



NEURONEXUS

The Intersectionality of
Neurodivergence and
Substance Use Health



Megan O'Brien BSW RSW AuDHD

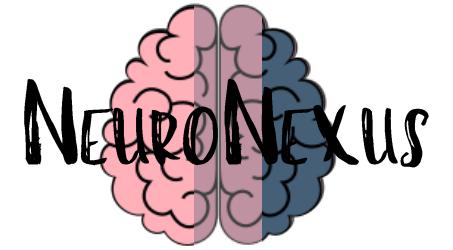
Regional Addictions Prevention Consultant
NLHS - Eastern Urban Zone

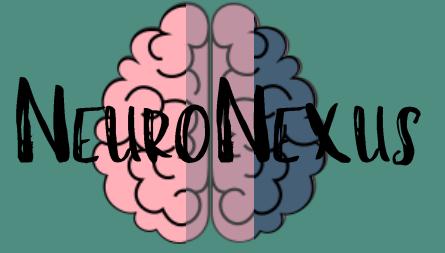
November 9, 2023 | 11:00 A.M

NL Centre for Substance Use Provincial Conference



ENVISION A KEY





MEGAN O'BRIEN

BSW RSW, AuDHD

Social Worker

Addictions Prevention Consultant

Addictions Counsellor

Researcher

Advocate

Advisor

Professional

Personal

Neurodivergent

Autistic

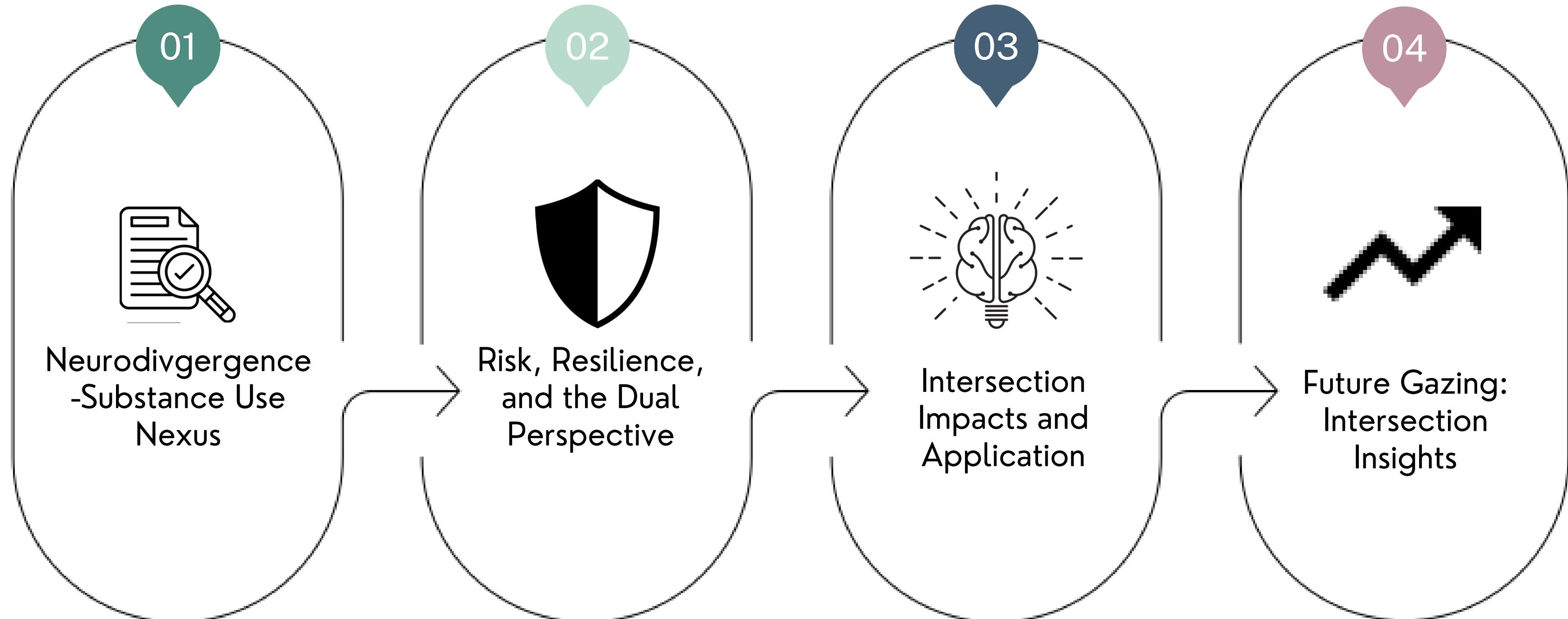
ADHD Mixed Sub Type

Advisor

Lived Experience

Learning Objectives

Navigating Neurodiversity & Substance Use





The Neurodivergence - Substance Use Nexus



- **Define key concepts:** neurodivergence and substance use health
- **Understand the relationship:** dynamics between neurodiversity and substance use

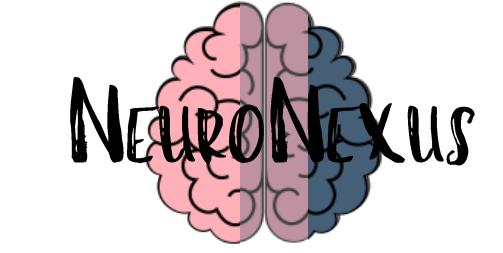
Neurodiversity

Nervous System

Uniqueness



- All brains are unique, giving rise to a wide range of skills and abilities
- People experience and interact with the world in highly diverse ways
- There's no universally "correct" way of thinking, learning, or behaving
- Naturally occurs in humans due to genetic variations and differences
- Emphasizes the recognition and acceptance of individuals with diverse characteristics and behaviors
- Neuro-differences are acknowledged and valued as a social category, similar to differences in ethnicity, sexual orientation, gender, or ability



Neurodivergence

- Variations in neurological functioning
- Differences associated with learning, processing, interpreting, and feeling
- Diversity, not deficiency: Shifting the perspective from seeing differences as problems.
- Condition, not disease: Emphasizing that neurodivergence is not an illness.
- A balanced perspective: Recognizing both the strengths and challenges





The Neurodivergent Umbrella

neurodevelopmental
approach

Attention Deficit
Hyperactivity Disorder
(ADHD)

Dyslexia

Autism

Dyspraxia

Tourettes

NON-EXHAUSTIVE LIST INCLUSIVE TERM

used to describe a group of conditions
that are associated, as a result of
variations in mental functions

ADHD and Autism

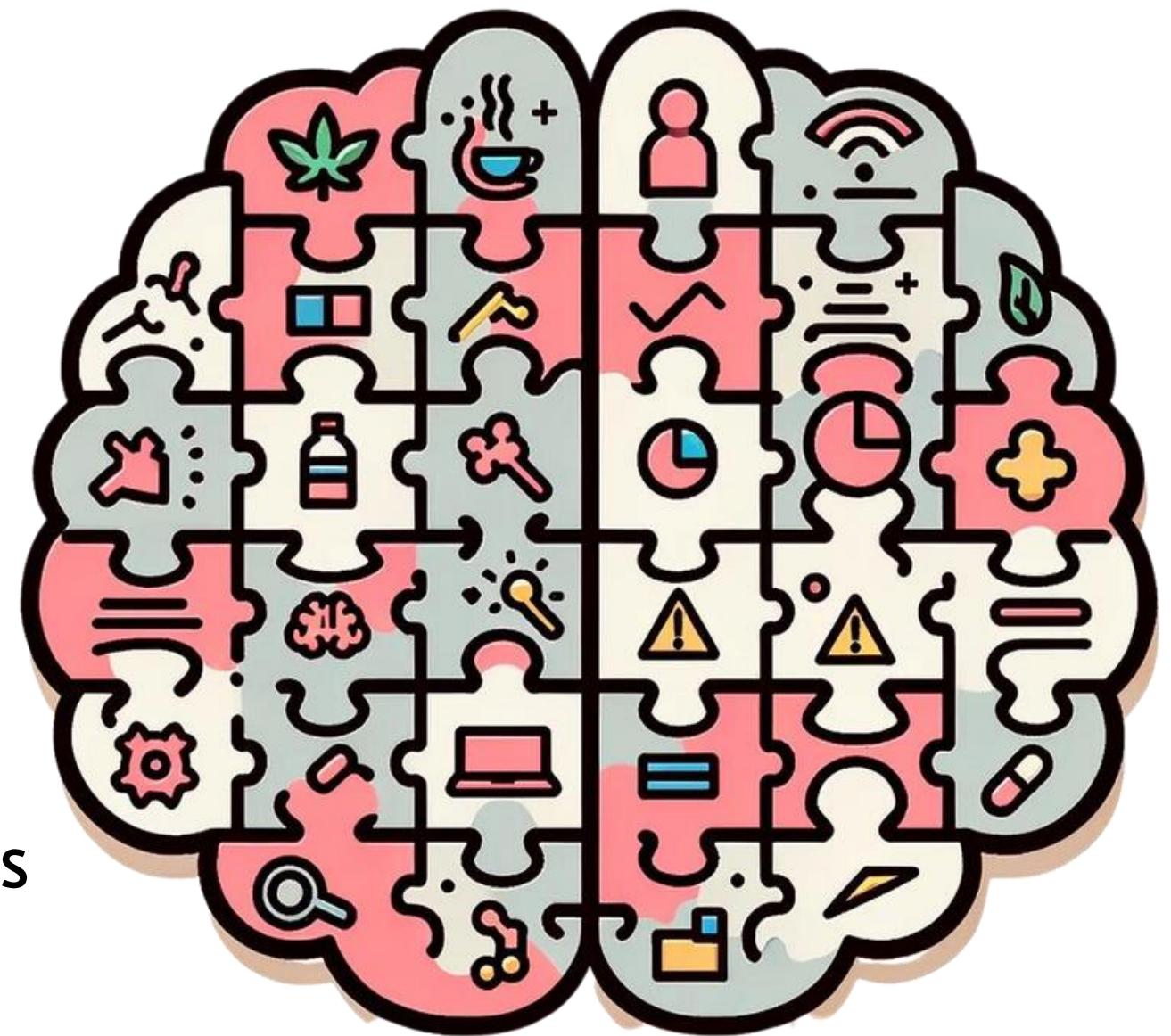
Intersections in Neurodivergence

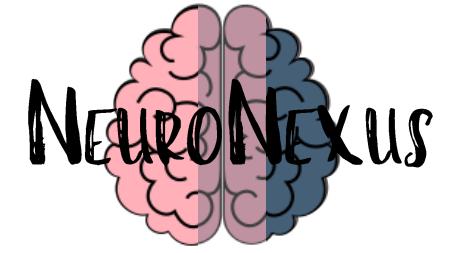
ADHD (Attention-Deficit/Hyperactivity Disorder)

- Characterized by consistent patterns of
 - inattention, hyperactivity, and impulsivity
- Impacts executive functioning
 - time management, organization, and self-regulation

Autism Spectrum Disorder (ASD)

- neurodevelopmental condition that affects
 - social communication, interaction, repetitive behaviors
- Individuals may also experience
 - unique strengths, passions, and sensory sensitivities/differences





Terminology Recap

Neurodiversity

how each person's brain develops differently, and how these differences impact how each of us thinks, feels, behaves, and perceives the world around us.

Neurodivergence

describes the variations within the neurological function and the deviation from the "norm" that results in differences associated to learning processing, interpreting, feeling, etc

Neurodivergent

An individual who thinks and learns differently than the "societal standard", with differences extending to processing, interpreting, and feeling.

Neurotypical

individuals whose neurological development and functioning are consistent with what's most common in the general population.

Neurodiverse

A group of people where some members of the group are neurodivergent.

Spectrum of Substance Use Health

NON-USE

Avoiding use of substances (abstinence)

Example: No drugs, tobacco or alcohol

BENEFICIAL USE

Use that can have positive health, social, or spiritual effects

Example: Taking medication as prescribed, ceremonial/religious use of tobacco (such as smudging)

LOWER-RISK USE

Use that has minimal impact to a person, their family, friends and others

Example: Drinking following the low-risk alcohol drinking guidelines, cannabis use according to the lower-risk cannabis use guidelines

HIGHER-RISK USE

Use that has a harmful and negative impact to a person, their family, friends and others

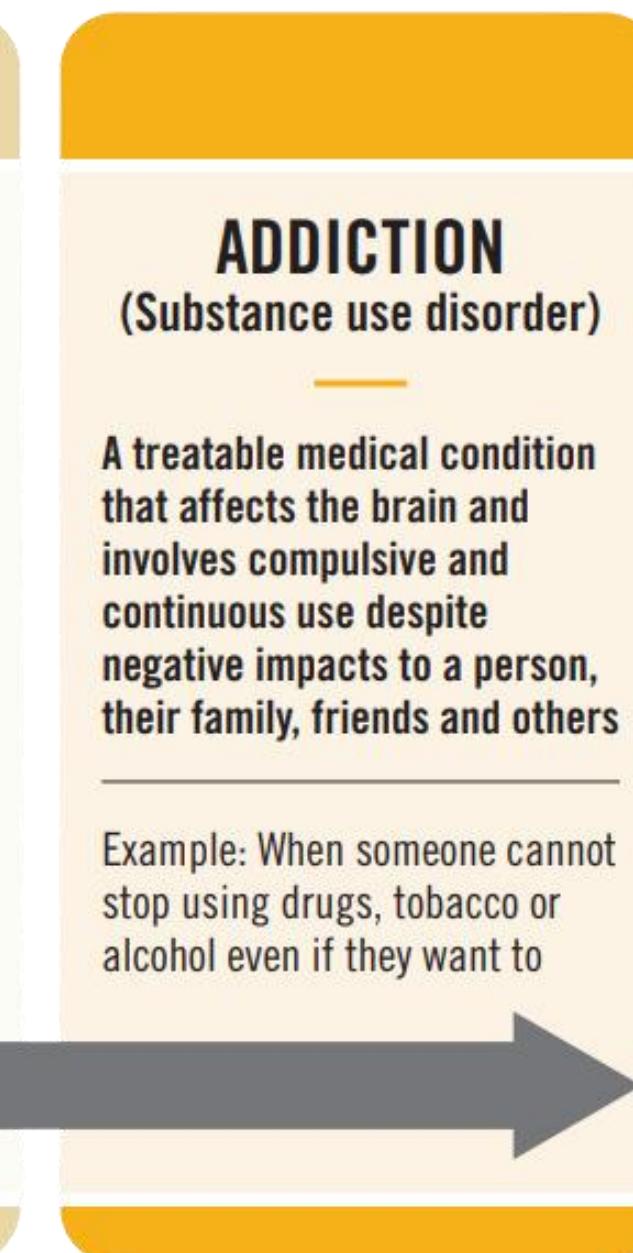
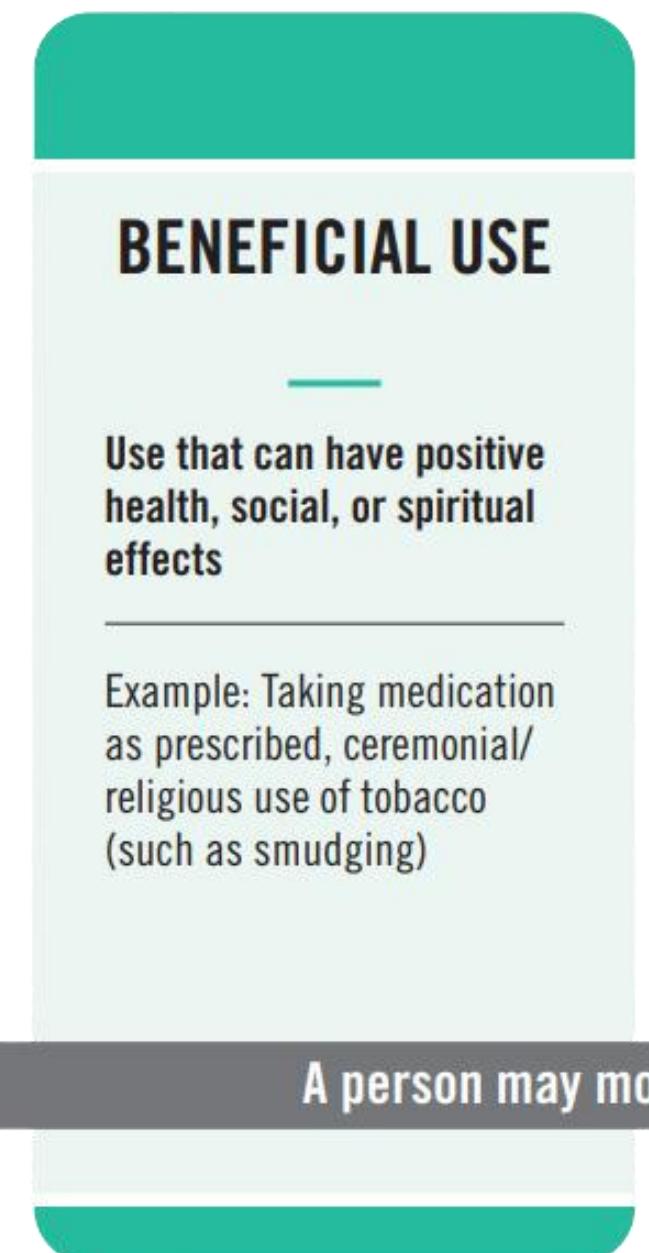
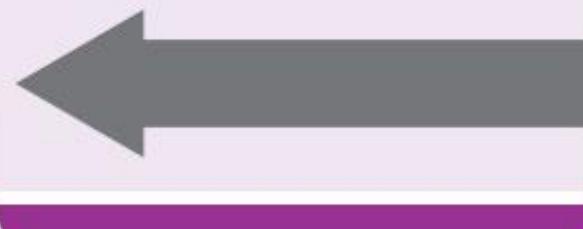
Example: Use of illegal drugs, impaired driving, binge drinking, combining multiple substances, increasing frequency, increasing quantity

ADDICTION

(Substance use disorder)

A treatable medical condition that affects the brain and involves compulsive and continuous use despite negative impacts to a person, their family, friends and others

Example: When someone cannot stop using drugs, tobacco or alcohol even if they want to



A person may move back and forth between the stages over time

High-Risk Substance Use & Addiction

Through the Lens of Neurodivergence

High-Risk Substance Use

Substance consumption patterns that carry elevated risks for harm to self and others

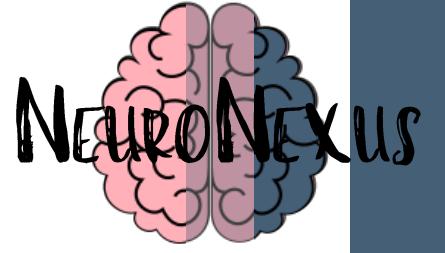
Addiction

Chronic, relapsing brain disease characterized by compulsive drug seeking and use despite harmful consequences

Biopsychosocial Framework

complex interactions among brain circuits, genetics, environment, and individual's life experiences





Current Research Findings

Neurodivergence and Substance Use

Correlation & Comorbidity

Robust correlation observed between neurodivergence and addiction

Risk twice as high for high risk substance use when compared to their neurotypical peers

High-Risk Groups

Dual diagnosis Individuals diagnosed with both Autism and ADHD present the highest susceptibility

These individuals demonstrate elevated levels of nicotine, alcohol, and cannabis use disorders

ADHD & Addiction

Meta-analysis reveals that 25% of patients with a Substance Use Disorder (SUD) meet adult ADHD criteria

For those diagnosed with ADHD, reported high-risk substance use or dependence spans:

Alcohol: 17% - 45%

Other substances: 9% - 30%

Risk, Resilience, and the Dual Perspective



- **Identify the primary risk factors** where neurodivergence intersects with high-risk substance use and addiction
- **Recognize the protective elements** inherent to neurodiversity that counterbalance these risks and foster resilience

Biological Impacts

Neurodivergence and Substance Use Health

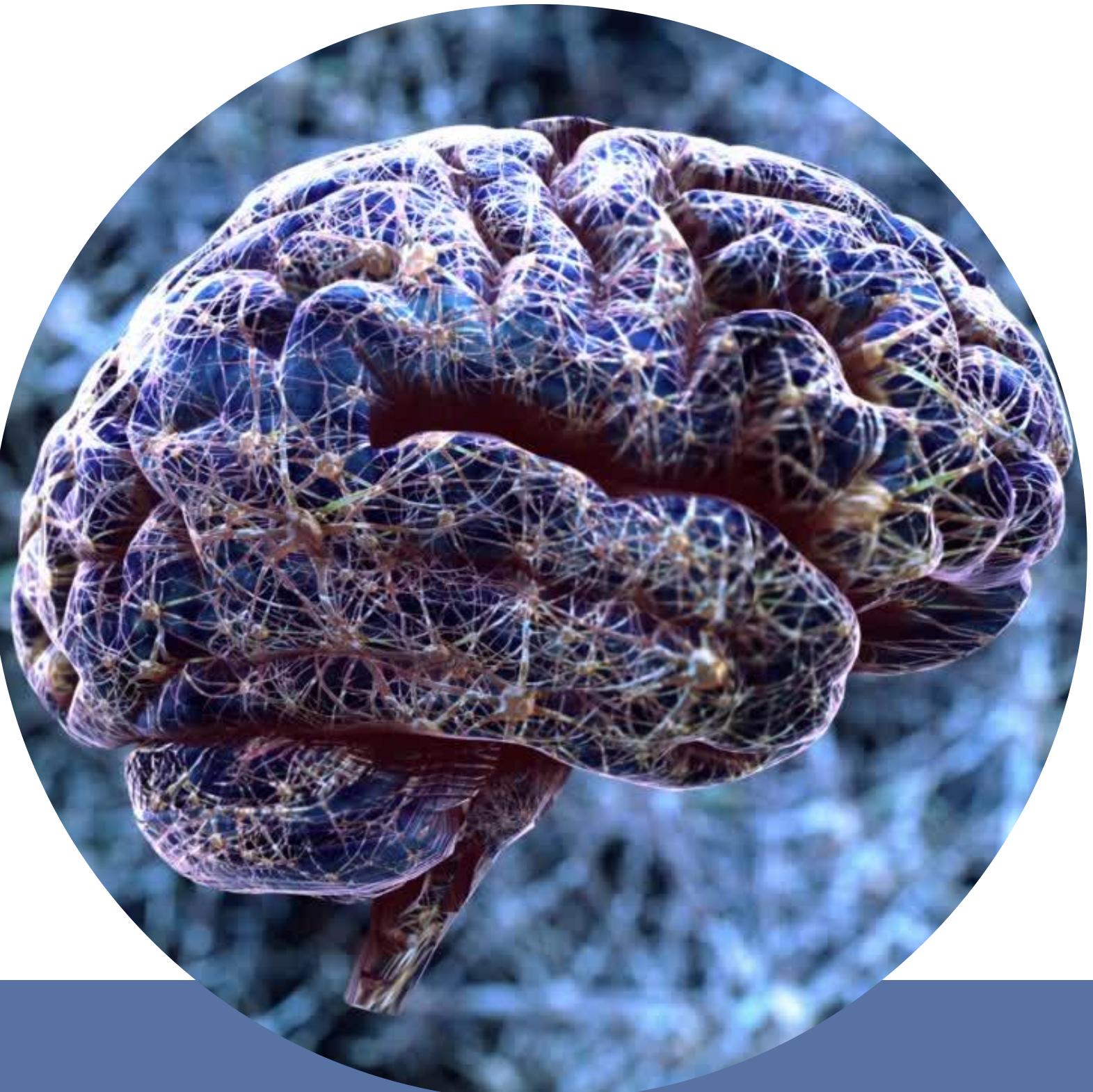
Underlying Predispositions

Reward System Dysregulation

Genetic Connections

Brain Structure Variances

Neuroadaptation and Tolerance



Substance Effects and Implications



Stimulants

- Pharmaceutical: Appropriate ADHD medication reduces substance use related risks
- Recreational: Stimulants such as caffeine and cocaine can be perceived as enhancing productivity; reinforcing continued use

Depressants

- Pharmaceutical: may offer relief from specific symptoms
- Recreational: Alcohol and other depressants may induce feelings of relaxation, in addition to symptomatic relief.



Socio-Environmental Impacts

Neurodivergence and Substance Use Health

Risk Factors

Isolation

Trauma

Community Disconnect

Challenged Relationships

Insecurity

Social Discomfort/Anxiety

Protective Factors

Isolation

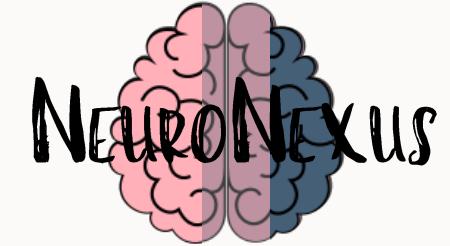
Intensive Support

Rule Adherence

Attention to detail

Creativity

Unique perspectives



Diagnosis

The Diagnostic Statistical Manual



Criteria for a wide range of mental disorders

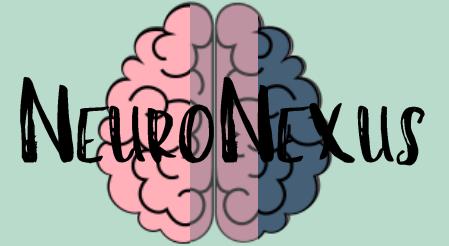
Pathologized and deficit based

Limitations

Barriers

Access to Services

- Inclusion
- Exclusion



Characteristics and Observable Behaviors

not a one-size-fits-all analysis, but rather an overarching look into tendencies

Sensory

Habitual Behaviors

Focus

Impulsivity/Novel Experiences

Executive Functioning

Creativity

Unique perspective

Attention to detail

"It seems that the same regions that gave me my intense curiosity, obsessive focus, and ability to learn and memorize quickly also made me vulnerable to discovering potential bad habits and then rapidly getting locked into them" (2016, p63).

Substance Use as Coping Mechanism

Self-Medication Motives

- Achieve balance & avoid unpleasant feelings
- Desires to "feel normal", stop overthinking, gain confidence
- Numb negative emotions or mitigate symptoms

"My ADHD made me viscerally uncomfortable. I felt like I was crawling out of my skin"

Social Adaptation:

- Use of substances to "take the edge off" and/or reduce social anxieties
- a form of autistic masking

"I drank because I was socially awkward, then got sober and discovered I'm autistic."



Masking

to disguise or suppress specific autistic traits or behaviors in social situations



Impact on diagnosis

“Social survival”

Challenges in novel or unsupported situations

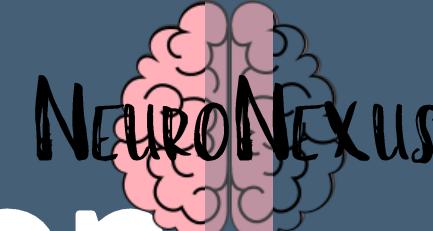
“The cost”

- constant strain and inauthenticity of masking is an exhausting and corrosive psychological burden

Escape from Pressure

Sensory Relief

Social Facilitation



Intersection Impacts and Application



- Grasp **challenges and needs** of neurodivergent populations in substance use health
 - Explore a **tiered prevention approach**
 - Emphasize **early identification, individualized treatment, and broader societal implications**

Fragmented Care

Challenges in Neurodiverse Healthcare Provision

Systems operate in **silos**, with disjointed service provision

- Neurodevelopmental,
- Psychiatric and Mental Health,
- Addictions

Limited **collaboration** between sectors

Neurotypical-focused substance use health services

- rigid rules and group settings, can **amplify anxieties**
- often results in misinterpretations, where genuine **frustration** is perceived as defiance



The Consequences

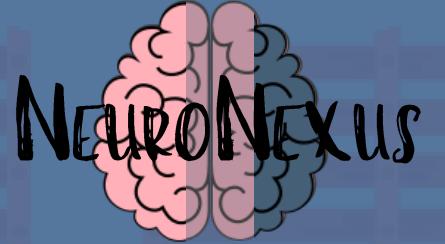
of Fragmented Care for Neurodivergent Individuals



Misdiagnosis: Misunderstanding unique Neurodivergent challenges and strengths

Mistreatment: Implementing inappropriate interventions

Increased Vulnerability: Overlooking potential substance use health risks, such as using substances as coping mechanisms



Neurodivergence & Substance Use Health

Guiding Prevention

Exploring the link between neurodivergence and substance use health can guide effective prevention strategies across the three pillars of prevention

PRIMARY

SECONDARY

TERITARY



PRIMARY

SECONDARY

TERITARY



PRIMARY

Proactive Approach

Strategies that **prevent the onset** of substance use or halt the progression to high risk use/addiction.

Educate the public, families, and neurodivergent individuals about the **risks and potential consequences** of substance use, tailored to their unique **experiences and vulnerabilities**.

Example:

Hosting awareness campaigns highlighting the potential risks of substance misuse for those with ADHD, emphasizing how substances might interact with their neural pathways differently.

Early Identification

Targeted interventions for individuals showing early signs of high risk substance use, but haven't yet developed addiction (dependence).



Rapid **screening** and brief interventions tailored to neurodivergent experiences. Emphasis on **understanding** triggers or reasons behind substance use.

Example:

Developing a **toolkit** for teachers or caregivers to identify early warning signs of in and offering them guidance on immediate interventions.

Minimizing Impact

Strategies to **reduce the more serious effects** and assist in accommodations, rehabilitation and recovery.

Personalized therapy and treatment plans that respect and understand the unique Neurodivergent experience. Emphasis on co-existing conditions.

Example:

Offering a dual-diagnosis treatment program that addresses both Neurodivergent conditions and substance use disorders, ensuring a holistic approach to recovery.





Comprehensive Individualized Dual Diagnosis Approach

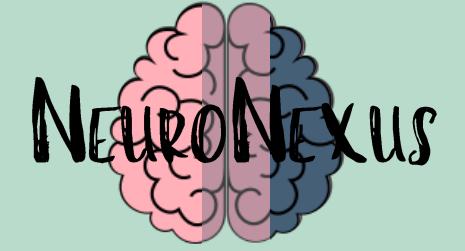
Complicates the diagnosis, treatment, and prognosis

Comorbidity is the **rule, not the exception**

Care based needs identified through **collaboration** with client

Needs are addressed **simultaneously**

Neurodivergent clients present with **distinct care needs**



The Philosophy of Neurodivergent-Informed Therapy



Overarching treatment philosophy

Profound impact of the **individual's experience**

Accommodation as opposed to cure

Co-designed with clients: Identify unique challenges, set goals, monitor progress, and continually adapt



Future Gazing: Intersection Insights

- Examine **current research trends**
- Identify their **potential consequences**

Limitations and Gaps

Ableism

Overarching discriminatory practices and attitudes

Stereotypes

Perceived as rule-driven, rigid, and socially avoidant

Child-Centered Narrative

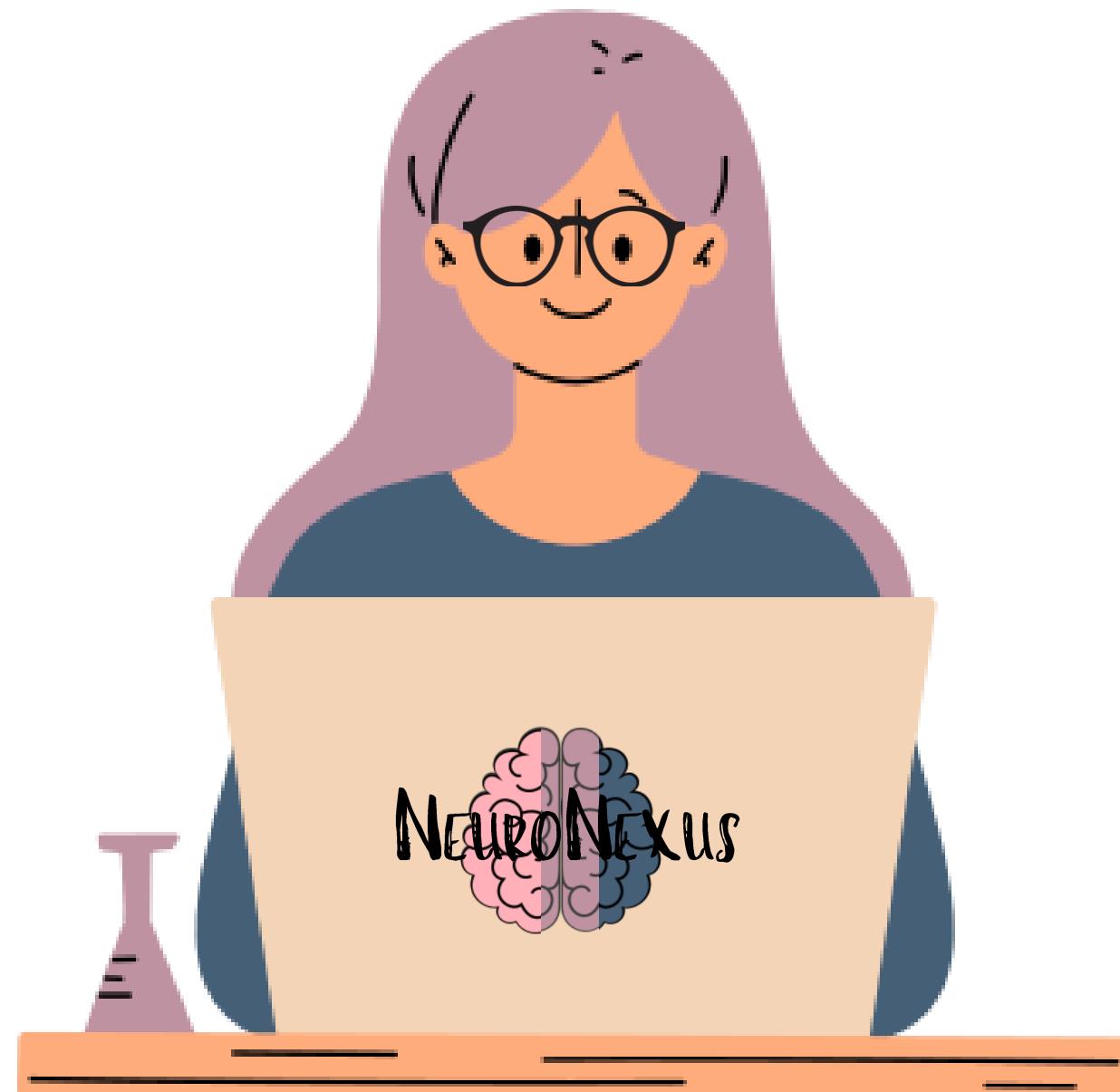
A focus primarily on pediatric neurodivergence

Demographic Bias

Limited representation

Stigma & Avoidance

Contributing to demographic biases and underserved populations

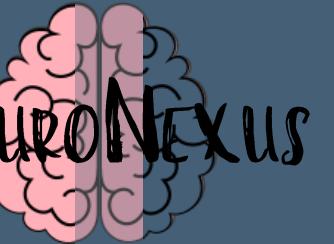


FUTURE FOCUS AREAS

- Youth Populations
- Late Diagnosed Adults
- Process Addiction



"Characterizing autistic traits in treatment-seeking young adults with substance use disorders" (2022)



"Usually studies of substance-use disorder in autism are done in those with an autism diagnosis already"

"We have looked at this question from the other side, asking how many people with substance-use disorder have autism"

- **First** to exclusively examine the prevalence, morbidity, or clinical characteristics, associated with ASD symptoms in a SUD-specific population.
- Significant proportion of treatment-seeking SUD outpatients present with **clinically elevated autistic traits**.
- highlight the importance of assessing for autistic traits in SUD treatment settings
- Additional **research required** to determine if findings are specific to the presence of ASD or secondary to sequelae of specific SUD presentations.

Suggests 20% with substance-use disorders may have undiagnosed autistic traits

the adolescents with higher SRS-2 scores had a nearly eightfold greater likelihood of stimulant-use disorder, and a fivefold higher risk for opioid-use disorder.

.....many clinicians treat substance-use disorder but don't have specialty developmental training, particularly for issues around autism" McKown (2022)

Inclusive Research

Nothing About Us, Without Us

- Prioritize the **involvement of Neurodivergent individuals**
- Aligning findings with lived experiences for truly impactful outcomes
- Value of **co-research** and the significant shift it can bring about in the field
- Aligning research with **real-world needs** for meaningful change





Good

you