
7. Say to myself it doesn't matter	0	1	2	3
8. Listen to music	0	1	2	3
9. Exercise	0	1	2	3
10. Play sports	0	1	2	3
11. Read	0	1	2	3
12. Go shopping	0	1	2	3
13. Eat	0	1	2	3
14. Stop eating	0	1	2	3
15. Drink alcohol	0	1	2	3
16. Hit someone	0	1	2	3
17. Get into an argument with someone	0	1	2	3
18. Do drugs	0	1	2	3
19. Smoke	0	1	2	3
20. **Do risky things**	0	1	2	3
21. **Physically hurt myself on purpose**	0	1	2	3
22. Cry	0	1	2	3
23. Sleep	0	1	2	3
24. Pray or engage in other religious	0	1	2	3
25. Online gaming				
26. Other: _____	0	1	2	3

"Physically hurt myself on purpose"

Please fill out this questionnaire if you answered that you indicated that you have used this strategy.

Please circle any way that you have intentionally hurt yourself (*without suicidal intent*):

1. Cut your wrists, arms, or other areas of your body
2. Burned yourself
3. Scratched yourself, to the extent that scarring or bleeding occurred
4. Banged your head against something, to the extent that you caused a bruise to appear
5. Punched yourself, to the extent that you caused a bruise to appear

How old were you when you first hurt yourself on purpose? _____

When was the last time you hurt yourself on **purpose?**

_____

How many years have you been hurting yourself on purpose? (If you are no longer doing this, how many years did you do this before you stopped?) _____

Think of the longest period in which you engaged in self-injury (this could be in days, months, or years). How long was this period?

_____

Has this behaviour ever resulted in hospitalization or injury severe enough to require medical treatment?

_____

Have you ever hurt yourself with the intent to kill yourself? ❑ **Yes** ❑ **No**

How many times have you hurt yourself on purpose throughout your life? (circle one)

One time

2 to 4 times

5 to 10 times

11 to 50 times

51 to 100 times

More than 100 times

Initial Safety Screening

- Assess for:
  - Suicide risk
    - Suicidal ideation, intent, plan, risk factors, protective factors
    - Distinguish suicide vs NSSI
  - Injury risk
  - Co-occurring psychiatric issues

Suicide vs NSSI

Characteristic	Suicide	NSSI
Demographics	Males> females	Females> males
Intent	To die	To alleviate distress
Lethality	High, needs medical treatment	Low, rarely needs medical treatment
Repetition	Infrequent	High, chronic
Methods	Often one	Multiple
Prevalence	Low	High
Hopelessness	Common	Infrequent
Psych consequences	Exacerbation of psychological pain	Relief of psychological pain

Lofthouse, N., Muehlenkamp, J. and R. Adler.(2009) – Nonsuicidal Self-Injury and Co-occurrence, p. 63 in: *Self Injury iin Youth*.

Physical Injury Assessment

- Other high risk methods of self harm (eg. Overdose)
- Exposure to injury (eg. Hx of abuse, current status & risk)
- Unintentional injury (eg. More severe injury than intended)
- Medical history (eg. Sutures required in past)
- Escalation of self injury (eg. New methods, more severe and frequent injuries)
- Shared tool (eg. Sharing razor blade with friends)
- Substance Abuse (eg. Self injuring when drunk or high)

Heath, N. & M.K. Nixon (2009). Chapter 8: Assessment of Nonsuicidal Self-Injury in Youth. P. 154-155

Screening and Triage

- Screening:
  - Clinical Interview:
    - "Generally speaking how to you cope when you are feeling stressed or distressed?"
    - "Have you ever purposefully harmed yourself with intending to take your life?
  - Use of Self Report Questionnaires: eg "How I deal with Stress Questionnaire" (Heath and Ross, 2007)
    - Includes general questions re coping with self harm embedded
    - Includes questions regarding history of NSSI if positive
- Triage:
  - Type of referral and urgency depending on suicide risk, frequency and intensity of self injury, associated difficulties, eg depression, family issues

Assessing Youth with NSSI

- Things to consider:
  - Building therapeutic alliance
  - Non judgmental approach
  - Assessing motivation to change
  - A stepwise approach to assessment
  - Use of self report questionnaires
  - Using your assessment to determine and triage re treatment approach and types of referrals required

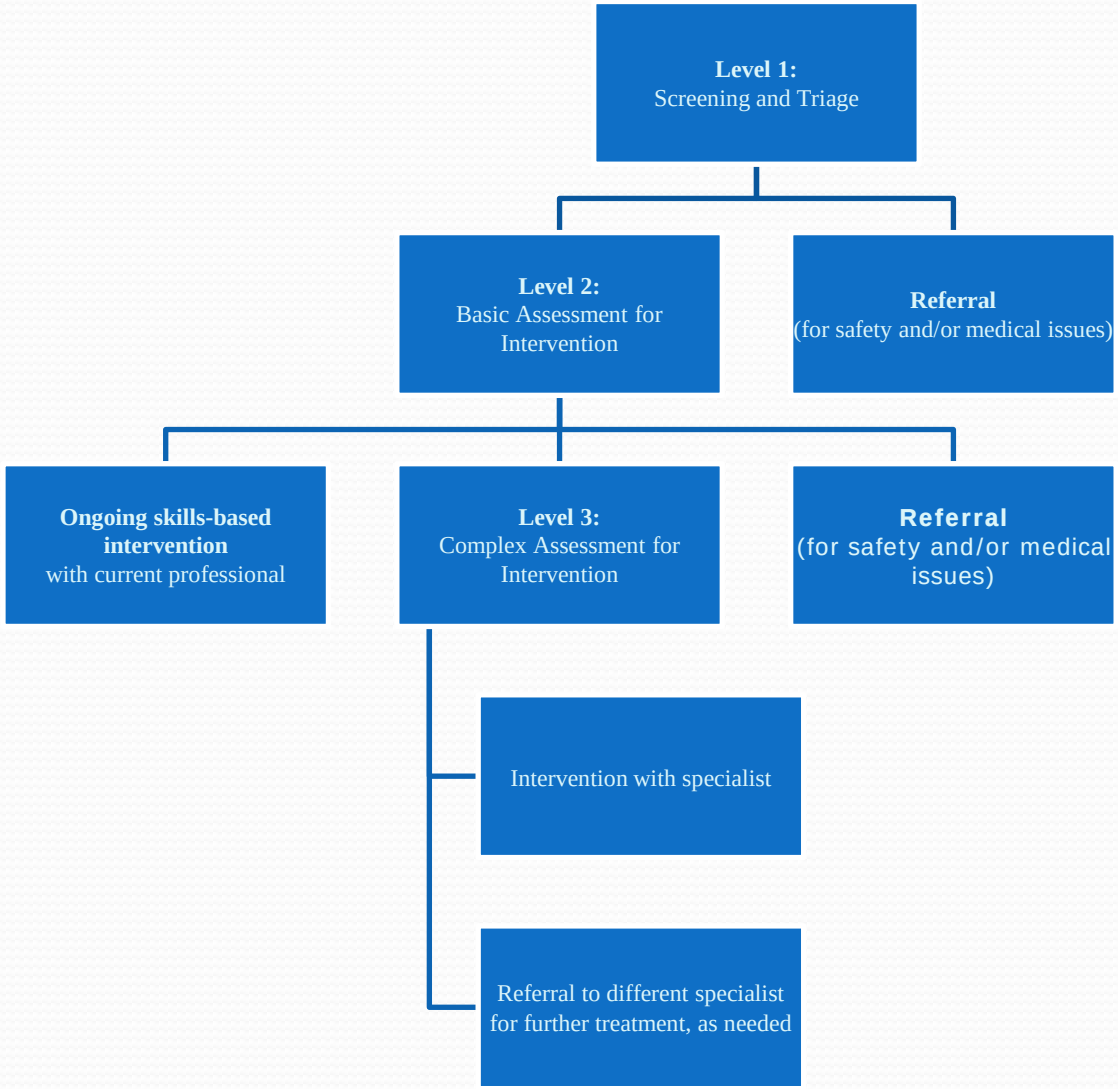
Four Key Approaches to Assessment

1. Biopsychosocial perspective
2. Stepwise approach depending on level of intervention required
3. Cumulative assessment
4. Reassessment

Biopsychosocial Assessment of NSSI

- Affective
  - Emotions profile or style, experiencing of emotions
- Behavioral
  - Behavior style (e.g., avoids close relationships, non-communicative)
- Biological
  - Neurochemical dysregulation, (e.g., serotonin, dopamine, noradrenaline systems), eg mood disorder, affective instability, anxiety disorder, ?addictive componant
- Cognitive
  - Cognitive style, thoughts, beliefs about self and others, past and future
  - Thoughts prior, during and after NSSI
- Environmental/Social
  - Family issues
  - Abuse
  - social support
  - Peer relationships and influence

A Stepwise Approach to Assessing NSSI



Basic Assessment

- Social contributors to NSSI
  - How did they start? Friend?
  - Do they have friends who NSSI?
  - Do they SI alone or in groups or both?
  - Who have they told?
- History of NSSI
  - Family History of SI?
  - Age of onset?
  - Longest period free of self-injury
  - Lifetime frequency of self-injury
  - Current frequency of self-injury
  - Changes in self-injury over time (frequency, severity, type, location)
- Current State
  - Desire to stop
  - History of attempts to stop/ interventions?

Behavioral Assessment and Self Assessment of NSSI

- The Self Assessment Sheet
  - Identifies triggers
  - Identifies cognitions associated with SI act
  - Rates intensity of emotional state using a likeart scale
  - Addresses any attempts to cope differently
  - Provides a self assessment rating scale re coping
  - Asks to youth to identify consequences of their behaviour
  - Can be used as both an assessment tool and a means to monitor any use of different coping skills with treatment over time

Complex Assessment

- Ottawa Self Injury Inventory-Functions
  - Assesses functions of SI only
- Ottawa Self Injury Inventory- Clinical
  - Gives more detailed information eg. regarding freqency, type of SI, functions, addictive aspects, motivation to change
- Aids in informing potential role for
  - Psychiatric evaluation
  - Type of intervention best suited for repetitive SI, eg problem solving versus DBT
  - Other interventions eg family therapy

Functions Assessment

- Ottawa Self Injury Inventory-Functions*
  - Assesses functions of NSSI only
- Ottawa Self Injury Inventory- Clinical*
  - Gives more detailed information eg. regarding frequency, type of SI, functions, addictive aspects, motivation to change
- Aids in informing potential role for:
  - Psychiatric evaluation
  - Type of intervention best suited for repetitive NSSI, eg mgt of acute depressive episode versus DBT for maladaptive coping
  - Other interventions eg family therapy

*available on insync website, professionals page

INSYNC website

www.insync-group.ca

Mental Health Assessment

- Screen for:
  - Mood disorder
  - Anxiety disorder
  - Impulse control problems
  - Conduct disorder problems
  - Uncontrolled anger
  - Borderline traits
  - Substance Abuse
  - Eating Disorders

Heath, N. & M.K. Nixon (2009). Chapter 8: Assessment of Nonsuicidal Self-Injury in Youth. P 157

Families

Why would you consider family assessment?

- Some evidence of family risk factors for NSSI
  - emotional neglect, physical/sexual abuse,
  - Impaired parent-child communication
  - Family stressors (lowered family cohesion, parental illness or mental health issues, family suicide, family conflict)

- Some evidence of protective family factors:
  - Good parent-child communication
  - Positive emotional involvement of family members
  - Positive time spent together, common interests and activities
  - Collaborative decision-making

Family Factors and NSSI

- Adolescents, especially those with an internal locus of control and lacking a family confidant, were more likely to engage in self-injurious behavior

  (Tulloch, Blizzard, and Pinkus,1997)

- Sources of family stress that were significantly related to adolescent self-injuring behavior included
  - family suicidality
  - family illness
  - family conflict
  - personal loss
  - family cohesiveness and intactness appeared to be protective factors against self-injury and suicidality

  (Rubenstein, Halton, Kasten, Rubin, and Stechle ,1998)

Parental Expressed Emotion and Adolescent NSSI

(Wedig and Nock, 2007)

- High parental EE was associated with
  - Suicidal ideation, suicide plans, suicide attempts and NSSI
  - For NSSI, *parental criticism* was strongly associated with self harm behaviours while emotional overinvolvement was not
  - The relationship between EE and self harm behaviours was not explained by adolescent mental health problems
- Moderation model was supported
  - the relationship between *parental criticism* and self harm behaviours was especially strong in youth with a *self critical cognitive style*

Assessment of Family Functioning

- parents understanding of the problem
- level of validation/invalidation related to NSSI
- family related triggers to incidents of NSSI, (e.g., parent child conflict, communication difficulties, family dynamics, family stressors such as loss, separation, divorce, financial difficulties)
- past history or current history of physical or sexual abuse

Assessment of Family Functioning

- presence of factors that may enhance or protect youth in families, (e.g., level of warmth, adaptability, cohesion, respect for adolescent developmental processes such as separation and individuation)
- assessment of parental skills, (e.g., level of reactivity, affective expression, ability to negotiate, listening skills)
- presence of parental psychopathology (e.g., major depression, substance and alcohol abuse, anxiety, borderline personality disorder, history of abuse, history of self harming behaviors)