SFU SIMON FRASER UNIVERSITY
ENGAGING THE WORLD

Social competence, restricted interests and the link to risky behaviour in persons with ASD

Grace Iarocci, Ph.D., R. Psych.
Simon Fraser University
Psychology

October 24, 2018

5th Bergen Conference on Forensic Psychiatry

Overview

- New research initiative in Canada on ASD and addictions: Preliminary results of a systematic review
- Heterogeneity in ASD and the need to subtype
- A subtype of ASD that may be more at risk for addiction (e.g., substance use, Internet addictions)
- Brief clinical case examples
- Prevention ideas (individual, family, community, research)

CANNABIS USE IN CANADA

Canada has one of the highest rates of cannabis use in the world.

40%

OF CANADIANS HAVE USED CANNABIS

10%

OF CANADIANS HAVE USED CANNABIS IN THE PAST YEAR

20%

OF CANADIANS AGED 15-24 YEARS USED CANNABIS IN THE PAST YEAR

70%

OF CANADIAN CANNABIS USERS ARE AGE 25 OR OLDER

CENTRE FOR ADDICTION AND MENTAL HEALTH (CAMH)

Marijuana and youth

Canadians age 15 to 24, 2012

29.2% used pot at least once in the 12 months prior to the survey

44.8% used pot at least once in their life

11% met criteria for pot abuse or dependency in their lifetime

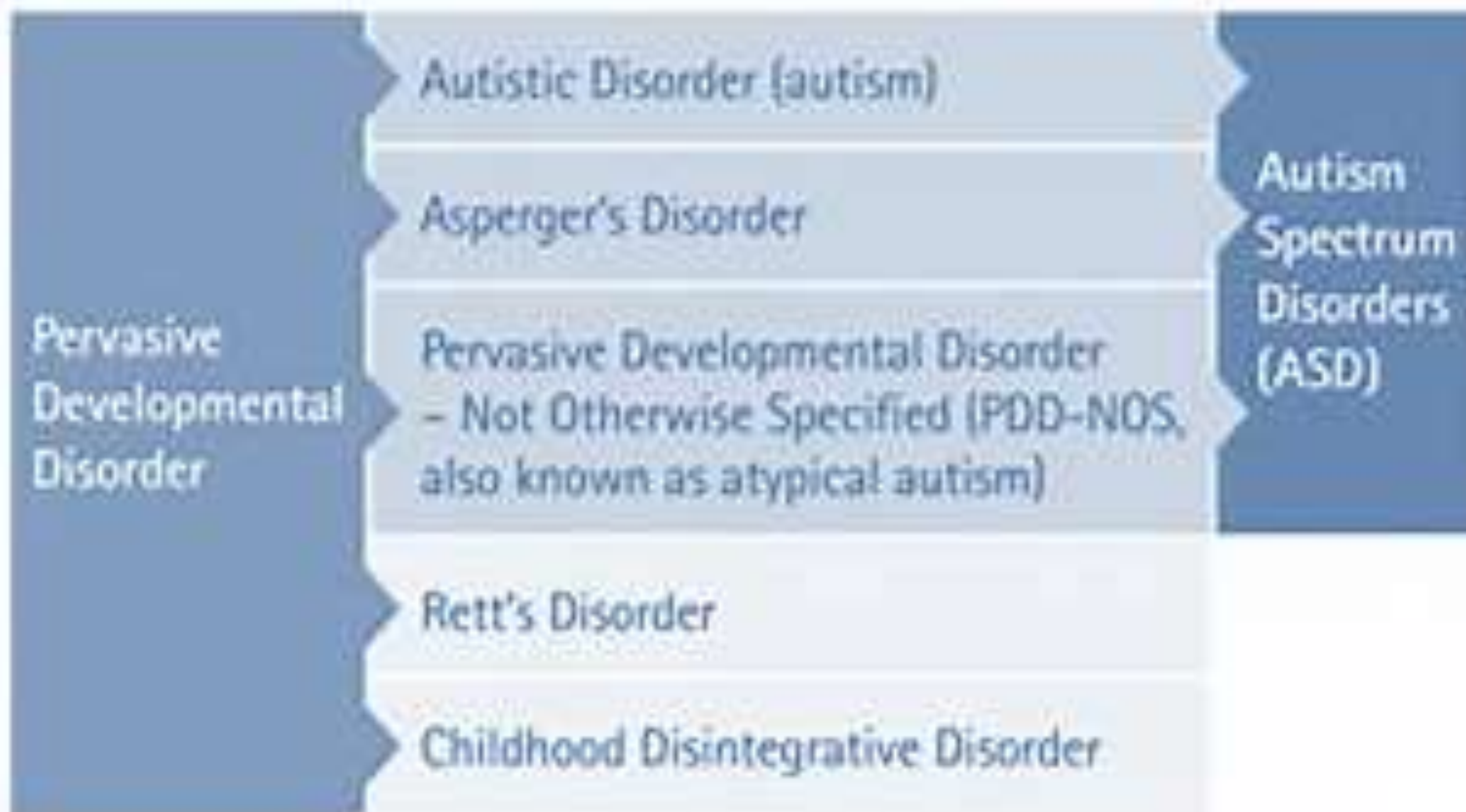
SOURCE: STATISTICS CANADA

CANNABIS USE IN PEOPLE WITH ASD?

New Canadian research initiative on ASD and addictions

- As part of a Social Sciences and Humanities Research Council (SSHRC) partnership grant (Poulin et al. 2018)
  - Goals
    - Define what we know about addictions in ASD
    - Focus groups in the service and legal sector
    - Develop a clinical guide for service agencies
  - Goal 1) Systematic review on ASD and substance use:
    - What are the characteristics and quality of extant studies on ASD and substance use?
    - What is the prevalence of substance use and misuse in people with ASD?
    - What are protective and risk factors specific to people with ASD?
    - How do protective and risk factors interact to promote or limit the social integration and quality of life of people with ASD and addictions?

DSM-IV diagnosis of autism spectrum disorder (ASD)



Systematic review findings hint at a possible subtype

- Diagnosis of ASD
  - Conflicting findings:
    - May increase risk of SUD (Butswicka et al., 2017) compared to normal population
    - May protect against SUD compared to psychiatric (Fortuna et al., 2015) and forensic samples (without ASD)

- Diagnosis of PDD-NOS
  - SUD more prevalent among people with a PDD NOS than those with other types of ASD (Hofvander et al., 2009)

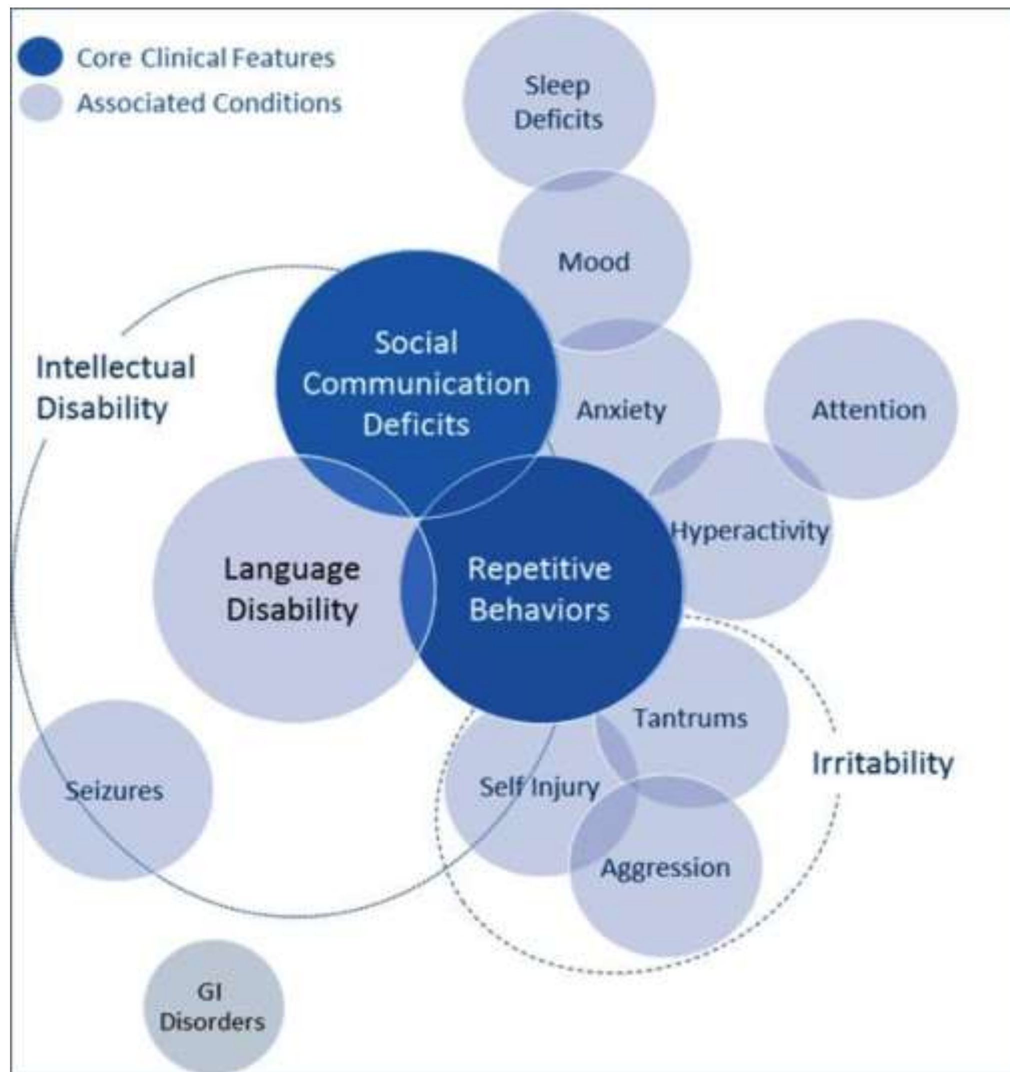
ASD and comorbidities further increases the risk but ID lowers risk

- ASD diagnosis alone almost doubles risk of substance use-related problems compared to non-ASD comparisons (Hofvander et al. 2009)
- co-occurring ADHD is associated with further increased risk of substance use-related problems
- ID is associated with a lowered risk

Merely having autistic traits is a risk factor

- Twin studies found increased risk of substance use in those with within the normal population but who have autistic-like traits (Lundstrom et al. 2011)

DSM-5: Heterogeneity of ASD is a big challenge to research and practice



Core symptom of autism spectrum disorder: Social-communication

- Poor social-communication and interactions
  - *Low social competency but not necessarily low motivation*
    - Social-emotional reciprocity affected
      - Engaging others with nonverbal and verbal communication
      - Reading and predicting others' behaviour
        - Theory of mind
      - Empathy
        - Emotions experienced but not good at knowing what to do about them

- *Socializing and fitting in may become an obsession in some

Core symptom of autism spectrum disorder: Restricted Interests

- Repetitive behaviours and ***restricted interests***
  - *Cognitively able more likely to have restricted interests*
    - Focused interest is:
      - intense; all consuming (i.e., 15+ hours/day)
      - narrow; does not become integrated into broader context of knowledge
      - not shared, used or applied
      - constrains other activities and interferes in daily life

Previous attempts at social subtyping in ASD

- All people with ASD have social difficulties but there *is a wide range of expression and severity of social difficulties* in ASD
- Wing and Gould's classification system on different "qualities of social impairment" (Wing & Gould, 1979)
  - "aloof" category of individuals characterized by a tendency towards extreme social withdrawal/isolation
  - "passive" group consisting of individuals who tended not to initiate social contact but would indifferently accept the approaches of others
  - "active but odd" group consisting of those who frequently sought social contact but would do so in odd or socially inappropriate ways.

Wing and Gould's social subtypes of ASD

- Although simplistic this classification captures some variability in *social interest* observed among individuals with ASD
  - The categories are differentiated primarily by *varying levels of social motivation* – ranging from a lack of interest (aloofness) to passive acceptance to *heightened but odd social interest*

RESEARCH ARTICLE

Autism Research 6: 631–641, 2013

The Development of the Multidimensional Social Competence Scale: A Standardized Measure of Social Competence in Autism Spectrum Disorders

Jodi Yager and Grace Iarocci

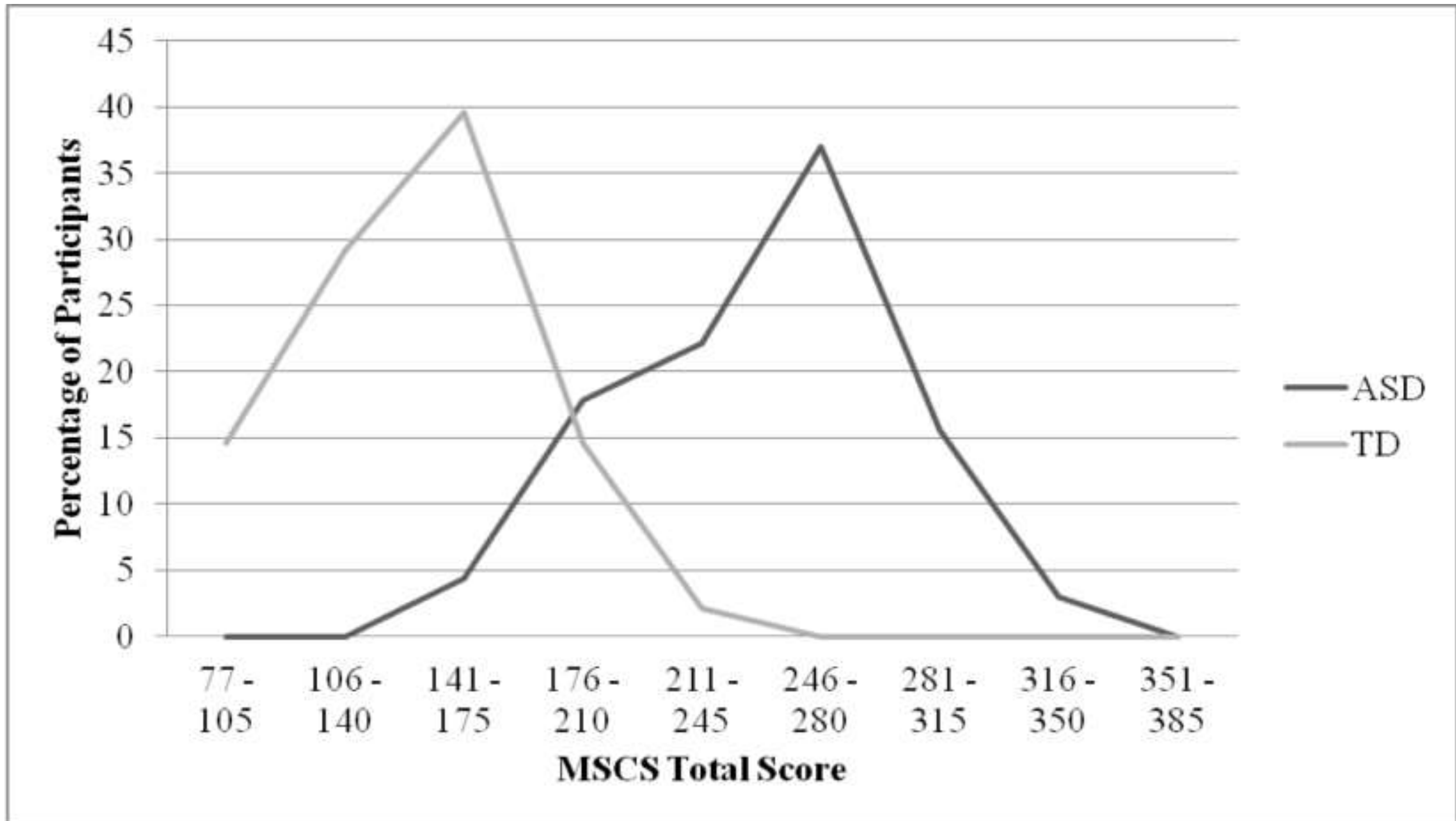
- Subtype based on social profiles we developed two versions of the MSCS:
  - parent report scale (Yager & Iarocci, 2013)
  - self-report scale *(*Trevisan, Slaney, Trafeshi, Yager & Iarocci G. (in press). A Psychometric Evaluation of the Multidimensional Social Competence Scale (MSCS) for Young Adults, *PLOS ONE)*

Provides *social competence profiles* a pattern of social strengths and challenges across 7 subdomains

Multidimensional Social Competence Scale (MSCS): Includes 7 domains

- ***Social inferencing*** (Recognizes when people are trying to take advantage of him/her.)
- ***Social motivation*** (Prefers to spend time alone. He/she may seem most content when left on his/her own.)
- ***Demonstrating empathic concern*** (Expresses concern for others when they are upset or distressed. He/she may ask “are you alright?” or ask if they need anything.)
- ***Social knowledge*** (Changes his/her behaviour to suit the situation. He/she might be more polite/formal around authority figures like teachers but be more casual around other kids.)
- ***Verbal conversation skills*** (Provides too much detail when talking about a topic. He/she might list a bunch of facts rather than expressing a main message or exchanging information.)
- ***Nonverbal sending skills*** (Smiles appropriately in social situations. He/she might smile if given a compliment, when greeting someone, or in response to someone smiling at him/her.)
- ***Emotion regulation*** (Can disagree with people without fighting or arguing.)

Distribution of MSCS total scores in ASD and TD groups

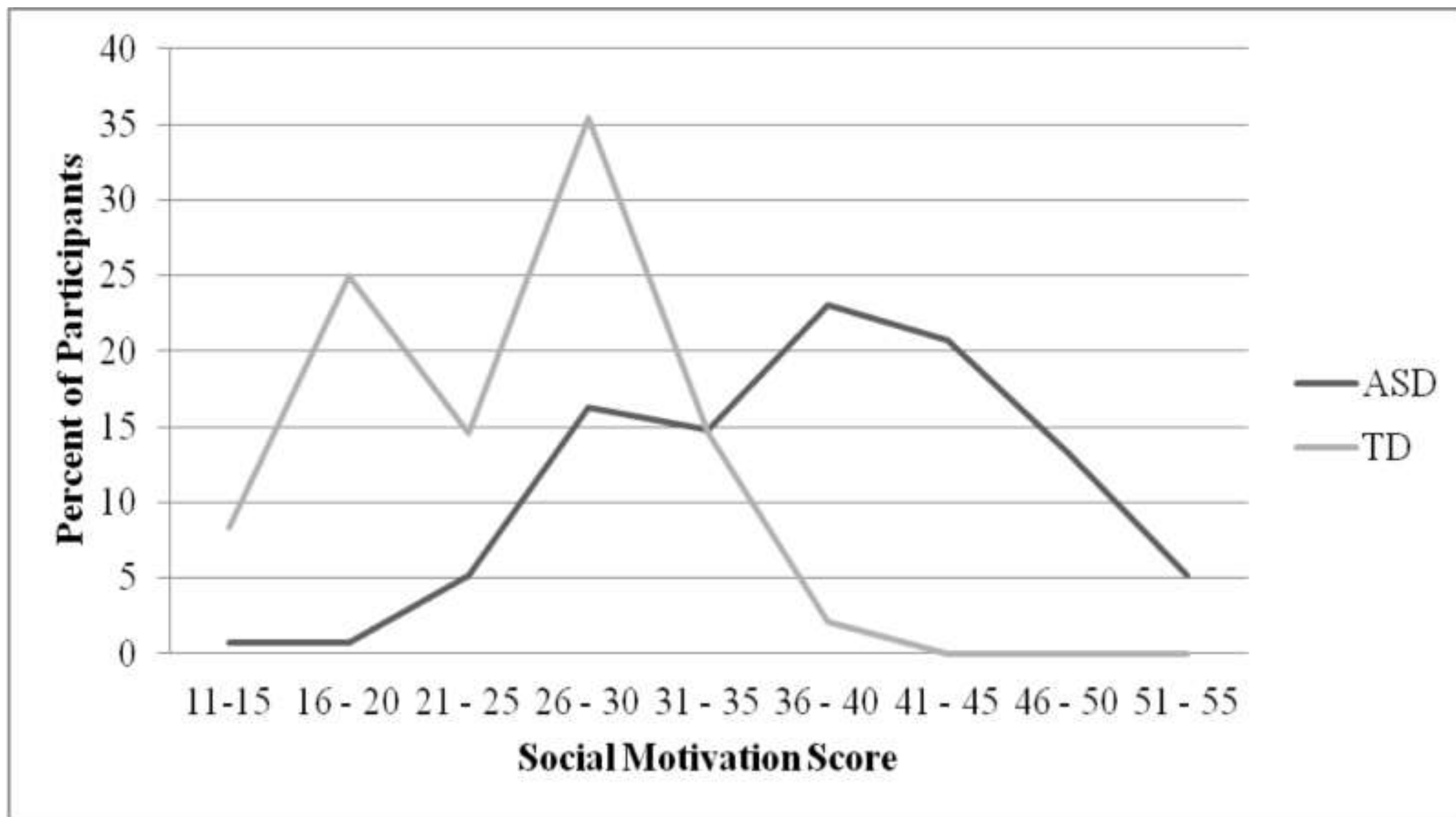


Note: higher scores indicate poorer ratings but now has been reversed

Multidimensional Social Competence Scale (MSCS): Includes 7 domains

- ***Social inferencing*** (Recognizes when people are trying to take advantage of him/her.)
- ***Social motivation*** *(Prefers to spend time alone. He/she may seem most content when left on his/her own.)*
- ***Demonstrating empathic concern*** (Expresses concern for others when they are upset or distressed. He/she may ask "are you alright?" or ask if they need anything.)
- ***Social knowledge*** (Changes his/her behaviour to suit the situation. He/she might be more polite/formal around authority figures like teachers but be more casual around other kids.)
- ***Verbal conversation skills*** (Provides too much detail when talking about a topic. He/she might list a bunch of facts rather than expressing a main message or exchanging information.)
- ***Nonverbal sending skills*** (Smiles appropriately in social situations. He/she might smile if given a compliment, when greeting someone, or in response to someone smiling at him/her.)
- ***Emotion regulation*** (Can disagree with people without fighting or arguing.)

Distribution of Social Motivation domain scores in ASD and TD groups



Note: higher scores indicate poorer ratings but now has been reversed

Social competence profiles linked to specific negative outcomes?

Aggression/bull
ying

Cole, Teti &
Zahn-Waxler,
2003

Mental
health

Yeates et al.,
2007

Rejection

Hoglund, Lalonde & Leadbeatter,
2008

What is the social profile in ASD for addiction? Emerging profile of risk

- A subgroup of individuals who have *average or above IQ* coupled with *significant social challenges* but *high social motivation and comorbid ADHD* may be more likely to find themselves in *social contexts of risk*
  - *Camouflaging ASD symptoms (blend in or mimic)*
  - *May be misdiagnosed or diagnosed later*
  - *Less likely to have had benefit of early intervention*
  - *More mental health problems*

High social motivation in ASD a risk factor?

- Rather than risk-taking or novelty-seeking individuals with ASD may take a different path to drug use
  - more likely to consume alcohol to alleviate the anxiety they experience in social situations (Sizoo et al. 2009; Cludius et al. 2013)

Clinical case example

- John is a 23 year old unemployed young male who lives with his girlfriend and her parents
- Previously diagnosed with Major Depressive Disorder, Generalized Anxiety Disorder and Borderline Personality Disorder
- *John reported that he generally won't join in but rather sits back, listens and observes even though he so desperately would like to be part of the group*. He has internal scripts but does not utter them. He suspects that he is "hypervigilant" when observing others and often worries: "What if I say something wrong". At times, he may "blurt something out" but he gets tongue-tied and feels terribly embarrassed
- *He reported that smoking weed helps his anxiety; his mind is sluggish but physiologically he feels calmer and can "tolerate socializing"*

Due to vulnerabilities casual use may be more risky for those with ASD

- Progression to an alcohol use disorder may be accelerated in those with ASD or with autistic traits (De Alwis et al. 2014)

Clinical case example

- Fred, a 44 year old father, remarried with 2 young children (one with autism)
- Unemployed, agoraphobia
- Previously diagnosed with social anxiety disorder

- As a child Fred was intensely interested in collecting objects. He was also very knowledgeable about songs and could recite every song track, singer and from several albums. Fred also recalled that he had an intense curiosity about how things worked; he would ask about why toilet paper is made that way. These interests were all encompassing and often interfered with his family and social life

- As a teen "I got involved with the wrong crowd, a criminal element, I was the token white boy- they were Asian and Black. They noticed what I could do, I ended up in a Chinese gang I could walk into places and not be noticed but I noticed absolutely everything."

- Through his gang connections, Fred became involved in the drug scene: "I used cocaine then discovered crystal meth and lost all control- I was divorced and homeless within a few months"

- Fred recalls high levels of anxiety to be a constant in his life. He stated: "I prepare for doomsday everyday". He worries about how he appears to others, what people think about what he says. He is highly physiologically aroused and becomes sweaty and has to change his shirts often before he goes out to face others.

Core symptom of autism spectrum disorder: Restricted Interests

- Repetitive behaviours and ***restricted interests***
  - *Cognitively able more likely to have restricted interests*
    - Focus of interest is:
      - intense; all consuming (i.e., 15+ hours/day)
      - narrow; does not become integrated into broader context of knowledge
      - not shared, used or applied
      - constrains other activities and interferes in daily life
      - Inflexible adherence to routines

Restricted interests in ASD a risk factor for addiction?

- Have reduced motivation for social stimuli (e.g., faces and eyes) but *heightened motivation and effort in the pursuit of certain objects or topics of interest* (i.e., circumscribed interests such as trains, dinosaurs)
- Social motivation hypothesis of ASD suggests reduced social attention and reward in infancy (Dawson et al., 2004)
- Atypical reward for non-social stimuli (Dichter et al., 2012)

Restricted interests in ASD a risk factor for addiction?

- More effort for reward but impaired use of reward magnitude and probability information (Damiano et al., 2012)
- Tendancy to choose higher-effort tasks was associated with a greater severity of circumscribed interest
- Conclusions: “inefficient effort-based decision-making characterized by decreased sensitivity to reward parameters”
- Does different learning style (e.g., focused, persistent and detail oriented) and atypical reward sensitivities lead to susceptibility to developing addictions?

Clinical case example

- Billy a 24 year old male who lives with his mother.
- Unemployed
- Through an undercover investigation, Billy was charged with accessing and possessing child pornography materials from the Internet. He was handcuffed and taken to jail where he was interviewed by detectives. This was Billy's first and only offense. He was sentenced to community work and ordered to have treatment.
- Prior to this incident Billy had had suicidal ideation, engaged in self-harm behaviours and suffered from anxiety and depression. Since the arrest Billy has cried, talked incessantly about killing himself and attempted suicide by swallowing an overdose of Effexor tablets used to treat his depression.
- Billy recalled that he was 5 years old when an older girl/woman "molested" him. He has only vague memories of the perpetrator and describes her as 'blonde and taller than me" yet he recalled details about the incident itself. He explained that she (the perpetrator) had a puppy that caught his attention and she lured him into the bushes near the schoolyard during recess. He estimates that it happened 5 times and then he never saw her again. Billy reported that she warned him not to tell others or they would hate him for it.
- At age 5 years Billy had unusual preoccupations in antiques, knives, daggers and now still has an interest in the detail of the antique artistry associated with daggers. He also had an intense fascination with Japanese anime that lead him to the online forum for child pornographic images of Japanese anime

Clinical case example

- Billy a 24 year old male who lives with his mother.
- Unemployed

Multiple risk factors

- No prior experience with sex other than the abuse (but self-reported frequent masturbation)
- The images he collected were all Japanese anime and several featured older women and young boys
- He had a circumscribed interest in Japanese anime per se

The effects of addiction in ASD may be especially disabling

- Difficulties with the structuring of daily life due to a lack of planning (SUD + ADHD) or due to a lack of initiative (SUD + ASD) (Kronenberg, 2014)
  - Executive functioning worsens (e.g., motivation to initiate and complete tasks, plan, organize)
- "Both groups indicate that structure helps them function better. They also recognize that substance use disorganizes their lives and that an absence of structure contributes to substance use in what becomes a vicious circle which needs to be broken for effective treatment and care." (Kronenberg, 2014)

Addictions in people with ASD may be especially difficult to treat

- "Then we had children, and the stress got higher. (...) Well, I started drinking, just to inhibit the stimuli, to subdue them. (....) that helped me get through the evening. It was just to survive, not for the booze." (SUD + ASD)

- "... I have decided that I won't be quitting drinking fully, because I noticed a great part of my social life will be gone and to me that's not worth it, and I don't know how it could be done without the booze." (SUD + ASD)

  - Excerpts from (Kronenberg, 2014)

Clinical case example

- Jenny a 27 year old married mother of two young children (one with autism)
- Free lance graphic illustrator
- As a teenager Jenny was obsessed with food and weight and online forums about the topic, when she began feeling depressed she turned her interest to researching all about suicide and ways to kill yourself on the Internet.
- Jenny had severe bouts of postpartum depression after each of her pregnancies. She recalled feeling overwhelmed and suicidal if she was left alone with the children for too long. Jenny described "losing track of them" and difficulty tolerating being touched by the children and the sounds of their screaming. One time, she called her mother in law and told her where the children were and then she jumped into the river. A man went in the river after her and she recalled thinking she did not want the man to die. She was rescued by the police and was introduced to social services. As a result, they moved in with her husband's parents and have been there for 1 year and half. They are doing better with the support but she is still looking for mental health support to tackle her suicidal ideation and addiction to the Internet
- **Dampening sensory input*

Prevention of negative outcomes: Individual

- ASD is not an illness- a deterioration in functioning is not inevitable
  - Many of the functional impairments occur as a result of other conditions
    - Mental health
    - Addictions
    - Medical problems (epilepsy, immune disorders, digestive issues)
    - Social loneliness and Isolation
- Identifying and addressing these early may protect the individual from a host of negative outcomes

Prevention of negative outcomes: Family

- Adults with ASD often live with and depend on family members for support
    - Creative solutions are needed to support family members to support the individual with ASD
        - Parents, spouse, siblings
        - Living in separate suite in home or nearby
        - Child care support
        - Household management support
- Finding ways to balance independence and support for the individual is key

Prevention of negative outcomes: Community/society

- Most people with ASD are unemployed (NAIR, 2015) or underemployed (Roux, 2013) yet they have talents, unique perspectives and an excellent work ethic

- Discovering their interests/talents early and recognizing their potential positive contribution to society

  - Among the 11 most prevalent disability categories, postsecondary attendance of people with ASD is among the lowest at around 32% (Wei et al., 2012)
  - Support is needed in postsecondary, getting a job and on the job.

- Employment provides numerous potential benefits (financial, social, self-actualization) and may prevent mental health problems

  - *if well matched with the individual's profile and appropriate support is provided

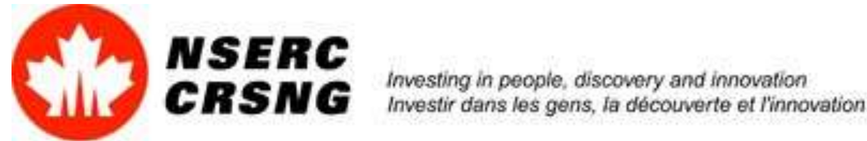
Prevention of negative outcomes: Research

- Training and tools for professionals
  - To detect and refer early
  - To screen for and treat associated conditions (e.g., mental health problems) early

- Learn from people with ASD about what helps them
  - Qualitative studies
  - Patient oriented research
    - (we perpetuate the social marginalization by excluding them from decisions that affect their lives)

SFU SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

Thanks to our funders



Social Sciences and Humanities Research Council of Canada

Conseil de recherches en sciences humaines du Canada

Canada

Website http://autismlab.psyc.sfu.ca

Email addl@sfu.ca

Telephone 1-778-782-6746