Journal of Health Service Psychology (2021) 47:73–83
https://doi.org/10.1007/s42843-021-00035-4

Preliminary Recommendations for Assessing Adverse Childhood Experiences in Clinical Practice With Indigenous Clients

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Published online: 19 April 2021

Abstract
Adverse childhood experiences (ACEs) have been associated with increased mental health difficulties across a lifespan. Given increased health disparities among Indigenous populations compared to non-Indigenous populations, screening for ACEs is particularly relevant as it can inform future preventative care and treatment approaches. There has been no literature to date about how to best integrate these practices into routine psychological assessment with Indigenous clients. We describe five recommendations for assessing ACEs with Indigenous clients that are based on anecdotal research and clinical practices but aligned with standard evidence-based assessment practices. The preliminary recommendations for ACE assessment are: (1) determine the relevance of the assessment, (2) convey a sense of purpose and meaning during assessment, (3) use therapeutic assessment techniques, (4) use the ACE model for further client psychoeducation, and (5) use culturally relevant measurement techniques. These suggestions may provide a more meaningful and culturally relevant psychological assessment, but research is needed to support them.

Keywords Culturally relevant assessment · Indigenous health · adverse childhood experiences · psychological assessment

Vignette

Leona, a 32-year-old female Indigenous client, and mother of four, was referred to your clinic via telehealth from her primary care physician for support with diagnosis and treatment planning. Leona lives on a remote reserve with her four children and works as an administrative assistant at the local elementary school. Leona is experiencing persistent worry about various aspects of her life. She often perceives situations as threatening even when they are not. She does not tolerate uncertainty well, and often feels restless and has difficulty paying attention. She reports she has always felt restless and it is hard to sit still. Her worries for the future and uncertainty are new and overwhelming. She is finding it is impacting her ability to parent her four children on her own, as she often uncontrollably worries about them. She is also underperforming at her job at the school, struggling to stay on task and meet deadlines. When you meet with Leona, she mentions wanting her children to have a better childhood than she did, but says little more about her childhood. How can you provide Leona with an accurate assessment of her presenting concerns? How can you make this assessment culturally relevant and trauma-informed, given what you know about the historical trauma and ongoing poor socioeconomic conditions faced by Indigenous peoples living on a reserve? How do resilience and cultural connectedness fit into your assessment?

Clinical Challenge

When encountering relatively complex clients in clinical practice, many clinicians search for a road map to guide their navigation through multifaceted symptom presentations and health histories, in addition to various environmental and socioeconomic demands. Within clinical practices across diverse cultural contexts, there is no standardized assessment guide that will accurately identify a client's needs in a way that is culturally safe and meaningful. When we reflect on Leona, the woman from our case example, we know we must approach this assessment in an evidence-based and trauma-informed way, but it can be challenging to identify the objective way to do so.

We propose that the Adverse Childhood Experience (ACE) model can be a useful way to integrate existing knowledge of trauma and adversity with culturally relevant assessment practice. Using a distinct model to guide assessment protocols and convey results and recommendations to clients can conceptualize client symptom presentations in a way that is meaningful to both client and clinician. As a relatively

simple framework, ACEs quantify complex neurobiological responses following early exposure to trauma that account for health difficulties years later. This model can be adapted to a client's cultural and contextual needs, and it can serve to orient them to how previous experiences of adversity may influence their health in various ways throughout life. As a mother of four, Leona may be concerned about how her mental health influences her children or how symptoms may be exacerbated over time.

Unfortunately, despite the clinical utility of ACE assessment, it is statistically unlikely that Leona would be asked about her history of child adversity when receiving mental health services by her care provider (Read et al., 2018). If assessment of trauma does occur and she does not meet criteria for a trauma- or stress-related disorder, it is also possible that the presence or absence of childhood adversity will not be addressed in case conceptualization or speculation of client prognosis. We respectfully propose an integration of the ACE model within psychological assessment processes with Indigenous clients to address these concerns.

Adverse Childhood Experiences (ACEs)

The ACE model has been used as an explanatory framework for how early experiences in childhood can affect an individual throughout their lifespan. The original ACE study (Felitti et al., 1998), conducted at the Kaiser Institute over twenty years ago, was the first study to describe concrete longitudinal health consequences within an adult population that had experienced adverse events during childhood. These ACEs, experienced prior to the age of 18, were exposure to emotional, physical, or sexual abuse, emotional or physical neglect, and household dysfunction (having a family member who had been incarcerated, with substance use concerns, with a history of mental illness, parental separation or divorce, or having a mother who was treated violently). The number of ACEs experienced were associated with increased health problems later in life.

Adults who experienced four or more ACEs during childhood had more detrimental health outcomes across a lifespan (Bellis et al., 2013), and each additional increase in ACEs contributed to additional risk of negative outcomes. This dose-response relationship has been associated with several life-threatening medical conditions, including ischemic heart disease, lung disease, cancer, and skeletal fractures (Bellis et al., 2013; Kalmakis & Chandler, 2015). As the number of ACEs increases, so does the risk for various health concerns, including atypical executive functioning, increased risk for problematic substance use, increased suicidal ideation and attempts, and higher rates of mental disorder diagnoses including post-traumatic stress disorder (PTSD), bipolar 1 disorder, major depressive disorder, generalized anxiety disorder, and panic disorder (Rhee et al., 2019).

Clinical Utility of ACE Assessment

We argue that it is clinically beneficial and feasible to integrate ACE assessment into psychological assessment approaches and case conceptualization, including those that are trauma-informed, client-focused, or symptom-focused. The digestible nature of primary ACE data piqued both lay-person and research interest, resulting in findings that are easily integrated into clinical reports and understood across disciplines. All comprehensive psychological assessments should include a thorough review of childhood adversity, as such experiences can be a cornerstone to etiology and perpetuation of symptoms, and crucial to accurate differential diagnoses (Stavropoulos et al., 2018; Strathearn et al., 2020). Research has associated ACEs with everything from telomere lengths (Bürgin et al., 2019) to critical race theory (McAdam & Davis, 2019), allowing for a widening span of findings to support evidence-based case conceptualization.

The ACE can situate client experiences and symptom presentations in a narrative that emphasizes the four "P"s of case formulation: predisposing, precipitating, perpetuating, and protective factors (Bolton, 2014). By assessing various pathways of how childhood adversity can influence one later in life health, the client can understand how symptoms are both developed and maintained in their own life. This can be particularly useful for developing intervention recommendations or explaining complex relationships among disrupted neurobiology, genetic predispositions to mental illness, and how health behaviors or coping strategies can exacerbate or prevent these concerns. Within Fig. 1, predisposing, precipitating, and perpetuating factors are associated with various steps of the ACE pyramid, along with examples of assessment questions to consider when beginning this process. The fourth "P", assessment of protective factors, is immersed in all subsequent steps as we believe that using a strength-based approach is necessary for culturally relevant assessment. Although we do not provide formal recommendations for ACE assessment tools, we do suggest the use of a complementary approach to simultaneously assess protective factors in this process, such as those described as "Benevolent Childhood Experiences" (BCEs; Karatzias et al., 2020; Narayan et al., 2018).

Indigenous Health Disparities

For the purposes of this paper, the terminology used to describe Indigenous populations reflects the terminology used in the literature that has been cited. Various terms are not interchangeable. For example, the term "Indigenous" in Canada represents distinct groups of people including First Nations,

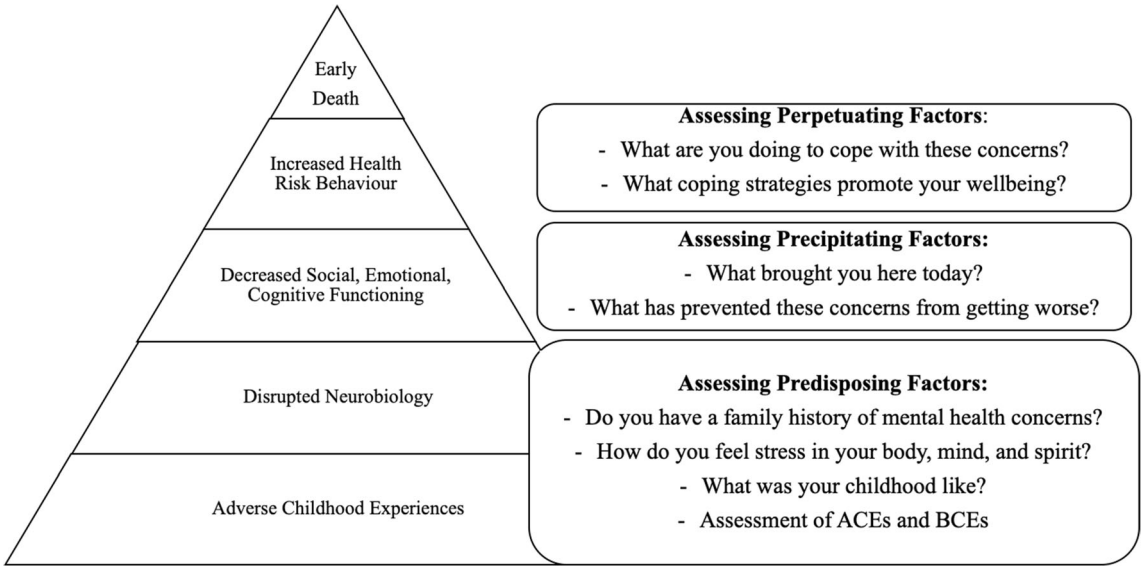

Fig. 1 The ACE Pyramid, Adapted From the CDC-Kaiser ACE Study Integrated With the 4P Approach to Case Formulation

Métis, and Inuit populations. However, this term can also reflect groups of peoples living in distinct areas of the world, such as American Indians or Native Americans living in the United States, or the Maori people of New Zealand.

The dose-response relationship between ACE prevalence and subsequent mental health concerns can inform individual psychological assessment approaches used with Indigenous populations. Health disparities between Indigenous populations and non-Indigenous populations are well documented (Cooke et al., 2007; Reading & Wein, 2009; Truth and Reconciliation Commission of Canada [TRC], 2015; Warne & Lajimodiere, 2015). Such experiences can differ by community and region and country. Recent literature has explored preliminary mechanisms for why such gaps exist. For example, the intergenerational transmission of health concerns through lingering effects of racist and oppressive policies still contribute to health disparities seen today (Bombay et al., 2011; McQuaid et al., 2017; Skewes & Blume, 2019; Wilk et al., 2017). These experiences, in conjunction with socioeconomic disparities (Hajizadeh et al., 2018), create difficulty accessing environmental factors that promote social determinants of health (Bethune et al., 2019; Warne & Lajimodiere, 2015) such as clean drinking water (Baijius & Patrick, 2019), housing stability (Alberton et al., 2020), and nutrition (Levkoe et al., 2019; Warne & Wescott, 2019), impairing health outcomes among Indigenous communities. Such disparities contribute to lower life expectancies, higher rates of chronic disease, and poorer mental health for Indigenous peoples worldwide.

Screening for ACEs during routine psychological assessment procedures is particularly relevant for Indigenous clients. Elevated mental health and substance use problems seen among Indigenous communities are disproportionately associated with ACEs. Indigenous communities have unique experiences of racism (such as the intentional spread of contagions such as smallpox by early settlers in North America), historical trauma, and ongoing experiences of oppression (such as prejudiced child welfare intervention and discriminatory funding policies) that have perpetuated the transmission of experiences of trauma across generations (Bombay et al., 2011; Hamby et al., 2020).

The unique context of ACEs experienced by Indigenous peoples in North America across generations (which involves consideration for the relationship between ACEs seen today and the sociohistorical trauma endured by these communities across centuries), prompts consideration for best practices in trauma-informed assessment with this population. Indeed, the assessment of ACEs with Indigenous clients, much like other populations, can be seen as a necessity for understanding mental health risk, carrying out accurate differential diagnosis, and for developing adequate case conceptualization and treatment planning. As such, there is a need for specialized assessment recommendations that allow for the appropriate assessment of ACEs with Indigenous peoples. Such approaches must account for the degree of cumulative trauma experienced across communities, the inclusion of cultural loss as contributing to the experience of trauma, and the intergenerational transmission of ACEs seen within Indigenous peoples as a result of colonialism. The notable resilience demonstrated by Indigenous peoples in the face of these experiences should not be overlooked.

Clinical Recommendations for Use of ACEs With Indigenous Populations

An integrative model of ACE assessment within broader experiences of adversity can broaden a relatively small clinical

research field with Indigenous populations. Research completed in partnership with Indigenous populations is relatively limited. To our knowledge, there has been no published literature dedicated to assessment of ACEs with Indigenous populations. Best practices regarding the assessment of Indigenous individuals have yet to be established, making it challenging to embed ACE assessment while working with Indigenous populations in a clinical context.

We have generated five preliminary considerations for incorporating ACEs into psychological assessment carried out with Indigenous individuals. These recommendations represent clinical activities that anecdotally have been useful within our clinical practice and ongoing research endeavors with Indigenous clients. They emerged from discussions facilitated through a research study with over 150 First Nations individuals in the Northwestern Ontario region of Canada. Although grounded in our clinical expertise, many of the recommendations are also informed by consolidated research on assessment of adversity and trauma.

We hope these recommendations are useful and facilitate an initial discussion of ACE assessment for psychologists working with Indigenous clients. They are intended to be used in congruence with other culturally sensitive recommendations for psychologists (including guidelines from American Psychological Association, 2002 and Cénat, 2020). Similar to other assessment approaches, the recommendations below are likely useful in many contexts, but are not intended to be a pan-Indigenous or an all-encompassing approach to trauma work with Indigenous populations. Indeed, the aim of establishing rigid protocols that delineate unwavering cultural competence within clinical practice with Indigenous populations is laudable. Achieving such a goal remains elusive, as community needs continue to change and all clients who seek psychological services come with their own unique perspectives, experiences, values, and beliefs. There remains a need for evidence-based, culturally specific recommendations within the practice of clinical psychology (Benuto et al., 2018).

At most, we currently have rudimentary guidelines for the integration of culture within clinical practice, such as the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) Cultural Formulation Interview. Although studies indicate this interview can improve rapport with clients, the specific clinical utility with various Indigenous populations has yet to be examined (Aggarwal et al., 2020). For a case example illustrating the complexity of culturally appropriate assessment approaches with American Indian populations, please see Langa & Gone (2019), who describe how changing contexts can affect subsequent diagnoses when DSM-5 diagnostic criteria are applied. The lack of a "sweet spot" of culturally appropriate practice—that strikes a balance of cultural and clinical expertise—is apparent, exemplified by Causadias et al. (2018) who caution psychologists to avoid an attribution bias of overemphasizing culture explanations rather than psychological explanations of behavior when engaging in case conceptualization with American Indian clients. We recognize that psychologists must continue to attune their individual skill set to address cultural needs (Ansloos et al., 2019), including individually reflecting on their current approaches to care with Indigenous clients and seeking supervision when required. We hope that the recommendations for ACE assessment below may encourage clinicians to reflect on other aspects of their current assessment approaches with Indigenous peoples.

Determine Necessity of ACE Assessment

The first step of ACE assessment is to ensure that such data collection is likely to be useful, required for clinical purposes, and to clarify with the client how collected information will be used. The ACE assessment model is not a universal best practice to be used with every client. Collecting data for data's sake, particularly within Indigenous populations, is not advised, nor are "fishing trips" of exploratory data collection without specific intent. Thoughtful contemplation prior to practice ensures that tasks asked of clients, particularly clients who are vulnerable, are those that are likely to benefit them in some way (or, are at least unlikely to harm them).

When considering whether ACE assessment as a general practice should occur, individual organizations can determine long-term goals related to the utility of data for the individual client. Population-level screening of ACEs has been cautioned (Finkelhor, 2018; McLennan et al., 2019), partially due to concerns that overall assessment will neither lead to appropriate intervention approaches nor inform individual client trajectories due to the reliance on population level data. Individuals seeking psychological services for specific mental health concerns should be provided with the most appropriate treatment based on specific client requests/needs and available evidence.

Given the increasingly high need for specialized services, including psychological and psychiatric health care, in conjunction with the limited availability of services to remote and rural communities, Indigenous individuals are not often provided with appropriate services in a timely manner. It is our duty to ensure session time is well spent, given that it can take a considerable amount of resources for a client to attend a session (including the overt cost of the service, lost time away from work, childcare costs, and transportation to session). Every action by a psychologist in session should be dedicated toward client-centered tasks and clearly defined goals. This may or may not include ACE assessment, despite its potential value.

One concern with ACE assessment is the threat of potential harm to individuals disclosing trauma within a health or research setting (Yeater & Miller, 2014). As Indigenous populations seeking treatment report more experiences of adversity

when compared to non-Indigenous populations (Radford et al., 2020), it is useful to consider whether such disclosures are useful or harmful with this population. The majority of participants in ACE studies (Mersky et al., 2019) or trauma-focused studies (Jaffe et al., 2015) do not report increased discomfort from the use of ACE assessment in clinical settings. Within our previous ACE research with Indigenous participants seeking substance use treatment (Toombs, 2021), participants occasionally reported initial discomfort with ACE questionnaires, which were mitigated by immediate access to each individual client's counselor on site. Client discomfort was related to a limited history of previous disclosure, and limited emotion regulation strategies. Previous research has also found that increased ACEs, higher depression scores, and identifying as American Indian was associated with higher distress levels when engaging in ACE assessments (Mersky et al., 2019).

Monitoring participant distress during ACE assessment can inform the clinical utility of various assessment techniques with potentially vulnerable populations, particularly prior to large-scale endeavors such as population health ACE screening. Although the risk of generalized participant distress is low during ACE assessment, understanding specific indicators of distress within Indigenous populations is warranted. Some questions to help you differentiate the need for assessing ACEs:

- Will the assessment of ACEs benefit the client with regard to better understanding their presenting mental health concerns? If so, how?
- Will an ACE assessment inform treatment planning and recommendations? If so, how?
- Does the potential harm of the ACE assessment outweigh the benefit with regard to assessment and treatment considerations?

When we consider Leona, the client from our case example, it is possible that assessment of ACEs can inform her case conceptualization and treatment plan, but at present time, she has not provided any detail of potential childhood trauma. Given her role as a primary caregiver of four children, who she must attend to following the end of your session together, consideration of ACE assessment is particularly warranted. Leona is also completing this assessment via telepsychology, which means that if she does become overwhelmed and requires further mental health support, she does not have in-person access to a clinician at this time.

After explaining the relative risks and benefits of an ACE assessment to Leona, you provide some brief psychoeducation about how early childhood experiences can shape adult health outcomes later in life. You give a simple example of this, perhaps how overeating too many bananas as a kid has resulted in a lifelong aversion, or how growing up with a strict parent can encourage one to later rebel. Reflecting with Leona about how understanding experiences in childhood can give both of you insight into understanding how best to help her meet her goals, you ask if she would be comfortable answering some questions about events that may have happened to her in childhood, as part of routine assessment protocols. You take care to monitor her reactions as you ask these questions, taking breaks as required, and not asking too many details about specific instances of abuse, neglect, and household dysfunction. When concluded, you change the subject topic to something less emotionally salient and continue to monitor Leona on the video chat for signs of distress as you move forward to other assessment questions.

Conveying a Sense of Hope, Belonging, Meaning, and Purpose in Assessment

Any collection of ACEs should be one that has some sort of benefit, however small, to each individual participant. Assessment of ACEs can, and should, promote facets of hope, belonging, meaning, and purpose in some capacity throughout this process. Clearly conveying the purpose of the ACE assessment to clients can reduce the likelihood of potential harm. This is a necessary step for informed consent and communicates the structure of the assessment process to clients. A shared purpose between client and clinician is central to building good therapeutic alliance, as such purpose embodies mutually shared goals and tasks, and contributes to a positive bond, as exemplified through the work of Bordin (1979).

Hope, belonging, meaning, and purpose are centrally situated within the First Nations Mental Wellness Continuum Framework (FNMWCF), which promotes overall well-being for Indigenous individuals, families, and communities (Assembly of First Nations & Health Canada, 2015). Specific components of these models have aligned with other indicators of Indigenous well-being, such as the medicine wheel, which promotes a balance between physical, emotional, mental, and spiritual well-being (King et al., 2009). These models can address health concerns both proximal to an individual and in conjunction with broader contextual or cultural concerns experienced by First Nations communities. Individual developmental trajectories associated with ACEs can be contextualized within broader models of wellness to provide further support for Indigenous models.

Meaning making following experiences of trauma is a therapeutic technique that can occur during ACE assessment simply through the structure of how it is completed. The structural approach to assessment can facilitate brief opportunities for meaning making for participants simply knowing how the results are used. The emphasis on a broader contribution to others affected by similar experiences can convey meaning to participants. This can be accomplished through a relatively safe experience completing a survey with an assessor, with an assessment experience that promotes validation,

normalization of responses to trauma, and unconditional positive regard.

Demonstrating mutual respect for client participation and recognizing each individual contribution to a broader goal can convey a deeper meaning to the psychological assessment. This is consistent with a meta-analysis describing research participation of those bereaved by suicide, as the majority of participants in studies reported positive outcomes related to increased social support, engaging in altruistic behaviors, and increased personal growth (Andriessen et al., 2018). Although the synthesis of meaning making following experiences of traumatic events is inconsistent across population groups, contexts, and psychological indicators of well-being, meta-analytic research suggests that meaning making attempts are common for those who experience trauma and the quality of meaning making attempts can influence growth (Park, 2010).

Emphasizing a sense of belonging in ACE assessment can include contextualizing shared experiences and symptom trajectories of those with high ACEs by describing common responses to trauma and early childhood adversity. Normalizing responses to trauma may partially alleviate client experiences of self-blame, guilt, or shame associated with such behaviors, as they can reframe perspectives of emotion regulation, avoidance, and disrupted attachment behaviors as adaptive following responses to trauma. We found such a discussion to be useful in the ACE discussion group related to this theme. In such groups, we described common responses to trauma (including increased substance use, increased impulsivity, and reduced self-esteem), and we have been able to relate those behaviors as adaptive ways to address mood difficulties in a short-term capacity in their respective environments. Exploring how coping strategies that mitigate trauma symptoms in the short-term (for example, using substances to avoid immediate feelings of distress) may not align with practices that promote long-term health. Discussion can explore how such approaches can be modified over time to meet current goals of the client.

Finally, embodiment of hope within ACE assessment can provide a new perspective to clients regarding their symptom trajectories and future quality of life. Contextualizing experiences of clients, and emphasizing aspects of resilience in their lives, can offer evidence-based hope for their own outcomes in life. Hope has previously been associated with improved psychological flourishing (Munoz et al., 2020) in adult survivors of childhood trauma, and it has mediated the relationship between attachment and depressive symptoms (Blake et al., 2020). Hope has been negatively associated with trauma symptoms in those who have experienced a traumatic event, particularly when high levels of social support and optimism are present (Weinberg et al., 2016). Exploring hope with clients, and establishing pathways to build optimism and hope for the future, can aid them to associate lived experiences of adversity with future growth and well-being.

Some related strategies to achieve meaning, purpose, and hope in assessment include:

- Allow the client to generate their own assessment questions at the beginning of the assessment: "What would you like to know more about yourself as we begin our discussion today?"
- Extrapolate described symptoms to a "living example" of current client experiences of discomfort or distress to contextualize results, such as relating prior experiences to current presenting concerns, such as those related to increased substance use or parenting difficulties.
- Use therapeutic curiosity to situate each client as the expert in their own individual experiences to generate personal insight. Ask the client to provide personal insight of current individual concerns, or how such concerns could influence broader systems in their life, related to family, community, or culture: "Why do you think this may be?"
- Provide psychoeducation around the therapeutic nature of discussing difficult experiences, and ask clients "how do you think discussing this event may help you moving forward?"

In our case example, Leona states she wants her children to have a better life than she has had. This type of goal can illustrate hope for the future and provide motivation for purposeful change to address mental health concerns. In your clinical interview, you can ask her to contrast how her childhood will differ from her children framed through genuine curiosity or ask her "what psychological concerns get in the way" of reaching these goals. Drawing the association among early childhood experiences with current mental health challenges and parenting difficulties, Leona can be encouraged to address these concerns through your proposed treatment options as she begins to bolster her sense of hope, belonging, meaning, and purpose through these connections.

Use of Therapeutic Assessment Techniques

"Therapeutic Assessment" refers to a model of psychological assessment that embeds brief intervention techniques with information gathering (Finn & Tonsager, 1997). The role of the assessor is to establish both a process and outcome approach to psychological assessment. Although the outcome may be a diagnosis or obtaining symptom descriptions, the process by which this is achieved is fundamental to the assessment. The subjective experience of the participant remains guided by the assessor to increase mutual feelings of respect, understanding, openness, curiosity, and ultimately, therapeutic alliance.

The techniques used within therapeutic assessment can be applied when assessing for ACEs across treatment and research settings. Finn and Tonsager (1997) have described distinctive

differences between information gathering and therapeutic assessment techniques that can be translated to a context of ACE specific assessment. When applied to assessing ACEs, therapeutic assessment techniques can vary within the specific context of the assessment, but still can be adopted to provide opportunities for therapeutic moments of insight. Completing the ACE questions in a format that is appropriate for the client and setting can increase the therapeutic nature of assessment. Some useful therapeutic techniques to consider include:

- Communicate with client using warm, straightforward, jargon-free, informal language.
- Use motivational interviewing techniques such as asking open questions, affirming, reflecting, and summarizing (Miller & Rollnick, 2013), as this can build therapeutic rapport and increase client openness and engagement.
- Both assessor and participant interpret assessment results, through collaborative exploration of client responses, and reflect this information within the context of the client's current needs.
- Following the end of the assessment, reaffirm the client selection of positive emotional regulation strategies and client autonomy to address potential distress.
- Schedule a session follow-up to allow time for client to interpret this discussion and have an opportunity to discuss lingering questions or concerns.

This is a short list of techniques that are commonly used within psychological assessments to generate therapeutic rapport and create shared meaning. Although not yet translated to clinic-based screening or research studies for ACEs, it can be useful for the client. These techniques are intended to be used with an assessor and client during in-person assessment, but can be potentially extended to telepsychology practice. Such techniques may be particularly useful to build a strong therapeutic alliance with Indigenous clients, particularly when engaging in treatment with a non-Indigenous clinician. Some of these proposed techniques emphasize prioritizing a strong client-clinician relationship through building positive regard, mutual understanding, and respect by using positive communication strategies reported by Indigenous clients to enhance health care experiences (Jennings et al., 2018).

Use of ACE Model for Client Psychoeducation

The ACE model can be a useful psychoeducational tool to help clients organize their own childhood experiences in relation to current physical and mental health challenges. The use of common descriptors, embedded within a relatively simple linear explanatory model, complete with visual diagrams (i.e., the ACE pyramid; see Figure 1), allows various health disciplines to apply findings to specialized bodies of literature. Having a common language across disciplines can make it easier for clinicians to translate client severity in a way that captures both adversity and resilience without disclosing detailed client histories.

Similar to a genogram that visually represents a family structure within clinical practice and research (Alexander et al., 2018; Turabian, 2017), mapping ACEs, particularly across generations, can allow clients to visualize how these experiences have affected them over time. The ACE pyramid can map client trajectories across a lifespan, and illuminate challenges for the client using a biopsychosocial framework. The intergenerational transmission of ACEs, such as those experienced by parents, grandparents, and other family members, can be contextualized within the ACE model. It can depict how relationships, attachment, and parenting are affected by ACEs across generations. This model can be a useful tool for Indigenous clients, given cultural and contextual understandings related to prioritizing holistic health and well-being with community, and an emphasis by many to extend teachings for future generations.

These models can also be used to illuminate client resilience and identify protective factors. Just as the ACE model can describe relationships of adversity with high ACE scores, the reduction or prevention of ACEs is associated with decreased risk. For every ACE that is avoided prior to the age of 18, and for every ACE that received timely treatment to reduce exacerbation of negative outcomes, the prolonged risk to a client can be avoided. Identification of protective factors within a client's life, including those that have promoted resilience, can initiate discussion of how individual behaviors can influence long-term trajectories for the client and their families.

- Encourage client to explore positive, negative, and neutral experiences within their childhood, as these discussions can emphasize the complexity and diversity of how many types of experiences during childhood affect oneself across a lifespan, not just the adverse ones.
- Provide feedback in a way that answers client questions and allows them to understand how the exploration of their ACEs has led to an understanding of their current difficulties.
- Explore potential future therapeutic approaches together following feedback or discussion and discuss possibility of these proposed recommendations. This will solidify a path forward for the client to further address their ACEs as necessary.

Culturally Relevant Operationalization and Measurement of ACEs

Like many other contexts within Indigenous health, the measurement of psychological constructs can be influenced by both

culture and context. Culturally relevant operationalization and measurement of psychological variables has been encouraged, as inaccurate variable measurement can lead to over- or under-reporting of symptoms and potentially influence diagnostic considerations, population prevalence rates, and treatment of psychological conditions (Mashford-Pringle et al., 2019; Mushquash & Bova, 2007). Guidelines for measurement of psychological constructs have called for culturally relevant measures that consider unique differences of Indigenous populations and obtain more accurate portrayal of mental health across cultures (American Psychiatric Association, 2013; Canadian Psychological Association & The Psychology Foundation of Canada, 2018).

These considerations can be applied to the measurement of ACEs, as some variables require increasingly complex interpretation, which then require inclusion of culturally relevant operationalization of constructs. One example of how cultural considerations within ACE assessment becomes particularly salient for culturally distinct populations is related to the assessment of neglect. The assessment of child neglect within Indigenous populations has historically been associated with the imposition of non-Indigenous cultural values resulting in poor outcomes for Indigenous communities (Caldwell & Sinha, 2020). These values were used to sustain increased apprehension of Indigenous children by child welfare service providers.

Within present day, Indigenous children in welfare services continue to be over-represented in North America (Maguire-Jack et al., 2020). Indigenous children are most likely to be placed in care due to histories of neglect or intimate partner violence in the home, rather than experiences of abuse or alternative circumstances (Ma et al., 2019). As we seek to evaluate ACEs within Indigenous communities, care must be taken to avoid over-classification of ACEs due to use of non-Indigenous conceptualizations, particularly those related to emotional and physical neglect.

Adverse Childhood Experiences can be better conceptualized for Indigenous populations by reviewing measures with communities, asking clients to report on specific events or experiences, using multiple items to assess each variable, and by adhering to culturally relevant best practices. Reviewing measures with those who can determine their suitability for client populations can inform the utility of these measures. Operationalizing specific experiences of neglect can also inform how clients reliably interpret the meaning of each variable. For example, the American Psychiatric Association's (2013) definition of child neglect encompasses acts that deprive a child of age-appropriate needs, including "abandonment, lack of appropriate supervision, failure to attend to necessary emotional or psychological needs, failure to provide necessary education, medical care, nourishment, shelter, and/or clothing" (pg. 718). This definition, although thorough, is challenging to assess consistently if specific aspects of neglect are not concretely defined for participants.

Dube et al. (2003) have assessed the ACE of physical neglect with the following questions: "I didn't have enough to eat."; "My parents were too drunk or too high to take care of me."; "I had to wear dirty clothes."; "There was someone to take me to the doctor if I needed it."; and "I knew there was someone there to take care of me and protect me." This five-item measure employs multiple test-items to increase the validity of the physical neglect variable via the use of concrete experiences that clients can recall. This is one suggestion to reach better sensitivity of ACE measures. The psychometric evaluation of ACE measures with respect to Indigenous populations is warranted. Such work can align with the most recent knowledge of how each ACE is conceptualized within current literature.

Another alternative is to operationalize ACEs by considering alternative variables rather than the 10 initially identified by Felitti et al. (1998). Previously proposed alternative ACEs for Indigenous populations have included experiences of racism, exposure to residential schools, and lack of access to public health and educational services (Cave et al., 2019; Luther, 2019). Relationships among exposure to alternative ACEs in childhood and adult mental and physical health outcomes can show similar trends to typical ACE scores. Experiences of racism for Indigenous children have been associated with decreased cortisol awakening responses, increased risk of mental disorders, sleep difficulties, and increased physical health concerns such as obesity and asthma (Shepherd et al., 2017). Other studies have shown decreased allostatic load for Indigenous adults experiencing racism as a child (Currie et al., 2019), including how the timing of experiences of racism influence mental health as adults (Cave et al., 2019). When aiming to be culturally relevant in the assessment of ACEs with Indigenous peoples, consider the following:

- The members of Indigenous communities are often heavily connected to one another, and care about each other's well-being. Members are often affected by trauma experienced by members of their community. It is useful for the clinician to be aware that assessment of an individual's ACEs may also prompt distress related to trauma occurring at the community level.
- Individuals who have experienced specific and unique experiences of trauma and loss of culture (e.g., trauma associated with forced residential school attendance) may benefit from a referral to an Elder who understands these experiences and can offer traditional healing.

- The adversity experienced by Indigenous peoples is often coupled with cultural loss, and thus it is important to consider how culture fits into case conceptualization.
- Indigenous notions of well-being often focus on spiritual, physical, mental, and emotional well-being. Approaches to ACE assessments can integrate this wheel framework.
- Resilience seen among Indigenous peoples reflects hope, belonging, meaning, and purpose, which can be highlighted when discussing how a given client has carried forward despite experiences of ACEs.

Take-Home Points

1. First, before anything else, consider whether the ACE assessment is necessary. Does it aid in assessment and treatment planning?
2. The ACE assessment should be presented and discussed in a way that promotes meaning, purpose, and hope for clients, ultimately minimizing any distress the assessment may cause.
3. Therapeutic techniques can be used during assessments to support clients in exploring their past experiences in a way that is both safe and healing.
4. ACE assessment provides clients with an opportunity to learn how ACEs are not only impacting themselves but their community as well.
5. Assessment should be completed in a culturally relevant fashion, including understanding how loss of culture among Indigenous peoples contributes to trauma experienced, and how Indigenous resilience is heavily connected to culture.

Declarations The authors do not have any real or potential conflicts of interest to declare. Christopher J. Mushquash's participation in this project is partially supported by the Canada Research Chairs Program and the Canada Foundation for Innovation.

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