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Emotion Regulation and Intellectual Disability

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Abstract

Despite the plethora of published studies on emotion regulation, relatively few have discussed their applicability to individuals with intellectual disability. This paper discusses the components of emotion regulation that have been studied in intellectually disabled populations (emotion development, recognition and understanding, as well as self and behaviour regulation). We conclude with specific recommendations for future studies so that intellectually disabled populations can be represented within the emotion regulation literature.

While providing psychological services for a small group of clients with mild mental retardation or borderline intellectual functioning, we were repeatedly discussing regulation of the clients' emotions during group supervision. At the same time, when our clients engaged in simple mindful meditation techniques at the beginning of group or individual therapy sessions, they appeared more comfortable, relaxed, and focused in session. Practitioner-scholars striving to support our interventions with scientific inquiry, we turned to the empirical literature to support our therapeutic activities. A PsycINFO search of the term intellectual disability identified 2,145 articles published since 2004. However, when the term intellectual disability was combined with emotion regulation, zero articles were identified. Because the term intellectual disability is relatively new and more commonly utilized in the United States, we tried a few more iterations. A search of the terms mental retardation and emotion regulation identified nine articles published since 1999. The terms learning disability and emotion regulation identified three articles published since 1998.

This discrepancy between the quantity of published articles regarding intellectual disability and those that include the key words "emotion regulation" was curious. How could over 2,000 articled have been published about intellectual disability, and even more have been published about emotion regulation (Gross, 2007), yet none of the papers examine the two terms together?

Because emotion regulation is multifaceted, we then looked for components of emotion regulation within the intellectual disability literature to inform our practice. The following, therefore, is a discussion about where clinical applications of emotion regulation exist in the intellectual disability literature even though the term emotion regulation is not directly applied. We conclude with suggestions for

how to improve the integration of emotion regulation and intellectual disability literature in the future.

Definitions

Researchers are still debating the definitions of intellectual disability and emotion regulation, with multiple definitions existing for both terms. Therefore, we begin by defining the terms for this discussion.

Intellectual Disability

Intellectual disability, historically referred to as mental retardation, is characterized by significant impairments in intellectual functioning and limitations in adaptive behaviour that begin prior to the age of 18 and exist after the context of community environments and measurement limitations are considered (Schalock et al., 2007). Conceptual, social, and practical skills such as personal care, use of the telephone, and managing money are examples of adaptive behaviour. The impact of intellectual disability can range from mild (e.g., a person can engage in meaningful conversation and carry out simple occupational skills) to profound (e.g., a person is completely dependent on others for personal care and has minimal verbal abilities) impairment.

The present discussion regarding emotion regulation and intellectual disability originated in an outpatient clinical setting where some verbal exchange between the client and therapist is required. Therefore, this paper is limited to individuals with mild to moderate impairment.

Emotion Regulation

The precise definition of emotion regulation has evolved over the past 30 years. Beginning with the first half of the term, emotion describes a multifaceted response to a potential personal goal. The response includes subjective experience, physiological activity, and behaviour. Emotions allow humans to direct their attention to important situations and motivate people to respond with action. Emotion regulation, therefore, influences the presence or intensity of emotions to facilitate responses that are likely to produce productive and contextually appropriate action. Emotion regulation can be automatic or controlled. In addition, regulation is a process that begins when the situation is identified, continues by directing attention toward and then appraising the situation, and culminates in a behavioural response (Gross & Thompson, 2007).

The definition of emotion dysregulation has been more specifically applied in clinical settings. Emotion dysregulation refers to deficits in one's ability to recognize, understand and accept emotions, engage in goal-directed behaviours while experiencing negative emotions, modulate the intensity and/or duration of emotional responses through a variety of contextually appropriate methods, and/or willingly experience negative emotions while pursuing meaningful personal goals (Gratz & Roemer, 2004).

Childhood Development of Emotion Regulation

Emotional development is one of the primary tasks of childhood and continues across the lifespan. Expression of the basic emotions (anger, joy, sadness, fear, disgust and surprise) begins in infancy (Sroufe, 1979), and infants rely on adults to regulate their emotions. For example, when a child becomes distressed and begins to cry, an adult may respond by comforting the child both physically and verbally so the child's emotional state can return to baseline (Cole, Michel, & Teti, 1994). Adults provide other extrinsic regulation strategies such as pacifiers, toys, and cuddling to help infants and children manage their arousal (Campos, Campos, & Barrett, 1989; Thompson, 1991). As language develops, so does its function in emotion regulation. Initially an extrinsic strategy employed by adults, language eventually becomes an intrinsic strategy used by children to talk or think about their emotions. For children without intellectual disability, language becomes an intrinsic emotion regulation strategy between ages 3 and 6 years (Cole et al., 1994).

During middle childhood, peer relations also contribute to emotion regulation. Children learn how emotion regulation can maintain

social relationships in a number of ways. Appropriate expression of intense or difficult emotions can elicit peer support and too much expression of emotional intensity can push people away at times (Fabes, Eisenberg, Karbon, Troyer, & Switzer, 1994). Disruption in the development of healthy or effective emotion regulation can have many negative consequences including psychopathology.

Emotion Regulation and Psychopathology

There is increasing evidence that emotion regulation may be an integral component of various forms of psychopathology, such as anxiety and mood disorders (Allen, McHugh, & Barlow, 2008) and borderline personality disorder (Linehan, 1993). By viewing emotion regulation as a potential function of various clinical symptom presentations, many clinical features of psychopathology can be identified as maladaptive attempts at regulating emotions that are undesirable (Campbell-Sills & Barlow, 2007; Gross and Munoz, 1995). This highlights the multidimensional nature of emotion regulation in that the road to well-being may not only involve the ability to act in an effective and adaptive manner while experiencing negative emotions, but also require the ability to be aware of and understand one's emotional responses as they are occurring (Gratz & Roemer, 2004). If there is a deficiency in one's ability to experience emotions, differentiate that experience from other emotions, and understand the functionality of the emotional response, then maladaptive efforts to avoid or control that experience may become more likely (Cole et al., 1994; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996).

Individuals with intellectual disabilities reportedly suffer from comorbid psychopathology at rates estimated at three to four times the prevalence rates in the general population (American Psychiatric Association (APA), 2000). Accordingly, it has been argued that mental retardation could be considered as a risk factor or vulnerability to the development of later psychopathology (Masi, 1998). It is possible that this vulnerability reflects a more general vulnerability to develop deficiencies within the various dimensions of emotion regulation. For instance, Sovner and Hurley (1986) have reported that symptom presentations in populations with intellectual disability are affected by limited abilities to interpret internal states, difficulties with expressive and receptive language, limited mental flexibility, and decreased behavioural control and ability to plan ahead. When viewing these characteristics within an emotion regulatory framework, it can be argued that individuals with intellectual disabilities may be vulnerable to deficiencies in the awareness and understanding of their emotional experience, problems with adequately relaying this information to others in an effort to soothe themselves, and there may be an increased tendency to rigidly adhere to a specific self-regulatory response (e.g., aggression or self-injurious behaviours) that may provide short-term relief but also involves significant long-term consequences. Further empirical evidence is necessary to flesh out these hypotheses; however, the literature does provide some preliminary evidence in support of this.

Emotion Regulation Studies in Intellectually Disabled Populations

Emotion Recognition

The majority of studies pertaining to emotion regulation for persons with intellectual disability address the early part of the regulatory process, emotion recognition. Research indicates that individuals with intellectual disability can reliably identify their own emotions (Lindsay et al., 2004; Lindsay, Michie, Baty, Smith, & Miller, 1994; Rose & West, 1999). In general, people with mild to moderate intellectual disability can also recognize and accurately label facial expressions in others (Moore, 2001) and improve this skill with training (Rydin-Orwin, Drake, & Bratt, 1999; Stewart & Singh, 1995).

Moore's (2001) review and the few studies on this topic published after his review specifically conclude: (1) The ability to discriminate pleasant versus unpleasant emotions is equally accurate for individuals with and without intellectual disability. However, intellectually disabled individuals have more difficulty labeling

specific emotions. (Owen, Browning & Jones, 2001); (2) Individuals with intellectual disability are able to label some emotions more easily than others. Across several studies, it appears that happiness is more easily identified (Matheson & Jahoda, 2005; Moore, 2001; Owen, Browning & Jones, 2001; Wishart, Cebula, Willis, & Pitcairn, 2007). On the other hand, identification of a neutral face that does not portray an emotion is more difficult than identification of a positive or negative emotional expression (Moore, 2001).

Two additional studies have examined the relationship between aggressiveness and facial recognition ability. The first (Matheson & Jahoda, 2005) examined the difference in emotion recognition between aggressive and non-aggressive individuals with intellectual disability and found happiness, sadness, and anger were the easiest emotions for all participants to identify regardless of whether they frequently engaged in aggressive behaviour. Furthermore, the aggressive and non-aggressive groups demonstrated comparable abilities for labeling emotions. However, the aggressive group had more difficulty recognizing the emotion when contextually rich emotional photos were presented.

The second study (Jahoda, Pert, & Trower, 2006) found that aggressive participants were no less able to recognize facial affect or take another person's perspective than their non-aggressive counterparts. These findings contradicted the researchers' hypothesis that a deficit in emotion recognition is a significant factor in underlying aggression. Additional research is needed to understand the relationship between emotion recognition and aggression in intellectually disabled populations.

Self and Behavioural Regulation

Research that applies to the later end of the emotion regulation process (directed attention, appraisal, and response) can be found under the terms self-regulation and behavioural regulation, two constructs that overlap with emotion regulation. Much of this research has focused on anger and aggression, as rates of aggression and challenging behaviour are high in this population (Taylor, 2002). Furthermore, this aggression and challenging behaviour has been attributed to a failure to regulate anger as the core element (Black, Cullen, & Novaco, 1997). Cognitive-behavioural treatments have been shown to be effective in treating anger in intellectually disabled populations, however this evidence is not strong due to methodological weaknesses. Furthermore, individual components that appear most supported are non-cognitive in nature, such as relaxation techniques and self-monitoring (Whitaker, 2001). While more behavioural interventions have been found to be effective as well, much of these strategies involve contingency management from external controls, which do not foster self regulation that generalizes into other situations where controls are not available (Taylor, 2002).

Next, there is evidence that individuals with intellectual disabilities utilize a limited repertoire of coping strategies when emotionally aroused (Benson & Fuchs, 1999). However, interventions can assist with purposeful action in the presence of negative emotional arousal. This work can be seen in recent reports on the Stop-Think-Relax self control strategy (Chapman, Shedlack, & France, 2006) as well as mindfulness-based approaches (Singh et al., 2007).

The shift from institutionalization to community integration has greatly increased the necessity for developments in self-regulation strategies as opposed to those that are reliant upon external controls (Chapman et al., 2006). It is this change in emphasis that has brought to the forefront the need for further investigations into emotion regulation and dysregulation within the intellectually disabled community.

Future Directions

The body of literature on emotion and emotion regulation is rapidly expanding. Understanding these concepts and their applications to intellectually disabled population are falling far behind. Many questions remain unexamined, much less unanswered. What is the normative emotional development process for infants and children with intellectual disability? How does emotion regulation develop in persons with intellectual disability? Do emotion regulation abilities develop later in the lifespan than they do for children without intellectual disability?

How do people with intellectual disability utilize language to regulate their emotions? When language abilities are impaired, do other modes of intelligence serve an emotion regulating role? How can emotion regulation be enhanced in children and adults with intellectual disability? How can families best facilitate effective emotion regulation development for persons with intellectual disability?

While effective treatments have been demonstrated for challenging behaviours in this population, the question remains as to what the underlying mechanism is that prompts these gains (Willner, Brace, & Phillips, 2005). Directing research efforts toward the proposed dimensions of emotion regulation (Gratz & Roemer, 2004) may prove fruitful. In order to lay the foundation to be able to answer some of these questions, we recommend the following:

Utilize a Variety of Research Methods. Researchers can begin by replicating the many important emotion and emotion regulation studies that have already been conducted in non-intellectually disabled populations. Observational studies, experimental studies, single case designs, and multiple baseline across subjects designs will all be important. Observational studies can aid in our understanding of the normative process of developing emotion regulation abilities. In addition, future experimental studies should employ matched control groups whenever possible. Whether the groups are matched by mental age or chronological age should be carefully considered and determined by the research question at hand. Most studies should employ a mental-age matched control group. However, a study on whether emotion regulation develops at the same rate for those with and without intellectual disability may require a chronological-age matched control group or both.

Develop Measurement Tools for Children and Adults. The development of reliable and valid methods of assessing the components of emotion regulation in persons with intellectual disability is essential. This represents and overall need as measures assessing emotion regulation in the general population are limited as well (Gratz & Roemer, 2004) This will require multiple modalities, and researchers are encouraged to be creative in developing assessment tools that individuals will engage with and understand. Electronic and video resources may be particularly effective in order to decrease the effect that language ability can have on the ability to complete self-report instruments. Measures should include a control task to control for deficits in information-processing that are not related to emotion regulation (Moore, 2001). Some measures should also be quick and easy to re-administer to allow researchers the ability to observe improvements over time.

Measurement tools should also address or be applicable to a variety of different emotions, as in the case of anger, where tools that reliably assess this emotion are lacking (Taylor, 2002). In particular, researchers need to be aware of the differential emotion recognition abilities for more neutral emotions versus more intense emotions.

Disseminate Information on Emotion Regulation Whenever Possible. Case studies and brief reports can be very useful tools for researchers and clinicians. Our guess is that many mental health providers are teaching emotion regulation skills to clients with intellectual disability. Valuable research can be conducted on small samples as well as with qualitative or simple quantitative methods. Clinicians need this information to be disseminated in order to provide the best treatment possible. Finally with regard to dissemination, studies that examine components of the emotion regulation process should include the term "emotion regulation" in their key words or abstracts so that these articles can be identified in bibliographic databases.

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