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University  
of Glasgow

**Criticism & Praise: The cognitive emotional responses of adults with mild or moderate intellectual disability who display aggression.**

**Major Research Project And Clinical Research Portfolio**

**Volume 1**

(Volume 2 bound separately)

**James Andrew Savage (BSc, MSc, PGDip)**

**Submitted in partial fulfilment of the requirements for the degree of**

**Doctorate in Clinical Psychology (DClinPsy)**

**Institute of Health and Wellbeing**

**College of Medical, Veterinary & Life Sciences**

**University of Glasgow**

**31<sup>st</sup> July 2015**



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## **CHAPTER ONE: SYSTEMATIC REVIEW**

**The relationship between depression and aggressive behaviour in adults with intellectual disabilities. A Critical Review.**

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**31<sup>st</sup> July 2015**

Word Count: 8379

*Submitted in partial fulfilment of the requirements for the degree of  
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*Prepared in accordance with the requirements for submission to the American Journal  
of Intellectual and Developmental Disabilities (See Appendix A).*

## **Abstract**

**Background:** Despite depression being a common source of distress, people with intellectual disabilities can struggle to have their depressive symptoms recognised. The clinical field has attempted to address this issue by considering the utility of behavioural equivalents when diagnosing depression in the intellectually disabled population. The recommendation that aggressive behaviour should be viewed as an alternative symptom of depression remains controversial. Research has produced conflicting evidence regarding the association between depression and aggression within this client group. The current review draws together the literature that examines the relationship between depression and aggressive behaviour in adults with intellectual disabilities. It considers how this association develops across severity of intellectual disability and the use of aggressive behaviour as a depressive equivalent.

**Method:** Published studies were identified by conducting an electronic search of four databases, together with hand searches of key journals and reference lists. Relevant studies were then rated for methodological quality using a structured quality rating scale.

**Results:** Nine studies were considered suitable for review. These produced evidence which supports the association between depression and aggressive behaviour in adults with severe or profound intellectual disability. This relationship was not established in adults with mild or moderate intellectual disability. Methodological limitations made it difficult to draw definitive conclusions.

**Conclusions:** The use of aggressive behaviour as a depressive equivalent was questioned. Future research is required to take on a more unified approach in the conceptualisation of depression and aggression within the intellectually disabled population.

**Key Words:** Intellectual Disability, Depression, Aggressive Behaviour.

## Introduction

There is growing recognition that people with intellectual disabilities tend to experience poorer mental health than the general public. Current estimates indicate that as many as 40.9% of this population may be suffering from an existing psychiatric disorder (Cooper, Smiley, Morrison, Williamson, & Allan, 2007). Although some causes of intellectual disability are associated with the development of mental ill health, a range of dynamic factors also contribute to psychiatric co-morbidity (Horwitz, Kerker, Owens, & Zigler, 2000). These factors not only maintain emotional distress but can exacerbate the additional health inequalities experienced by people with intellectual disabilities (Emerson & Hatton, 2008). The Scottish Government have, therefore, begun to support the equal provision of mental health resource through policies such as “*The Keys to Life (2013)*”.

Depression is a common source of distress for the intellectually disabled population with Cooper et al. (2007) estimating that between 3.6% and 6.6% could be suffering from an existing depressive episode. These estimates of prevalence are significantly higher than figures for the entire UK population (Singleton, Bumpstead, O'Brien, Lee, & Meltzer, 2001) and imply that people with intellectual disabilities are particularly susceptible to depressive disorders. Despite experiencing depression more frequently, people with intellectual disabilities often struggle to have their symptoms recognised. A diagnosis of depression can be complicated by the presence of communication difficulties, behavioural problems and / or physical disability (Hayes, McGuire, O'Neill, Oliver, & Morrison, 2011). Diagnostic overshadowing can also contribute to depression being overlooked, even though some individuals present with similar symptoms to the general population (Hartley & MacLean, 2009). As a result, the prevalence rate of depression is likely to be underestimated within the intellectually disabled population.

In the UK, depression is currently diagnosed by applying criteria outlined by the International Classification of Diseases (ICD-10). This process typically requires someone to self-report their depressive symptoms whilst demonstrating a level of insight into their emotional experience. Such competencies are often impaired by the cognitive and physical deficits of people with intellectual disabilities. The diagnosis of depression is further complicated by the possibility that the intellectually disabled population exhibit atypical signs of psychiatric disorder. The Diagnostic Criteria for

Adults with Learning Disability (DC-LD) was developed in order to address this issue and describes a range of behaviours which are considered to be unique symptoms of mental ill health in people with intellectual disabilities. These 'behavioural equivalents' include observable actions such as tearfulness, loss of speech, social withdrawal and the onset or increase of aggression (Smiley & Cooper, 2003).

There remains uncertainty regarding the use of behavioural equivalents when a diagnosis of depression is being considered (Smiley, 2005). The recommendation that aggressive behaviour should be viewed as an alternative symptom of depression is particularly controversial. This suggestion has limited theoretical support given that the cause of aggression is often multi-faceted (Ramirez, 2003). A number of studies have also failed to establish a link between depression and aggressive behaviour in people with intellectual disabilities (e.g Marston, Perry & Roy, 1997; Reiss & Rojahn, 1993; Tsiouris, Mann, Patti, & Sturmey, 2004). Existing research continues to produce conflicting evidence which, in turn, challenges the reliability of the hypothesis that aggressive behaviour is an atypical symptom of depression.

Literature which investigates the validity of behavioural equivalents appears to have a number of conceptual and methodological limitations. Some studies report on the prevalence of behavioural and depressive symptoms yet fail to explore the relationship between these presentations (i.e. Esbensen & Benson, 2006). Moreover, broad definitions such as 'challenging behaviour' are used to represent multiple forms of aggression that may have independent associations with depression (i.e. Grieve, Jones, & Slupuk, 2007). The small samples and different levels of intellectual disability recruited in some studies further limits the generalisation of results. It is, therefore, difficult to determine whether the different findings being reported are a genuine reflection of the complex interaction between depression and aggressive behaviour, or simply a product of research design, assessment and definition (Allen, 2008).

The current paper sets out to review the existing literature that looks at the relationship between depression and aggressive behaviour in adults with intellectual disabilities. It will expand upon the recent work of Davies and Oliver (2014) by considering how this association develops across different severities of intellectual disability. As recommended by Hemmings (2007), the review will include research that uses a clear definition of aggression. It will consider literature reporting on aggressive behaviour towards others or objects.

## **Review Questions**

The review addresses the following questions:

- a) Is there a relationship between depression and aggressive behaviour in adults with intellectual disabilities?*
- b) Is this relationship more evident in adults with a greater severity of intellectual disability?*

By addressing these questions, it is envisaged that the review will draw conclusions regarding the utility of using aggression as a behavioural equivalent of depression in people with intellectual disabilities.

## Search Strategy

Publications from peer reviewed journals were identified using the following methods.

### Electronic Search

Electronic databases including MEDLINE in process, EMBASE, PsycInfo, Psych Articles and the Psychology Behavioural Science Collection (PBSC) were searched for articles published between 2005 and 2015. Table 1 contains the search terms that were matched onto relevant subject headings and applied in additional key word searches. A full breakdown of the search strategy used for each electronic database is included in Appendix B.

Table 1.

#### *Electronic Search Terms*

<b>Search Terms</b>
Affective Symptom <i>or</i> Affective Disorder <i>or</i> Depression <i>or</i> Mood <i>or</i> Psychiatric <i>or</i> Mental Ill health <i>and</i> Aggression <i>or</i> Anger Problem <i>or</i> Anger Difficulties <i>or</i> Hostile <i>or</i> Violence <i>or</i> Destructive Behaviour <i>or</i> Assault <i>or</i> Challenging Behaviour <i>or</i> Problem Behaviour <i>or</i> Depressive Equivalents <i>and</i> Learning Disabilities <i>or</i> Mental Retardation <i>or</i> Mental Disabilities <i>or</i> Mental Handicap <i>or</i> Intellectual Disabilities <i>or</i> Intellectual Handicap <i>or</i> Developmental Disabilities

### Hand Search

To ensure all relevant journal articles were identified, the content pages and reference lists of the following journals were searched: American Journal of Intellectual and Developmental Disabilities (1997-2015), Journal of Applied Research in Intellectual Disability (1988-2015), Journal of Intellectual Disabilities (1997-2015), Journal of Intellectual Disability Research (1998-2015), Journal on Intellectual and Developmental Disability (1996-2015) and Research in Developmental Disabilities (1987-2015). Reference lists from relevant articles were also checked with any articles sourced.

## **Inclusion Criteria**

Research articles were included in the review if they were published in a peer reviewed journal (2000-2015) and reported upon the association between depression and aggressive behaviour in adults with intellectual disabilities. Inclusion of studies using different diagnostic frameworks was considered essential in reviewing the utility of aggressive behaviour as a depressive equivalent. The review therefore defined depression as the presence of a depressive feature or diagnosis in keeping with the DC-LD, ICD-10 or the Diagnostic and Statistical Manual for Mental Disorders-Forth Edition (DSM-IV-TR). As recommended by Hemmings (2007), the review reported upon a specific type of aggression. It included research articles considering aggressive behaviour (verbal, physical or destructive aggression) directed towards others or property. It was clear from previous literature reviews (i.e. Allen, 2008; Davies & Oliver, 2014) that existing research uses particular methodological approaches to explore the relationship between depression and aggressive behaviour. The current review included research articles which provided statistical data on: i) the association between a diagnosis of depression and aggression, ii) the association between depressive symptoms and aggressive behaviour, iii) aggressive behaviour displayed by depressed and non-depressed adults or, iv) depressive symptoms experienced by aggressive and non-aggressive adults.

## **Exclusion Criteria**

Dissertation abstracts, book chapters and conference proceedings were excluded from the current review. Research was also excluded if it: i) was not written in English, ii) was a review article, iii) used qualitative methodology, iv) recruited participants under the age of 18, v) recruited participants without an intellectual disability, vi) reported upon an atypical or homogenous sample (e.g. only recruiting adults with a specific syndrome) or, vii) explored the relationship between depression and generic behavioural classifications (e.g. 'challenging behaviour') without reporting upon individual forms of aggression.

## **Article Selection**

A flowchart illustrating how articles were selected is provided in Figure 1. After non-article and duplicated content was eliminated, research titles were initially examined for relevance to the review topic. Exclusion criteria (1-6) were applied with non-relevant articles being excluded. Abstracts of the remaining articles were then examined with inclusion criteria (1-4) and exclusion criteria (1-7) being applied. Full text was obtained for articles considered relevant and for all articles identified by hand search. If it was unclear whether an article was relevant from the abstract the full text was obtained to determine relevance. Fifty seven full text articles were reviewed with the inclusion criteria (1-4) and exclusion criteria (1-7) being reapplied. The type of depression and aggression considered by each study was also verified to make sure this was in keeping with the review's definitions. In total, 10 studies were deemed relevant for inclusion within the review.

## **Article Quality and Rating**

Established checklists such as the Consolidated Standard of Reporting Trials guidelines (CONSORT; Altman et al., 2001) were deemed unsuitable as this review is not reporting upon controlled outcome studies. Novel quality criteria were, therefore, developed by drawing upon guidance published by the Scottish Intercollegiate Guidelines Network (SIGN, 2008). A robust research design and the measurement of depression and aggressive behaviour were considered the most important factors in terms of study quality.

Table 2 displays the review's seven quality criteria within a rating scale created to evaluate the methodology of research. Application of the quality rating scale enabled each study to be allocated a quality rating score. In addition to numerical ratings, each study was categorised by its research design before being rated 'excellent', 'good', 'adequate' or 'poor' depending on key research characteristics. Table 3 defines the research characteristics applicable to each categorical quality rating. This system allowed the higher quality studies to be more readily identified whilst recognising that a longitudinal design is superior to a cross sectional design in terms of research quality.



Figure 1:  
Flowchart of Article Selection

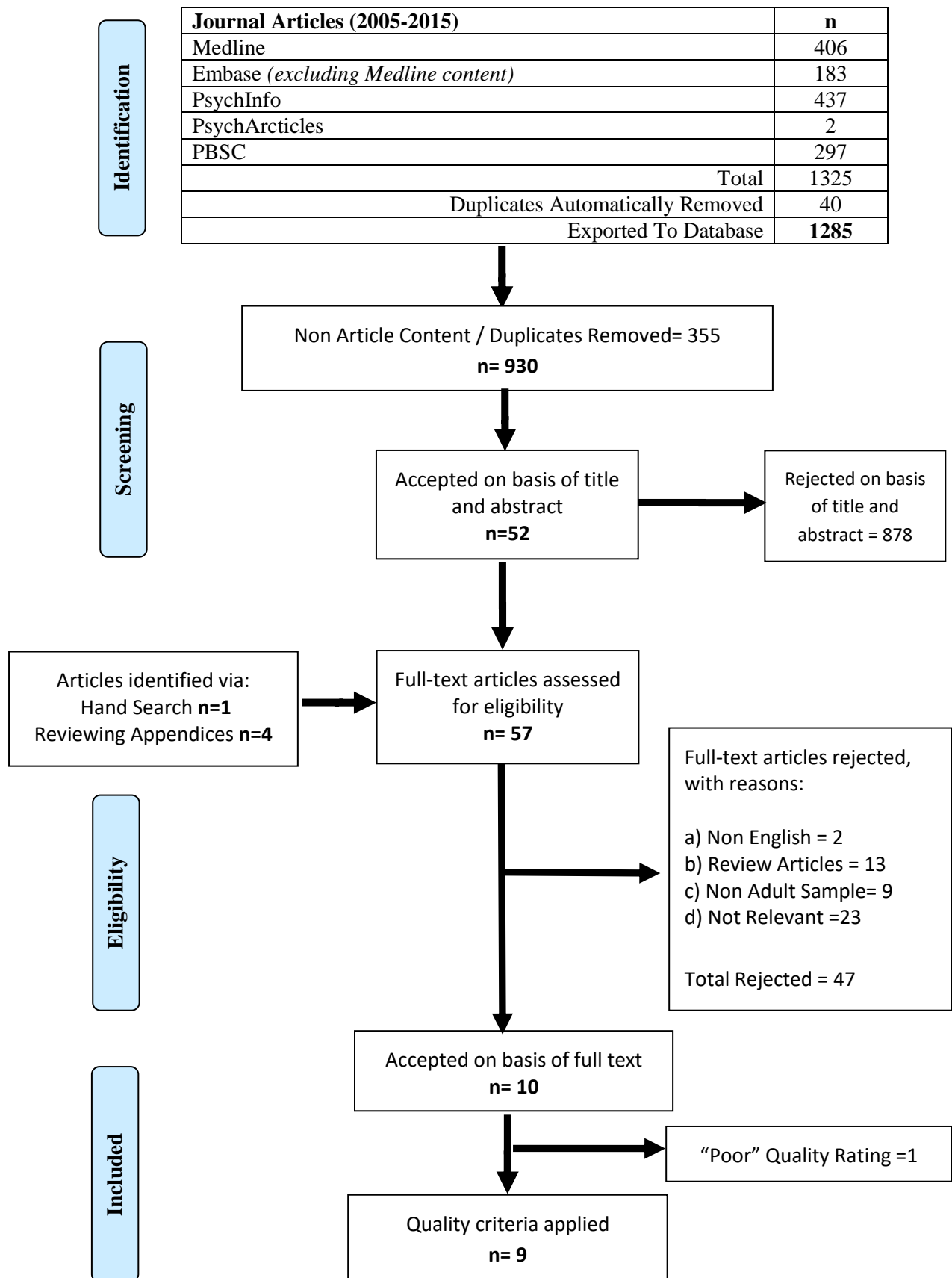


Table 2:

*Quality Rating Scale*

Quality Criteria	Score	Descriptor of Categories
<b>Study Question</b>	2	Clear and focused
	1	Partially focused
	0	Unclear
<b>Sampling Methods</b>	4	Geographical cohort
	3	Random sample
	2	Convenience
	1	Volunteer sample
<b>Sample Characteristics</b>	3	States age, gender, living circumstances and level of intellectual disability
	2	Any 3 of the above reported
	1	Any 2 of the above reported
	0	Only 1 of the above reported
<b>Assessment of Intellectual Disability</b>	3	Standardised measure of intellectual quotient (IQ)
	2	Proxy measures i.e. measure of verbal ability or adaptive functioning
	1	Administratively defined
	0	Not specified or assessed
<b>Assessment of Psychological Wellbeing</b>	3	Measure standardised on sample with intellectual disability
	2	Measure normed on population without intellectual disability (appropriate to design and adapted for use)
	1	Non-standardised measure (appropriate to design and adapted for use including measures with specifications made / clinical diagnosis / administratively defined )
	0	Measure inappropriate to design and to population
<b>Assessment of Aggression</b>	3	Measure standardised on sample with intellectual disability
	2	Measure normed on population without intellectual disability (appropriate to design and adapted for use)
	1	Non-standardised measure (appropriate to design and adapted for use including measures with specifications made / clinical diagnosis / administratively defined )
	0	Measure inappropriate to design and to population
<b>Statistical Analysis</b>	3	Statistical analysis appropriate to design / justification of statistics / intellectual quotient (IQ) analysed in relation to performance on measures
	2	Statistical analysis appropriate to design / intellectual quotient (IQ) analysed in relation to performance on measures
	1	Statistical analysis appropriate to design
	0	Inappropriate statistical analysis

Table 3.

*Quality Ratings*

Rating	Key Research Characteristics
<b>Excellent</b>	Key measures standardised for intellectually disabled Standardised assessment of intellectual quotient (IQ) At least one point on all other quality criteria Quality Rating Score >15
<b>Good</b>	Key measures standardised or adapted for intellectually disabled Standardised assessment of intellectual quotient (IQ) or measure of adaptive functioning At least one point on all other quality criteria Quality Rating Score >10
<b>Adequate</b>	At least one point on each quality criteria Quality Rating Score > 7
<b>Poor</b>	Failure to meet adequate rating

## **Data Extraction**

Ten studies were identified for inclusion in the review. The quality of these papers was reviewed by the author and a second independent rater, a medical consultant, to ensure reliability of the quality rating scores. A Kappa statistic of 0.821 ( $p < 0.001$ ) showed strong inter rater agreement. Quality ratings for each study are displayed in Appendix C. One study (Hurley, 2008) was rejected after being allocated a 'Poor' quality rating. Data were subsequently extracted for nine studies and summarised in Tables 4, 5, 6 and 7.

## **Results**

This review examines nine studies reporting on the association between depression and aggressive behaviour in people with intellectual disabilities. A meta-analytic approach to research integration was not appropriate given that the studies consider unique associations between different conceptualisations of depression / aggressive behaviour and because they each recruited a unique sample of adults with different levels of intellectual disability. A narrative synthesis approach was therefore adopted in order to summarise and critically appraise the relevant literature in a structured manner.

The review is structured into four sections depending on study design and sample: [1] Longitudinal studies, [2] Cross sectional studies: mixed levels of intellectual disability, [3] Cross sectional studies: mild or moderate intellectual disability, and [4] Cross sectional studies: severe or profound intellectual disability. It was envisaged that this approach would support the review to address both its research questions simultaneously. Each section provides a brief synopsis of the relevant research, outlines the research findings, reviews methodological strengths / weaknesses and considers the conclusions that can be drawn. The evidence base supporting and revoking the association between depression and aggressive behaviour is then summarised alongside how this evidence fluctuates over severity of intellectual disability.

## **[1] Longitudinal Studies**

### *Overview of Research*

Cooper et al. (2009) was allocated a 'Good' quality rating and was the only study in the review to have a superior longitudinal design. Details of this research are provided in Table 4. The study investigated the prevalence, incidence and remission rate of aggressive behaviour in adults with intellectual disabilities living in Glasgow, UK. Data on the sample's clinical presentation was gathered at two time points through case file review, carer interview, administration of multiple assessment measures and / or full psychiatric assessment. It was estimated that approximately one in ten adults with an intellectual disability displayed significant levels of aggressive behaviour and that a quarter of these individuals maintained a DC-LD diagnosis after two years. The study reported that depression was not associated with a secondary diagnosis of aggressive behaviour. Findings revealed that aggressive behaviour was correlated with other demographic and health related factors such as gender, level of ability, accommodation history, incontinence and ADHD.

### *Strengths and Limitations*

The work of Cooper et al. (2009) has a number of strengths. The application of DC-LD criteria clearly define the type of aggressive behaviour being explored whilst a longitudinal design, large sample and good cohort retention enable results to be more readily generalised. Despite the study's assessment process appearing to be comprehensive, the use of the C21st Health Check to assess for problem behaviours is questionable given its limited validation. The fact that a high proportion of the sample was known to a specialist health service has further implications as levels of aggression and depression may have been biased by the recruitment of participants requiring and / or receiving therapeutic resource. Although the study had a longitudinal design it did not consider whether depression predicted aggressive behaviour over time. It was therefore, restricted to report upon a cross sectional association given that the study's sample failed to equally represent adults with more severe disabilities, those unknown to services or those unaffected by deprivation.

Table 4.

*[1] Longitudinal Studies*

Author / Design	Quality Rating Score / Category	Variables Considered	Sample	Measures	Main Results Extracted	Methodological Issues
Cooper et al. (2009)  Longitudinal Design	19 Good	Demographics  Lifestyle & Support  Problem Behaviour  Physical & Mental Health	Adults with intellectual disabilities from Greater Glasgow.  N = 1023 M 54.9% F 45.1% Mean Age = 43  Mild 38.9% Moderate 24.2% Severe 18.9% Profound 18.0%  63.6% retention.	Case file review and multiple informant interviews.  A questionnaire captured demographics and information regarding lifestyle and support.  The C21st Health Check (Glasgow UCEDD, 2001) assessed problem behaviours and physical health.  An adapted PAS-ADD Checklist (Moss et al., 1998) assessed mental wellbeing.  Psychiatric assessment was carried out for those with probable aggressive behaviour, psychiatric symptoms or autism.  The Vineland Scale (Sparrow, Balla, & Cicchetti, 1984) assessed ability level.	The prevalence of DC-LD defined aggressive behaviour was 9.8% with a two year incidence of 1.8%. The two year remission rate was 27.7%. Prevalence varied depending on the form of aggressive behaviour.  The prevalence of DC-LD defined depression was 3.8%.  A diagnosis of depression was not associated with a diagnosis of aggressive behaviour ( $p=0.08$ ).  Aggression was associated with demographic and health related factors.	The sample was too small to investigate the factors predictive of aggressive behaviour.  Remission of aggression was perhaps effected by the sample being offered therapeutic intervention from a specialist health service. The type of therapeutic intervention provided was not standardised  DC-LD criteria may increase or decrease the thresholds levels (frequency, severity or behaviour impact) required to be placed in the aggressive group.

## *Conclusions*

While Cooper et al. (2009) provide evidence suggesting that depression is not associated with aggressive behaviour; caution should be taken when considering the significance of these findings. When using any diagnostic criteria there is a threshold to be reached in order to be given a diagnosis. It is possible that aggressive behaviour is associated with levels of depression even if these fail to meet the DC-LD criteria. The study, nonetheless, provides important evidence in relation to the correlation between clinically diagnosed depression and aggressive behaviour, or the lack thereof, within a community setting.

## **[2] Cross Sectional Studies: Mixed Levels of Intellectual Disability**

### *Overview of Research*

As presented in Table 5, five studies investigated the association between depression and aggressive behaviour in a cross section of adults with different levels of intellectual disability. Two studies received a 'Good' quality rating and three received an 'Adequate' quality rating.

Hemmings, Gravestock, Pickard and Bouras (2006) explored whether specific problem behaviours were associated with psychiatric symptoms in people with intellectual disabilities. Administering a psychiatric checklist and sections of the Disability Assessment Schedule the study found that particular depressive symptoms had a direct association with aggressive behaviour. For example, low energy, early wakening and irritable mood were reported to increase the likelihood of aggression.

These findings were later replicated by Allen, Lowe, Matthews and Anness (2012) who administered the same psychiatric checklist and the Challenging Behaviour Scale to examine the association between psychiatric symptoms and behavioural problems in people with intellectual disabilities. The study again found that aggressive behaviour was associated with particular depressive symptoms. The severity of both aggression and destructiveness was also found to have a positive association with a measure of Affective / Neurotic disorder.

Table 5

*[2] Cross Sectional Studies: Mixed Levels of Intellectual Disability*

Author / Design	Quality Rating Score / Category	Variables Considered	Sample	Measures	Main Results Extracted	Methodological Issues
Hemmings et al. (2006)  Cross Sectional	15 Adequate	Demographics  Psychiatric Symptoms  Level of intellectual disability  Social Impairment  Problem Behaviour	Adults with intellectual disabilities from London.  N= 214 Age Range: 18-85 M 49.5% F 50.5%  Mild-Moderate 64% Severe-Profound 36%	Intellectual disability determined from case file or clinical assessment when required.  The PAS-ADD Checklist assessed psychiatric symptoms.  Sections of the Disability Assessment Schedule (DAS: Holmes, Shah & Wing, 1982) measured social impairment and 13 behaviour problems.	14% of the sample displayed aggressive behaviour.  19.2% experienced 'irritable mood', 14.5% 'feeling sad/down' and 10.7% a 'loss of interest'.  A number of affective symptoms were associated with aggressive behaviour, however, the odds of someone displaying aggression were only increased by the presence of: 'early wakening' (OR=4.04, p<0.05), 'loss of energy' (OR=3.72, p<0.05) 'irritable mood' (OR=3.0, p<0.05)	The sample consisted of mostly older adults.  Some of the PAS-ADD Checklist and DAS items were difficult to rate for non verbal participants.  Data collected using the PAS-ADD Checklist and DAS were collapsed into dichotomous categories reducing the complexity of the associations explored.  Logistic regression models do not prove causality. There is the possibility that other factors could have had a differential effect.
Allen et al. (2012)  Cross Sectional	16 Good	Challenging Behaviour  Adaptive Behaviour  Psychological Wellbeing  Psychiatric Symptoms  Frequency of Life Events	Adults with intellectual disabilities from seven Welsh local authority areas.  N = 707 M 42% F 58% Mean Age = 42 Age Range = 18–93  Mean Adaptive Score 155 (13-312)	The Setting Questionnaire (Kiernan & Qureshi 1986) identified adults with more than one behavioural topography depending on the impact of such actions.  The Challenging Behaviour Survey individual schedule (CBS: Alborz, Bromley, Emerson, Kiernan, & Qureshi, 1994) gathered demographics and details of challenging behaviour.  The Adaptive Behaviour Scale: Residential and Community 2 <sup>nd</sup> Ed (ABS: Nihira, Leland, & Lambert, 1993) assessed adaptive functioning.  The PAS-ADD Checklist assessed psychiatric symptoms.	51% of the sample presented with moderate or severe aggression.  6.5% exceeded clinical threshold on an Affective / Neurotic subscale.  Aggressive behaviour was significantly associated with a number of affective symptoms i.e. irritability, decline in self care, reduced concentration, loss of energy  Increasing severity of aggression was significantly correlated with scores on PAS-ADD Affective/Neurotic Disorder subscale (r=0.1, p<0.01)	PAS-ADD checklist is a screening tool not to be used to diagnose conditions. It provides an indication of psychiatric co-morbidity rather than overall prevalence.  As a screening tool the PAS-ADD checklist may overestimate the presence of psychiatric disorder.  The reliability and validity of the PAS-ADD was not assessed in the study.  The study uses a single measure to evaluate its sample's ability level.

Author / Design	Quality Rating Score / Category	Variables Considered	Sample	Measures	Main Results Extracted	Methodological Issues
Langlois & Martin (2008)  Cross Sectional	17 Good	Demographics  Depression  Aggression  Cognitive Performance	Canadian adults with intellectual disabilities.  N = 1302 M 58.6% F 41.4% Mean Age = 51.4 <50 = 43% >50 = 57%  Mild / Moderate 42.2% Severe 57.8%	The InterRAI Intellectual Disability Assessment System (InterRAI-ID: Martin, Hirdes, Fries, & Smith, 2007) collated demographics, documented psychiatric diagnosis and rated an adult on three scales namely: the depression rating scale (reflective of possible clinical depression), the aggressive behaviour scale (reflective of higher levels of aggression) and the cognitive performance scale (a measure used to estimate level of intellectual disability).	15.6% of the sample had a diagnosis of depression in their case file.  Overall adults with a diagnosis of depression were more likely than those without a diagnosis to display physical abuse (OR=2.2, p<0.05), verbal abuse (OR= 3.5, P<0.05), destructive behaviour (OR= 2.1, p<0.05) and a range of depression symptoms including 'outbursts of anger' (OR=2.9, p<0.05),	The sample was mainly older institutionalised adults.  The interRAI ID does not represent all DSM-IV criteria for depression.  DSM-IV criteria may have limited the diagnosis of depression in the more severely impairment and contributed to the under detection of depression. This may have inflated the rate of depressive symptoms in the 'non-depressed' group.  The small number diagnosed with depression limited the study's ability to conduct multivariate analyses.
Tsiouris et al. (2011)  Cross Sectional	17 Adequate	Demographics Disability / Diagnosis Verbal / Sensory Skills Medical / Psychiatric / Treatment History Aggressive Behaviour Behavioural Management	American adults with intellectual disabilities.  N = 4675 Mean Age = 49.6 M 60.1% F 39.9%  Mild 27.9% Moderate 16% Severe 18.6% Profound 37.6%	The Institute for Basic Research - Modified Overt Aggression Scale (IBR-MOAS: Cohen et al., 2010) collated data on the highlighted variables. The severity of aggressive behaviour was assessed in five domains: Physical aggression against 1) Others, 2) Object, or 3) Self and Verbal aggression toward 4) Self or 5) Others. The measure also explored the setting events, behaviour control issues and prevention issues relating to the participant's aggressive behaviour.	83% of the sample engaged in some form of aggressive behaviour.  14% had a diagnosis of depression in their case file.  More adults with a mild or moderate intellectual disability had a diagnosis of depression (21.6%) than those with a more severe intellectual impairment (7.7%).  Depression was associated with an increase in verbal aggression towards others (r=0.143, p<0.01) but not associated with physical forms of aggression.	The sample could not represent the entire New York population of people with intellectual disabilities  The prevalence of psychiatric disorder within the study's sample was high.  Inter-rater reliability of diagnoses with an independent psychiatrist would have strengthened the study.  People with aggressive behaviours were more likely to be referred to mental health services and therefore receive psychiatric diagnoses
Lundqvist (2013)  Cross Sectional	15 Adequate	Behaviour Problems Demographics Disabilities / Psychiatric Disorder Social Activity / Participation Services / Treatment	Swedish adults with intellectual disabilities.  N=915 M 55% F 45% Mean Age = 43.4 Age Range = 18–87  Mild 43.3% Moderate 38.9% Severe 15.6% Profound 2.2%	The Behaviour Problem Inventory (BPI: Rojahn, Matson, Lott, Esbensen, & Mayville, 2001) assessed the frequency and severity of a range of self injurious, aggressive/destructive and stereotypical behaviours. Additional questions covered five areas of interest based on the International Classification of Function, Disability & Health (ICF: World Health Organisation, 2001). These captured data relating to the additional variables highlighted.	34.4% of the sample displayed aggressive / destructive behaviour.  6.1% demonstrated severe aggressive / destructive behaviour.  The prevalence of informant diagnosed depression was 0.98%.  The frequency of aggressive / destructive behaviour was not greater among those with depression than those without (OR=2.4 p>0.05).	There was uncertainty about the extent to which informants had good knowledge of the study's participants. They may have underreported some psychiatric disorders despite having access to medical notes.  The prevalence of people with mild intellectual disabilities may be underestimated due to individuals being unknown to services.  The study has a cross-sectional design which does not imply causality.



In a larger cohort study; Langlois & Martin (2008) used the Intellectual Disability Assessment System to explore the association between psychiatric diagnostic criteria, problem behaviours and depression within both old and young adults. Results suggested that individuals with depression were more likely to display physical and verbal aggression, destructive behaviour and ‘outbursts of aggression’ than those without a diagnosis. This study also found that depressed adults were almost three times more likely to display mild to moderate aggression and over seven times more likely to display aggressive behaviour. Two additional studies compared the frequency of aggressive behaviour in adults with and without a diagnosis of depression.

Tsiouris, Kim, Brown and Cohen (2011) administered an adapted aggression scale to better define the link between particular psychiatric disorders and forms of aggressive behaviour. Findings revealed that adults with depression displayed significantly greater levels of verb but not physical aggression in comparison to those who were not depressed.

Lundqvist (2013) attempted to identify risk markers for behaviour problems by administering an adapted version of the Behaviour Problem Inventory. Results indicated that adults with an informant based diagnosis of depression were not significantly more aggressive than adults without depression. This study also highlighted a number of alternative risk markers for aggression such as gender, age, autism, sleep disturbance and auditory sensitivity.

### *Strengths and Limitations*

The studies reviewed in this section had several methodological strengths. The research recruited relatively large samples and used assessment measures designed for people with intellectual disabilities. Some of the studies reviewed also undertook a more extensive analysis of the association between depression and aggression at a symptomatic level. Despite these strengths, it is possible that the cross sectional design of the research compromised the reliability of findings. Each study recruited a unique sample that was not fully representative of the intellectually disabled population. Some studies recruited a greater proportion of older adults, institutionalised adults or people with specific levels of intellectual disability. This has significant implications for the interpretation of results and for the comparison of

outcomes across studies. The ability to make generalisations from the findings may have been further restricted by the high rates of psychopathology reported in the majority of samples and the fact that none of the studies recruited adults unknown to services. It is possible that assessment bias could have also influenced the associations being explored within the research. In particular, the reliance on informant based reports (i.e. Lundqvist, 2013) and case file diagnoses (i.e. Langlois & Martin, 2008) over psychiatric assessment may have resulted in depression being underestimated within some studies. Across the studies, variation in the classification of depression and / or aggressive behaviour, poses significant challenges. Each study appears to have considered a unique depressive or aggressive presentation and assesses different symptomatology or applies different diagnostic criteria. The association between depression and aggressive behaviour may have, therefore, been influenced by the nature of the study's assessment approach.

### *Conclusions*

The above findings contradicted those reported in the previous section as an association between depression and aggressive behaviour was observed. Depressed adults and those experiencing particular depressive symptoms were more frequently reported to display forms of aggressive behaviour. As highlighted, these outcomes could have been influenced by variations within research design, sampling and assessment approach. In particular, it was observed that no study relied upon direct psychiatric assessment to evaluate whether depression or aggressive behaviour was being displayed at a clinically significant level.

## **[3] Cross Sectional Studies: Mild or Moderate Intellectual Disability**

### *Overview of Research*

Two studies reviewed the comorbidity of depression and aggressive behaviour in a cross section of adults with mild or moderate intellectual disability. One received a “Good” quality rating and the other an “Adequate” rating. Details of the studies are provided in Table 6.

Table 6:

*[3] Cross Sectional Studies - Mild or Moderate Intellectual Disability*

Author / Design	Quality Rating Score / Category	Variables Considered	Sample	Measures	Main Results Extracted	Methodological Issues
Crocker et al. (2007)  Cross Sectional	17 Adequate	Demographics  Aggressive Behaviour  Level of Intellectual Disabilities  Physical / Mental Health  Problem Behaviour  Impulsivity	Canadian adults with mild or moderate intellectual disability.  N =296  M 54.7% F 45.3%  Mean Age = 40.67  Mild 52.2% Moderate 57.8%	The Modified Overt Aggression Scale: (MOAS: Kay, Wolkenfeld, & Murrill, 1988) assessed aggression as did the McArthur Community Violence Instrument (MacCVI: Monahan et al., 2001)  Physical health was assessed using the Medical Outcomes Study Short Form Health Survey (SF-36: Ware & Sherbourne, 1992).  Mental health and problem behaviour were assessed by the Reiss Screen for Maladaptive Behaviour (Reiss, 1988).  The Barratt Impulsiveness Scale -II (BIS-II: Patton, Stanford, & Barratt 1995) assessed impulsive tendencies.	The sample was split into six behavioural groups depending upon MOAS and MacCVI ratings.  Adults in the 'violent' or 'aggressive' group had the highest rates of psychiatric diagnosis ( $\chi^2(5) = 20.35$ , $p < 0.001$ ) and overall psychopathology ( $F(5,290) = 18.39$ , $p < 0.001$ ).  Adults in the 'aggressive' group had the highest scores on the depression-behavioural subscale of the Reiss Screen ( $F(5,290) = 5.18$ , $p < 0.001$ ).  Groups did not differ in their scores on the depression-physical subscale of the Reiss Screen.	Forms of aggressive behaviour were not well represented by the study.  Adults in each behavioural group displayed other forms of aggressive behaviour.  Frequency of behaviour was not considered when participants were divided into groups.  The study does not represent adults who are not in contact with services.  Carer reports are perhaps biased by a tendency to report more severe behaviours.  The study cannot infer any causal relationships.
Tenneij et al. (2009)  Cross Sectional	13 Good	Demographics  Psychiatric History  Breakdown of Aggressive Incidents  Psychological Emotional & Behavioural Disturbance	Dutch psychiatric inpatients with mild intellectual disabilities.  N = 108  M 76% F 24%  Average age =26.4  Average IQ = 65.6 (SD = 10.3)	An adapted version of the DSM-III-R Checklist (Hudziak et al., 1993) assessed demographics and psychiatric history.  The Staff Observation Aggression Scale Revised (SOAS-R: Nijman & Palmstierna, 2002) was completed over 12 months for each aggressive incident observed within four psychiatric wards.  The Adult Behaviour Checklist (ABCL; Achenbach & Rescorla, 2003) assessed for emotional and behavioural problems.	Depending on SOAS-R ratings the sample was divided into 3 behavioural groups.  A diagnosis of affective disorder was received by 7.3% of the 'no aggressive' group and 6.1% of the 'mild' and 'severe' aggressive groups combined.  Scores on the ABCL Anxious-Depressed scale were not statistically different ( $F(2,104) = 1.03$ , $P = 0.36$ ) across groups.  Compared to the 'No aggressive' group, the 'severe' group had significantly greater scores on the majority of ABCL scales	The study's groups were based on an incident based measure of aggression. It is possible that some incidents were not reported by staff and possibly resulted in some clients being wrongly categorised.  The reliability of the DSM-IV Checklist to integrate clinical information was not fully verified.  As IQ was assessed by different measures it was not possible to examine relationships between IQ and aggression

Crocker, Mercier, Allaire, and Roy (2007) explored how different patterns of aggression related to specific psychosocial factors. Two validated measures of aggression were used in the study to separate participants into six groups. Each group presented with different types of behaviour and were classified as either 1) Quiet, 2) Acting out, 3) Aggressive, 4) Violent, 5) Sexual, or 6) Self mutilating. The study compared the six groups using supplementary measures of physical and psychological well being. Results suggested that adults who displayed aggressive or violent behaviour experienced greater rates of psychopathology. In particular, the 'aggressive' group was reported to display behavioural symptoms of depression more frequently than adults in the other groups. In contrast, suicidal behaviour and physical symptoms of depression were displayed at the same rate across groups.

Using a different method; Tenneij, Didden, Stolker, and Koot (2009) attempted to identify markers that would differentiate psychiatric inpatients who displayed particular forms of aggression. The study collected data retrospectively from aggression scales that had been routinely completed over a 12 month period. This was used to separate inpatients into three groups, those that displayed 1) No aggressive, 2) Mild aggressive, or 3) Severely aggressive behaviour. The study then compared these aggressive groups on measures of psychiatric, emotional and behavioural disturbance. The three aggression groups gave consistent responses on measures of anxiety and depression. The 'severe aggression' group was found to report a significantly higher level of internalized symptoms, a trait previously associated with depression (Tenneij & Koot, 2007).

### *Strengths and Limitations*

In Tenneij et al. (2009), the assessment battery was carried out by clinical professionals, thus, enhancing the validity of the psychiatric assessment. The efforts made in each study to separate and compare different behavioural presentations was also considered a strength, as was the statistical rationale provided by Crocker et al. (2007). A limitation was that both studies categorised participants into behavioural groups depending on either retrospective or incident based ratings. Both of which were vulnerable to staff omission or overestimation and may have contributed to some participants being placed into the wrong group. Each participant group contained adults who engaged in a diverse range of aggressive behaviours. The rate

that specific types of behaviour (i.e. self-injury) were displayed in each group was not controlled for and could have influenced group comparisons. Both studies also disregarded potential treatment effects and failed to recruit a suitable control group. For example, 80.4% of the 'no aggressive behaviour' group in Tenneij et al. (2009) were hospitalised for aggression whilst the 'Quiet' group in Crocker et al. (2007) still displayed forms of aggressive behaviour. Tenneij et al.'s (2009) recruitment of an inpatient sample with greater levels of psychopathology and aggression further limited the generalisation of results.

### *Conclusions*

The research in this section produced conflicting findings. One study suggests that specific symptoms of depression may be more evident in those who display particular topographies of aggression, while the other reported no mood variation within adults who display different severities of aggression. It appears that methodological limitations may explain the disparity in these results. In particular, group comparisons were limited by the lack of suitable control groups and the recruitment of participants who displayed multiple forms of aggressive behaviour.

## **[4] Cross Sectional Studies - Severe or Profound Intellectual Disability**

### *Overview of Research*

One study reported on the association between depression and aggressive behaviour in a cross section of adults with mainly severe or profound intellectual disability. The study received a 'Good' quality rating with details of the research being provided in Table 7.

Turygin, Matson, MacMillan, and Konst (2013) utilised a measure of psychopathology and a problem behaviour scale to explore the relationship between symptoms of depression and challenging behaviour in a sample of intellectually disabled adults with and without Autistic Spectrum Disorder (ASD). Results indicated that symptoms of depression were associated with aggressive, destructive and self injurious behaviour in the overall sample. The study also reported that

Table 7:

*[4] Cross Sectional Studies - Severe or Profound Intellectual Disability*

Author / Design	Quality Rating Score / Category	Variables Considered	Sample	Measures	Main Results Extracted	Methodological Issues
Turygin et al. (2013)  Cross Sectional	14 Good	Demographics  Level of Intellectual Disability  Autistic Spectrum Disorder  Psychiatric Symptoms  Challenging Behaviour	American adults with intellectual disabilities and neurodevelopmental disorder.  N= 332 M 54% F 46%  Mild 4.5% Moderate 5.7 % Severe 13.6% Profound 76.5%  ASD 19% PDD-NOS 31% No PDD 50%	The Autism Spectrum Disorders-Behaviour Problems for Adults (ASD-BPA: Matson & Rivet 2008) assessed a range of aggressive / destructive, stereotypical, self-injurious, and disruptive behaviours.  The Diagnostic Assessment for the Severely Handicapped-Second Edition (DASH-II: Matson 1995) assessed symptoms of psychopathology in eight domains: impulse control, organic disorders, anxiety, depression, mania, ASD/PDD, schizophrenia, and stereotypies.	Depression scores were moderately correlated with aggression, ( $r=0.4$ , $p<0.05$ ), destruction ( $r=0.39$ , $p<0.05$ ) and self injurious behaviour ( $r=0.31$ , $p<0.05$ ) in the overall sample.  The sample was then divided into those with ASD, PDD-NOS or without PDD.  Aggression ( $r=.40$ , $p<.05$ ) and disruptive ( $r=.35$ , $p<.05$ ) behaviour were moderately associated with depressive symptoms in those without PDD. There was a mild association between depressive symptoms and self injury ( $r=.15$ , $p<.05$ ).  The association between depressive symptoms and aggressive behaviour did not differ in those with ASD, PDD-NOS or without PDD.	The study's cross sectional design limits the generalisation of results to the entire population.  Adults with more severe disabilities may present with more "atypical" or behavioural features of depression. It is unclear whether the identified associations are evident in all types of depression.  A section of the sample consists of adults with mild or moderate intellectual disability. This prohibits the results from being generalised to sub sections of the population.  The study did not report how an ASD/PDD-NOS diagnosis was assessed or captured.  The study does not consider how particular demographics influenced the associations explored.

symptoms of depression continued to have a moderate association with aggression and disruptive behaviour in adults without co morbid ASD. Self-injurious behaviour was additionally found to have a small but noteworthy association with depressive symptoms in this group.

### *Strengths and Limitations*

The study has a number of strengths. Each participant's intellectual disability was diagnosed by a clinician using a standardised assessment battery. The measures used were also standardised for people with intellectual disabilities. Findings were further strengthened by the study analysing the associations between aggression and depression in adults with and without ASD. The study, however, did not report how participants were diagnosed or screened for neurodevelopmental disorder. The research was also limited by its inability to comment upon the effect that moderating variables (i.e. verbal ability, physical disability) may have had on the established correlations.

### *Conclusions*

The study provided evidence suggesting that aggressive behaviour may be predictive of depressive symptoms in adults with more severe intellectual disability. It is possible, however, that this association was partly due to the inclusion of behavioural symptoms in the assessment of depression. As the study highlights, the measure of psychopathology considers both typical and atypical symptoms (i.e. irritability and restlessness) of depression. The latter are not used when diagnosing depression in the general population and may be independently associated with other depressive equivalents such as aggression. As a result, it may be that depression will only be associated with aggressive behaviour when additional behavioural equivalents are used to diagnose depression.

## **Discussion**

The purpose of the current review was to establish whether research over the last decade has helped to clarify the relationship between depression and aggressive behaviour in adults with intellectual disabilities. It was anticipated that in doing so, the review would assist others to consider the utility of aggression as a ‘behavioural equivalent’ for depression. In keeping with previous literature reviews (Allen, 2008; Davies & Oliver, 2014; McBrien, 2003) evaluation of the evidence base continues to produce a range of inconsistent findings.

### **Evidence Supporting a Relationship**

Five studies provided evidence suggesting there is a relationship between depression and aggressive behaviour in adults with intellectual disabilities. Depressive symptoms were found to have an association with both aggressive and destructive behaviour (Hemmings et al. 2006; Turygin et al., 2013). An increasing severity of aggression was also correlated with a measure of depressive symptoms (Allen, 2012). Those with a documented diagnosis of depression were further shown to display greater levels of physical and verbal aggression than those without a diagnosis (Langlois & Martin, 2008; Tsiouris et al., 2011).

Such findings support earlier research which has previously linked depression with aggressive behaviour in the intellectually disabled population. For example; Bihm, Poindexter and Warren (1998) reported several associations between measures of aggression and the physical / behavioural symptoms of depression. Rojahn, Matson, Naglieri and Mayville (2004) also found that adults who display serious aggression were more than twice as likely to report significant depressive symptoms. Moreover, Reiss and Rojahn’s (1993) findings support a joint occurrence of depression and aggressive behaviour in children and adults with intellectual disabilities.

### **Evidence Disputing a Relationship**

The previously discussed research, with the exception of Hemmings et al (2006), recruited adults with predominantly severe or profound intellectual disability. In contrast, the review’s remaining four studies based their findings on



adults with primarily mild or moderate intellectual disability. Interestingly, these latter studies produced conflicting evidence about the association between depression and aggressive behaviour.

Adults diagnosed with depression were not found to display more significant levels of aggressive or destructive behaviour than those without a diagnosis (Cooper et al., 2009; Lundqvist, 2013). Aggressive inpatients were also reported to experience similar rates of affective disorder than those who were not aggressive (Tenneij et al., 2009). This was in keeping with an extensive body of previous research which fails to find an association between depression and aggressive behaviour in adults with intellectual disabilities (Holden & Gitlesen, 2003; Meins, 1995; Moss et al., 2000; Ross & Oliver, 2002; Tsiouris et al., 2004). Most recently, Willner et al. (2013) published a randomised control trial which used the Glasgow Depression Scale (GDS: Cuthill, Espie, & Cooper, 2003) as an outcome measure. This study found that a group based anger management intervention did not improve depression scores despite enhancing strategies for coping with anger and reducing forms of aggressive behaviour. These findings are interesting, as they support the hypothesis that depression and aggressive behaviour are two independent presentations.

### **Severity of Intellectual Disability**

No study has examined how the relationship between depression and aggressive behaviour varies across adults with a different severity of intellectual disability. The current review found evidence supportive of this association tended to be generated by studies that mainly recruited adults with severe or profound intellectual disabilities. Given this observation, it is worth considering whether the relationship between depression and aggressive behaviour is more evident within particular sections of the intellectually disabled population. Such a hypothesis, appears to reinforce previously held ideas (Martson, Perry, & Roy, 1997; Smiley & Cooper, 2003) about the use of behavioural equivalents in adults with more severe intellectual disability. Regrettably, there are a restricted number of studies (i.e. Bihm et al., 1998; Ross & Oliver, 2002) which have exclusively recruited adults with severe or profound intellectual disabilities. There are also limitations to this research such as the heavy reliance on carer reports when assessing for depression. As a

result, the relationship between depression and aggressive behaviour has not been fully validated in sub-sections of the intellectually disabled population.

### **Limitations of Evidence Base**

Recent studies, which have attempted to examine whether aggressive behaviour can be considered a sign of depression, show a number of methodological limitations. Firstly, the research is restricted to report on findings taken from cross-sectional samples that do not fully represent the intellectually disabled population. In particular, the majority of the studies were unable to account for adults who were unknown to services. Given that ‘challenging behaviour’ is a common reason for people with intellectual disabilities to be referred to community learning disability teams, depressed adults attending these services may be more likely to display additional behaviours such as aggression. As a result, the studies could be accused of under representing those in the community who are depressed but do not display aggressive behaviour. This limitation has significant implications for the generalisation of research findings.

The reliability of the research was also restricted by the failure of some studies to use matched controls or fully account for potential confounding variables. For example, treatment effects were not controlled for despite the strong possibility that pharmacological intervention would uniquely influence the severity of depression and / or aggressive behaviour that an individual presents with. Additional co-morbidities (i.e. pain, physical ill health, verbal ability) were also not considered despite potentially having a stronger association with the display of aggressive behaviour than an individual’s mood.

The research may have been further influenced by sources of assessment bias. Across studies, there was limited consensus regarding the diagnostic criteria or assessment measures used to define depression or aggressive behaviour. The studies that recruited adults with more severe forms of intellectual disability tended to use behavioural equivalents to assess for depression whilst those that recruited adults with milder forms of intellectual disability evaluated depressive symptoms common to the general population. Studies also used varied assessment approaches to evaluate aggression, with research assessing either generic or distinct forms of aggressive behaviour. As a result, the reported associations between depression and aggressive behaviour could have been heavily influenced by how these two diagnostic

constructs were defined and then evaluated. In particular, studies assessing for behavioural symptoms of depression (i.e. irritability, restlessness) were perhaps more likely to report significant findings as these behavioural equivalents have a stronger association with aggressive behaviour than other self reported depressive symptoms. Moreover studies assessing for behavioural symptoms of depression often relied upon carer reports. Whilst these measures are more appropriate for adults with severe or profound intellectual disability, they remain vulnerable to bias. Research findings may, therefore, be dependent on whether the study used an assessment approach based upon self or carer based report.

Overall the methodological approaches used in the research meant that each study reported upon cross sectional associations whose causality could not be inferred.

### **Aggression as a ‘Behavioural Equivalent’**

Given the limitations of the evidence base it is perhaps surprising that aggressive behaviour continues to be considered as an alternative symptom of depression. Of note, however, was that the review did find some evidence supporting a potential relationship between depression and aggressive behaviour in adults with more severe intellectual disability. Emerson, Moss, and Kiernan (1999), suggest that this association could occur for a number of reasons. Depression and aggressive behaviour may be related by a common aetiological pathway, through aggression developing secondary to depression or because symptoms of low mood heighten the possibility of interpersonal conflict and subsequent aggression. It is also possible that aggression occurs as an inadvertent side effect of medication prescribed for depression. The discovery of a significant relationship between depression and aggressive behaviour does not, therefore, confirm that these actions should be considered behavioural equivalents of depression. Incorporating behaviour disorders into wider psychiatric classifications has negative implications for future interventions and risks obscuring the complex relationship that may exist between conditions that have a different aetiology (Allen, 2008).

A number of authors have already proposed models that acknowledge the complexity of the interaction between challenging behaviour and psychiatric illness (Allen, 2008; Glick & Zigler, 1995; Lowry, 1998). Future research should draw

upon this conceptual literature to more extensively consider the different factors which may lead someone who is depressed to display aggressive behaviour.

### **Conclusion**

Research within the last decade has produced evidence which supports the association between depression and aggressive behaviour in adults with severe or profound intellectual disability. This relationship has yet to be established in adults with mild or moderate intellectual disability. Methodological issues are likely to contribute to the conflicting findings from research in this area. In particular, some studies consider behavioural symptoms of depression whilst others evaluate psychological constructs less likely to overlap with behavioural difficulties. Future research is required to take on a more unified approach in the conceptualisation of depression and aggressive behaviour within the intellectually disabled population. Only then, will the potential relationship between these two clinical presentations be successfully explored.

## References

- Achenbach, T., & Rescorla, L. (2003). *Manual for the ASEBA adult forms & profiles*. Burlington, VT: University of Vermont.
- Alborz, A., Bromley, J., Emerson, E., Kiernan, C. & Qureshi H. (1994). *Challenging Behaviour Survey: Individual Schedule*. UK: Hester Adrian Research Centre.
- Allen, D. (2008). The relationship between challenging behaviour and mental ill-health in people with intellectual disabilities: A review of current theories and evidence. *Journal of Intellectual Disabilities*. **12(4)**, 267-294. doi: 10.1177-1744629508100494.
- Allen, D., Lowe, K., Matthews, H., & Anness, V. (2012). Screening for Psychiatric Disorders in a Total Population of Adults with Intellectual Disability and Challenging Behaviour Using the PAS-ADD Checklist. *Journal of Applied Research in Intellectual Disabilities*. **25(4)**, 342-349. doi: 10.1111/j.1468-3148.2011.00670.
- Altman, D.G., Schulz, K.F., Moher, D., Egger, M., Davidoff, F., Elbourne, D., Gøtzsche, P.C., & Lang, T. (2001). The revised CONSORT statement for reporting randomized trials: explanation and elaboration. *Annals of Internal Medicine*. **134(8)**, 663-94. doi: 10.7326/0003-4819-134-8-200104170-00012.
- Bihm, E.M., Poindexter, A.R., & Warren, E.R. (1998). Aggression and Psychopathology in Persons with Severe or Profound Mental Retardation. *Research in Developmental Disabilities*. **19(5)**, 423–438. doi: 10.16/s0914222(98)00015-8.
- Cohen, I. L., Tsiouris, J. A., Flory, M. J., Kim, S. Y., Freedland, R., Heaney, G., Pettinger, J. & Brown, W. T. (2010). A large scale study of the psychometric characteristics of the IBR modified overt aggression scale: Findings and evidence for increased self-destructive behaviors in adult females with autism spectrum disorder. *Journal of autism and developmental disorders*. **40(5)**, 599-609. doi: 10.1007/s10803-009-0908z.

Cooper, S. A., Smiley, E., Morrison, J., Williamson, A., & Allan, L. (2007). Mental ill-health in adults with intellectual disabilities: prevalence and associated factors. *The British Journal of Psychiatry*. **190**(1), 27-35. doi: 10.1192/bjp.bp106.022483.

Cooper, S. A., Smiley, E., Jackson, A., Finlayson, J., Allan, L., Mantry, D., & Morrison, J. (2009). Adults with intellectual disabilities: prevalence, incidence and remission of aggressive behaviour and related factors. *Journal of Intellectual Disability Research*. **53**(3), 217-232. DOI: 10. doi: 10.1111/j.1365-2788.01060.

Crocker, A. G., Mercier, C., Allaire, J.F., & Roy, M.E. (2007). Profiles and correlates of aggressive behaviour among adults with intellectual Disabilities. *Journal of Intellectual Disability Research*. **51**(10), 786-801. doi: 10.1111/j.1365-2788.2007.00953.

Cuthill, F. M., Espie, C. A., & Cooper, S. A. (2003). Development and psychometric properties of the Glasgow Depression Scale for people with a Learning Disability Individual and carer supplement versions. *The British Journal of Psychiatry*. **182**(4), 347-353. doi: 10.1192/bjp.182.4.347.

Davies, L. E., & Oliver, C. (2014). The purported association between depression, aggression, and self-injury in people with intellectual disability: a critical review of the literature. *American Journal on Intellectual and Developmental disabilities*. **119**(5), 452-471. doi: 10.1352/1944-7558-119.5.452.

Emerson, E., Moss, S. & Kiernan, C. (1999). 'The Relationships between Challenging Behaviour and Psychiatric Disorders in People with Intellectual Disabilities', In: *Psychiatric and Behavioural Disorders in Developmental Disabilities and Mental Retardation*. (Eds: N. Bouras), pp. 38-48. Cambridge: Cambridge University Press.

Emerson, E., & Hatton, C. (2008). The self-reported well-being of women and men with intellectual disabilities in England. *American Journal on Mental Retardation*. **113**, 143-55. doi: 10.1352/0985-8017(2008)113[143:SWOWAM]2.o.co.2.

Esbensen, A. J., & Benson, B. A. (2006). A prospective analysis of life events, problem behaviours and depression in adults with intellectual disability. *Journal of Intellectual Disability Research*. **50(4)**, 248-258. doi: 10.1111/j.1365-2788.2005.00816x

Glasgow UCEDD (2001). *The C21st Health Check*. Glasgow: University of Glasgow.

Glick, M., & Zigler, E. (1995). Developmental differences in the symptomatology of psychiatric inpatients with and without mild mental retardation. *American Journal on Mental Retardation*. **99**, 407-417.

Grieve, A., Jones, A. & Slupuk, S. (2007). 'A Study of the Relationships between Mental Illness, Epilepsy and Challenging Behaviour in a Sample of People with Learning Disabilities Living in the Highlands of Scotland'. *Clinical Psychology & People with Learning Disabilities*. **5**: 2-9.

Hartley, S. L., & MacLean, W. E. (2009). Depression in adults with mild intellectual disability: Role of stress, attributions, and coping. *American Association on Intellectual and Developmental Disabilities*. **114(3)**: 147-160. doi: 10.1352/1944-7588-114.3.147.

Hayes, S., McGuire, B., O'Neill, M., Oliver, C., & Morrison, T. (2011). Low mood and challenging behaviour in people with severe and profound intellectual disabilities. *Journal of Intellectual Disability Research*. **55(2)**, 182-189. doi: 10.1111/j.1365-2788.2010.01355.

Hemmings, C. P. G., Gravestock, S., Pickard, M., & Bouras, N. (2006). Psychiatric symptoms and problem behaviours in people with intellectual disabilities. *Journal of Intellectual Disability Research*. **50(4)**, 269-276. doi: 10.1111/j.1365-2788.2006.00827.

Hemmings, C. (2007) 'The Relationship between Challenging Behaviours and Psychiatric Disorders in People with Severe Intellectual Disabilities', In: *Psychiatric and Behavioural Disorders in Intellectual and Developmental Disabilities*, (Eds: N. Bouras & G. Holt). pp. 62-75. Cambridge : Cambridge University Press. doi: 10.1017/CB09780511543616.005.

Holden, B., & Gitlesen, J. P. (2003). Prevalence of psychiatric symptoms in adults with mental retardation and challenging behaviour. *Research in Developmental Disabilities*. **24**(5), 323-332. doi: 10.1016/s0891-4222(03)0060-x.

Holmes, N., Shah, A., & Wing, L. (1982). The Disability Assessment Schedule: a brief screening device for use with the mentally retarded. *Psychological Medicine*. **12**(04), 879-890. doi: 10.1017/s0033291700049175.

Horwitz, S.M., Kerker, B.D., Owens, P.L., & Zigler, E. (2000). *The health status and needs of individuals with mental retardation*. New Haven CT: Yale University.

Hudziak, J., Helzer, J., Wetzel, M., Kessel, K., McGee, B., Janca, A., et al. (1993). The use of the DSM-III-R Checklist for initial diagnostic assessments. *Comprehensive Psychiatry*. **34**, 375–383. doi: 10.1016/0010-440x(93)90061-8.

Hurley, A. D. (2008). Depression in adults with intellectual disability: Symptoms and challenging behaviour. *Journal of Intellectual Disability Research*. **52**(11), 905-916. doi: 10.1111/j.1365-2788.2008.01113.

Kay, S. R., Wolkenfeld, F., & Murrill, L. M. (1988). Profiles of aggression among psychiatric patients: II. Covariates and predictors. *The Journal of Nervous and Mental Disease*. **176**(9), 547-557.

Kiernan, C., & Qureshi, H. (1993) Challenging behaviour. In: *Research to Practice? Implications of Research on the Challenging Behaviour of People with Learning Disability* (Eds: C. Kiernan), pp 53–65. Clevedon: Bild Publications.



Langlois, L., & Martin, L. (2008). Relationship between diagnostic criteria, depressive equivalents and diagnosis of depression among older adults with intellectual disability. *Journal of Intellectual Disability Research*. **52(11)**, 896-904. doi:10.1111/j.1365-2788.2008.01041.

Lowry, M. A. (1998). Assessment and treatment of mood disorders in persons with developmental disabilities. *Journal of Developmental and Physical Disabilities*. **10(4)**, 387-406. doi: 10.1023/A:1021858622501.1056-263.

Lundqvist, L. O. (2013). Prevalence and risk markers of behavior problems among adults with intellectual disabilities: A total population study in Örebro County, Sweden. *Research in Developmental Disabilities*. **34(4)**, 1346-1356. doi: 10.1016/j.ridd.2013.01.010.

Marston, G. M., Perry, D. W. & Roy, A. (1997). Manifestations of depression in people with intellectual disability. *Journal of Intellectual Disability Research*. **41**, 476-80. doi: 10.1111/j.1365-2788.1997.tb00739.

Martin, L., Hirdes, J. P., Fries, B. E., & Smith, T. F. (2007). Development and psychometric properties of an assessment for persons with intellectual disability - The interRAI ID. *Journal of Policy and Practice in Intellectual Disabilities*. **4(1)**, 23-29. doi: 10.1111/j.1741-1130.2006.00094.

Matson, J. L. (1995). *The diagnostic assessment for the severely handicapped, revised (DASH-II)*. Baton Rouge: Disability Consultants, LLC.

Matson, J. L., & Rivet, T. T. (2008). Reliability and factor structure of the Autism Spectrum Disorders-Behavior Problems for Adults (ASD-BPA) with intellectual disabilities and autism. *Journal of Mental Health Research in Intellectual Disabilities*. **1(1)**, 34-47. doi: 10.1080/19315860701674498.

McBrien, J. A. (2003). Assessment and diagnosis of depression in people with intellectual disability. *Journal of Intellectual Disability Research*. **47(1)**, 1-13. doi: 10.1046/j.1365-2788.2003.00455.

Meins, W. (1995). Symptoms of major depression in mentally retarded adults. *Journal of Intellectual Disability Research*. **39(1)**, 41-45. doi: 10.1111/j.1365-2788.1995.tb00912.

Monahan, J., Steadman, H. J., Silver, E., Appelbaum, P. S., Robbins, P., Mulvey, E. P., Roth, L.H., Grisso, T. & Banks, S. (2001). *Rethinking Risk Assessment: the Macarthur Study on Mental Disorder and Violence*. NewYork: Oxford University Press.

Moss, S., Prosser, H., Costello, H., Simpson, N., Patel, P., Rowe, S., Turner, S. & Hatton, C. (1998). Reliability and validity of the PAS-ADD Checklist for detecting psychiatric disorders in adults with intellectual disability. *Journal of Intellectual Disability Research*. **42(2)**, 173-183. doi: 10.1046/j.1365-2788.1988.00116.

Moss, S., Emerson, E., Kiernan, C., Turner, S., Hatton, C., & Alborz, A. (2000). Psychiatric symptoms in adults with learning disability and challenging behaviour. *The British Journal of Psychiatry*. **177(5)**, 452-456. doi: 10.1192/bjp.177.5.452.

Nihira, K., Leland, H. & Lambert, N. (1993). *Adaptive Behavior Scale – Residential and Community, 2nd edition*. Austin, TX: Pro-Ed.

Nijman, H., & Palmstierna, T. (2002). Measuring aggression with the staff observation aggression scale– revised. *Acta Psychiatrica Scandinavica*. **106(s412)**, 101-102. doi: 10. 1034/j.1600-0447.106s412.21.

Patton, J. H., Stanford, M. S., & Barratt, E. S. (1995). Factor structure of the Barratt impulsiveness scale. *Journal of Clinical Psychology*. **51**, 768-74. doi: 10.1002/1097-4679(19511)51:6<768.

Ramirez, J. M. (2003). *Human aggression: A multifaceted phenomenon*. Madrid: Centreur.

Reiss S. (1988). *Reiss Screen*. Worthington, OH: IDS Publishing Company.

Reiss, S., & Rojahn, J. (1993). Joint occurrence of depression and aggression in children and adults with mental retardation. *Journal of Intellectual Disability Research*. **37**(3), 287-294. doi: 10.1111/j.1365-2788.1993.tb01285.

Rojahn, J., Matson, J. L., Lott, D., Esbensen, A. J., & Smalls, Y. (2001). The Behavior Problems Inventory: An instrument for the assessment of self-injury, stereotyped behavior, and aggression/destruction in individuals with developmental disabilities. *Journal of Autism and Developmental Disorders*. **31**(6), 577-588. doi: 10.1023/A:1013299028321.

Ross, E., & Oliver, C. (2002). The relationship between levels of mood, interest and pleasure and 'challenging behaviour' in adults with severe and profound intellectual disability. *Journal of Intellectual Disability Research*. **46**(3), 191-197.

Rojahn, J., Matson, J. L., Naglieri, J. A., & Mayville, E. (2004). Relationships between psychiatric conditions and behavior problems among adults with mental retardation. *American Journal of Mental Retardation*. **109**(1), 21-33. doi: 10.1007/s10803-011-1320z.

Scottish Government. (2013). "The Keys to Life". [ONLINE] Available at: <http://www.scotland.gov.uk/Resource/0042/00424389.pdf>. [Accessed 23/11/14].

Scottish Intercollegiate Guidelines Network (2008). *SIGN 50: A guideline developer's handbook*. Edinburgh. SIGN.

Singleton, N., Bumpstead, R., O'Brien, M., Lee, A., & Meltzer, H. (2001) *Psychiatric Morbidity Among Adults Living In Private Households, 2000*. London: The Stationery Office.

Smiley, E., & Cooper, S.A. (2003). Intellectual disabilities, depressive episode, diagnostic criteria and Diagnostic Criteria for Psychiatric Disorders for Use with Adults with Learning Disabilities/Mental Retardation (DC-LD). *Journal of Intellectual Disability Research*. **47**(s1), 62–71. doi: 10.1040/j.1365-2788.47.s1.26.

Smiley, E. (2005). Epidemiology of mental health problems in adults with learning disability: an update. *Advances in Psychiatric Treatment*. **11(3)**, 214-222. doi: 10.1192/apt.11.3.214.

Sparrow S. S., Balla D. A. & Cicchetti D.V. (1984) *A Revision of the Vineland Social Maturity Scale by E A Doll*. MN: American Guidance Service Inc, Circle Pines.

Tenneij, N. H., Didden, R., Stolker, J. J., & Koot, H. M. (2009). Markers for aggression in inpatient treatment facilities for adults with mild to borderline intellectual disability. *Research in Developmental Disabilities*. **30(6)**, 1248-1257. doi: 10.1016/j.ridd.2009.04.006.

Tenneij, N. H., & Koot, H. M. (2007). A preliminary investigation into the utility of the Adult Behavior Checklist in the assessment of psychopathology in people with low IQ. *Journal of Applied Research in Intellectual Disabilities*. **20(5)**, 391-400. doi: 10.1111/j.1468-3148.2007.00383.

Tsiouris, J. A., Kim, S. Y., Brown, W. T., & Cohen, I. L. (2011). Association of aggressive behaviours with psychiatric disorders, age, sex and degree of intellectual disability: A large-scale survey. *Journal of Intellectual Disability Research*. **55(7)**, 636-649 doi: 10.1111/j.1365-2788.2011.01418.

Tsiouris, J. A., Mann, R., Patti, P. J., & Sturmey, P. (2004). Symptoms of depression and challenging behaviours in people with intellectual disability: A bayesian analysis. *Journal of Intellectual and Developmental Disability*, **29(1)**, 65-69. doi: 10.1080/13668250410001662856.

Turygin, N. C., Matson, J. L., MacMillan, K., & Konst, M. (2013). The relationship between challenging behavior and symptoms of depression in intellectually disabled adults with and without autism spectrum disorders. *Journal of Developmental and Physical Disabilities*. **25(4)**, 475-484. doi: 10.1007/s10882-012-9321-1.

Ware, J. E. & Sherbourne, C. D. (1992). The MOAS 36-item Short Form Health Survey (SF-36). I. Conceptual framework and item selection. *Medical Care*. **30**, 473–83.

Willner, P., Rose, J., Jahoda, A., Stenfert-Kroese, B., Felce, D., Cohen, D., MacMahon, P., Stimpson, A., Rose, N., Gillespie, D., Shead, J., Lammie, C., Woodgate, C., Townson, J., Nuttall, J., & Hood, K. (2013). Group-based cognitive–behavioural anger management for people with mild to moderate intellectual disabilities: cluster randomised controlled trial. *The British Journal of Psychiatry*. **203**, 288-296. doi: 10.1192/bjp.112.124529.

World Health Organization. (2001). *International classification of functioning, disability and health*. Geneva, Switzerland: World Health Organization.

## **CHAPTER TWO: MAJOR RESEARCH PROJECT**

**Criticism & Praise: The cognitive emotional responses of adults with mild or moderate intellectual disability who display aggression.**

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## Lay Summary

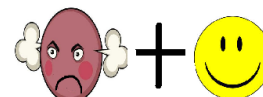
The study explored how people with anger problems respond to negative (criticism) and positive (praise) comments.



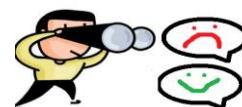
A group of students with a learning disability were interviewed.



Some had anger problems others did not.



The students looked at some imaginary scenarios containing criticism and praise.



They were asked about their thoughts, feelings and ideas.



Students with and without anger problems were compared.



People with a learning disability were good at telling others their thoughts, feelings and ideas.



Adults with anger problems were able to interpret and understand what other people were telling them.



Adults with anger problems tended not to believe criticism.



Adults with anger problems were able to take benefit from praise.



## Abstract

**Background:** Adults with intellectual disabilities who display aggression appear to be vulnerable to aversive social interactions. This may lead some to develop a negative self view which, in turn, can reduce their ability to take benefit from praise. Exposure to aversive social experiences may also lead some adults to become sensitive to forms of criticism. An underlying sensitivity to criticism and a reduced ability to take benefit from positive interaction have both been associated with psychological distress. The clinical field is unclear how adults with intellectual disabilities who display aggression perceive and experience criticism and praise.

**Method:** Adults with intellectual disabilities were recruited into two study groups; one that displayed aggression, one that did not. A Praise and Criticism Task was developed for the study. Participants were presented with 10 hypothetical scenarios and were asked to imagine someone saying something negative (criticism) or positive (praise). After the presentation of each scenario, participants were asked about their thoughts, emotions and beliefs.

**Results:** In contrast to their peers, participants who displayed aggression were not more likely to accept, believe or be distressed by criticism. They tended to believe and experience positive affect in response to praise.

**Conclusion:** Adults with intellectual disabilities may not always have an underlying tendency to misinterpret or misunderstand forms of social interaction. Those who display aggression can benefit from praise and do not appear to be sensitive to criticism. Caution is perhaps warranted before generically applying cognitive theories of aggression in this population.



## **Introduction**

There is evidence that people with intellectual disabilities can routinely experience social adversity. At a societal level, this population faces subtle forms of discrimination which can inhibit their socio-economic well being and attainment of socially valued goals (Beart, Hardy, & Buchan 2005). Some can also be subject to overt acts of discrimination through name calling, bullying, hate crime and victimisation in the form of physical or sexual abuse (Jahoda & Markova, 2004; Jahoda, Markova, & Cattermole, 1988; Murphy, O'Callaghan & Clare, 2007; Sherry, 2012). Given their repeated exposure to social intolerance, it is perhaps not surprising that people with intellectual disabilities have reported negative social interaction as a frequent source of distress (Bramston, Fogarty, & Cummins, 1999; Fogarty, Bramston, & Cummins, 1997). When faced with stressful events, some adults with an intellectual disability may lack the effective coping strategies to appropriately manage their social environment (Hartley & MacLean, 2008). For a minority, maladaptive coping can lead to the display of aggressive behaviour.

Recent estimates indicate that around one in ten adults with an intellectual disability will display significant aggression (Cooper et al. 2009). This type of behaviour can become an additional barrier to meaningful social interaction and is often a major cause of social exclusion (Murphy & Clare, 2012). Aggression can lead people with intellectual disabilities to be ostracised from a range of social, residential, educational or occupational settings (Allen, 2000). It can be detrimental to peer relationships, as others tend to segregate or avoid those who display aggressive behaviour (Finlay, Rutland, & Shotton, 2003). Mansell, Beadle-Brown, Macdonald and Ashman (2003) also found that adults who display problematic behaviour tend to receive fewer positive interactions from their carers. More worryingly, the display of aggression has been observed to place people with intellectual disabilities at increased risk of victimization and criminalisation (Crocker & Hodgins, 1997; Rusch, Hall, & Griffen, 1986). In summary, experiences of social interaction can tend to be more derogatory than positive for adults with intellectual disabilities who display aggressive behaviour.

Despite problems of aggression exacerbating the social difficulties faced by people with intellectual disabilities, there is a lack of research examining the social experiences of those who display aggressive behaviour. In particular, no

research has investigated how adults with intellectual disabilities who display aggression respond to forms of negative and positive social interaction. A growing body of literature looking at the effectiveness of compassion focused therapy has shown that caring, nurturing and supportive social experiences can be greatly beneficial (Gilbert, 1989; Gilbert, 2000; Gilbert, 2014). Gilbert (2009), for example, argues that social affirmation can support the development of a positive self-identity by promoting someone's sense of being valued, respected and wanted by others. In contrast, Gilbert and Miles (2000) suggest that frequent exposure to 'social put down' can escalate an adult's hostility or depression by causing them to develop an underlying sensitivity towards criticism. Existing literature, therefore, indicates that our emotional well being can be significantly influenced by our response to both negative and positive forms of social interaction.

The Social Information Processing (SIP) model developed by Crick and Dodge (1994) is a framework which can be used to help understand the social experiences of people with intellectual disabilities who display aggression. Although the SIP model was initially constructed to consider the cognitive and emotional processes leading to a child's aggression, the principles of this model are useful when considering the social responses of other age groups. The SIP model attempts to explain social behaviour through a sequence of cognitive processes that occur between encountering a social event and enacting a response. The model suggests that, when faced with social interaction, an individual's response will be a product of how they encode and mentally represent social cues, in addition to how they access, evaluate and then enact behaviour (Dodge, Coie, & Lynam, 2006). In contrast to earlier literature, the SIP model acknowledges that both cognitive deficit and distortion may shape the adult with intellectual disability's response to social interaction.

Using the SIP framework, research has begun to identify cognitive tendencies and biases that may underpin the aggression displayed by some people with intellectual disabilities. Implementing three emotion recognition tasks, Matheson and Jahoda (2005) found that adults with intellectual disabilities who displayed aggression had greater difficulty labelling emotions in contextually rich stimuli when compared with their non-aggressive peers. This outcome suggests that how social cues are interpreted by those who display aggressive behaviour may be influenced by subtle deficits in socio-emotional understanding. A number of studies have also reported that people with intellectual disabilities who display

aggression can form hostile attributions when interpreting the intentions of others. Jahoda, Pert and Trower (2006) used illustrated vignettes depicting social encounters to investigate whether adults who display aggressive behaviour have an attributional bias of hostile intent. Aggressive participants were found to attribute more hostile intent in both provocative and ambiguous social scenarios when compared to their non-aggressive peers. This outcome replicated previous findings pointing to the presence of an aggression related hostility bias in some people with intellectual disabilities. Using videotaped vignettes depicting various problem situations, Basquill, Nezu, Nezu, and Klein (2004) found that adults who displayed aggression were significantly less accurate in identifying the intent of others within ambiguous and benign social scenarios. Pert, Jahoda and Squire (1999) also found that when presented with illustrated vignettes, aggressive participants showed a hostile bias in their interpretation of others' intent. Existing research, therefore, suggests that the response of people with intellectual disabilities to social interaction may be influenced by distortions in how they interpret their social environment. Hostile attributions and poor social encoding, in particular, may lead those who display aggression to misinterpret both negative and positive forms of social interaction.

Building upon previous research exploring the socio-emotional understanding of people who display aggression (Jahoda et al., 2006; Pert & Jahoda, 2008); Esdale, Jahoda, and Pert (2015) have recently considered how adults with intellectual disabilities react to specific forms of social interaction. Using a novel Praise and Criticism Task (PACT), their research compared how people with and without intellectual disabilities responded to criticism and praise from others. The PACT used vignettes of interpersonal scenarios alongside semi-structured interviews to capture the thoughts, feelings and beliefs of young adults in response to criticism and praise. They found that adults with an intellectual disability were more likely to believe and be distressed by criticism than those without disability. In contrast, the study also reported that adults with intellectual disabilities were more likely to accept and experience positive affect from praise.

Although Esdale et al. (2015) uncovered some interesting findings; the study did not consider the way in which particular sections of the intellectually disabled population would uniquely respond to criticism or praise. It is clear from existing research (Basquill et al., 2004; Jahoda et al., 2006; Matheson & Jahoda, 2005; Pert et al., 1999) that people who display aggression may respond

differently than their non-aggressive peers to social interaction. The PACT was considered an effective approach to utilize in order to investigate how adults with intellectual disabilities who display aggression respond to particular forms of negative and positive social interaction. Using Esdale et al.'s (2015) approach, this study will therefore explore how aggressive and non-aggressive adults with intellectual disabilities differ in both their cognitive and emotional responses to criticism and praise.

Previous research and theory have linked aggression with reduced positive interactions from others (Mansell et al., 2003) and an underlying sensitivity to criticism arising from negative social interaction (Gilbert & Miles, 2000). This study sets out to explore whether those who display aggression are more likely to: i) Believe criticism and ii) Feel angry in response to criticism; or less likely to: iii) Believe praise and iv) Feel good in response to praise, when compared with their non-aggressive peer.

## Method

### Participants

Forty six adults were recruited from Further Education Colleges in the west of Scotland. All participants included in the study were i) between 18 and 65 years of age, ii) had a reported intellectual disability, iii) could provide informed consent, and iv) had sufficient communication skills to describe everyday events. The *aggressive* group comprised of adults who had displayed a minimum of four episodes of aggressive behaviour towards others in the past three months. The *non-aggressive* group comprised of adults who had displayed no significant episodes of aggressive behaviour towards others in the past three months.

Adults were excluded from the study if i) English was their second language or they had a ii) sensory impairment, iii) low level of receptive or expressive communication, iv) diagnosis of autistic spectrum disorder, or a v) history of self injurious aggression. These individuals were excluded as their potential deficits were considered to impair their ability to engage with the research materials. People were also excluded if they did not display the required frequency or topography of aggressive behaviour.

### Sampling

Senior staff from West College Scotland and Glasgow Clyde College identified classes of students who they thought would be suitable participants for the study. A Participant Suitability Checklist (Appendix E) was used to ensure students were suitable and had sufficient levels of communication. This contained three items of the Adaptive Behaviour Scale (ABS-RC2: Nihira, Leland, & Lambert, 1994) which assessed the receptive and expressive verbal ability of potential participants. The researcher was then invited to give presentations to clusters of potential participants who were identified by college tutors. Participant Information Booklets (Appendix F) were distributed at these meetings before individuals were invited to express interest in participating by contacting the researcher by reply slip, email, telephone or through their college staff.

## Sample Size

A power calculation revealed that a sample of over 100 was required to uncover independent t-test statistics with a suitable effect size ( $d = 0.5$ ), power ( $1-\beta = 0.8$ ), and level of significance ( $p < 0.05$ ). This was an unrealistic goal given that the study was exploratory in nature and the target population was difficult to reach. Applying a similar method, Esdale et al. (2015) obtained significant findings using a sample of only 40 (20 participants with intellectual disability and 20 without disability). The study therefore intended to recruit at least 20 adults into each of its participant groups.

Four participants were excluded from the analysis as their IQ scores fell outside the range expected of someone with an intellectual disability. Consequently the final sample consisted of 20 aggressive participants (15 men, 5 women,  $M_{age} = 21.2$  years,  $SD = 3.3$ , age range: 18-32 years) and 22 non-aggressive participants (14 men, 8 women;  $M_{age} = 26.3$  years,  $SD = 8.9$ , age range = 18-49 years). A sample size of 42 was achieved.

## Measures

The following measures were delivered to each participant in the order presented.

### *Frequency of Aggression / Socio Demographic Information* (Appendix G)

An adaptation of the Checklist of Challenging Behaviour (CCB: Harris, Humphreys, & Thomson, 1994) was used to select the study's two participant groups. Each participant's key staff member was asked to rate how frequently their student exhibited '*Verbal and / or Physical Aggression Towards Others*'. Non-aggressive participants were not reported to have displayed significant incidents of this type of behaviour in the past three months. Aggressive participants were reported to have displayed a minimum of four significant incidents of this type of behaviour in the past three months.

To ensure the two participant groups were as closely matched as possible, information was gained from each participant regarding their i) Age, ii) Gender, iii) Living situation, iv) Employment, and v) Socio economic status.

Socio-economic status of the participants was determined using postcode data to generate Carstairs Index scores (Brown, Allik, Dundas, & Leyland, 2014). The Carstairs Index is composed of four indicators judged to represent material disadvantage in the population, namely: low social class, lack of car ownership, overcrowding, and male unemployment. Carstairs Index scores ranged between -7.5 and 13.2 with higher scores indicating more severe deprivation.

### ***The Glasgow Depression Scale for Learning Disability- GDS-LD***

The GDS-LD (Cuthill, Espie, & Cooper, 2003) is a 20 item questionnaire designed to measure depression in people with intellectual disabilities. It is strongly correlated ( $r = 0.88$ ) with the Beck Depression Inventory II (BDI- II; Beck, Steer, & Brown, 1996), has good test-retest reliability ( $r = 0.97$ ), and demonstrates acceptable sensitivity (96%) and specificity (90%). The GDS-LD was delivered to ascertain if there were any significant mood differences between the study's two participant groups. Greater GDS-LD scores indicate lower mood.

### ***The Praise and Criticism Task- PACT*** (Appendix H)

The PACT was originally developed by Esdale et al. (2015) which in turn stemmed from past research using hypothetical vignettes to investigate the social-cognitive responses of people with intellectual disabilities (Jahoda et al., 2006; Pert & Jahoda, 2008). This innovative approach was used to examine how adults with intellectual disability respond to forms of criticism and praise at a cognitive and emotional level. The PACT consists of a series of self-referent scenarios, requiring participants to imagine a person saying something clearly positive (Praise) or negative (Criticism) about them. The narrative of each hypothetical scenario is read aloud and illustrated with photographs in a story board format. A series of questions are then asked to establish the participant's thoughts, emotions, and beliefs in response to criticism or praise.

*PACT Development.* The original PACT required updating to ensure the content of its scenarios resonated with participants who displayed aggression. To address this, 18 scenarios containing both criticism and praise were developed covering six themes namely: i) Popularity, ii) Social Status, iii)

Power Over Others, iv) Respect From Others, v) Level Of Autonomy, and, vi) Compassion. When developing the PACT themes the author carefully considered the social experiences of people with intellectual disabilities who display aggression. It was believed that this group would be sensitive to statements regarding their popularity and social status because they are often ostracized and socially excluded by their peers (Finlay et al. 2003). It was also hypothesised that they would be sensitive to remarks regarding their ability to control others. As people with intellectual disabilities who display aggression may be aware of the negative judgements that others may make about them, it was believed that this group would be sensitive to comments regarding the level of respect and autonomy they receive. It was also believed that they may be sensitive to statements regarding their level of compassion due to an awareness regarding the negative view that others hold about their behaviour (Hastings & Remington, 1994).

*PACT Piloting:* Scenarios were piloted with two participants prior to the main study. The pilot established i) an overlap between scenarios concerning a participant's social status and level of autonomy and ii) that several scenarios were not meaningful to the participants or did not elicit an emotional response. Eight scenarios were subsequently excluded alongside the Social Status theme. This resulted in 10 scenarios being deemed suitable for use in the study, each ending with interactions involving criticism or praise. Storyboards were produced for each of these scenarios and illustrated using photographs taken by the researcher (see Appendix H). The photographs were taken from the protagonist's view point, thereby avoiding possible confusion of another person being in the picture, when participants were asked to imagine themselves being criticised or praised.

*PACT Final Version:* Two sets of scenarios, covering the same themes: i) Popularity, ii) Autonomy, iii) Respect, iv) Power, and v) Compassion were presented in the same order. There were, however, two versions of the task for each theme. In version A, the researcher narrated the first set of scenarios with a criticism ending and the second set with a praise ending. In version B, the first set of scenarios had a praise ending and the second set had a criticism ending. Alternate versions of the task were delivered to successive students with an equal proportion from each participant group receiving each version.



Following the presentation of each scenario, participants were asked a series of questions to establish their thoughts, emotions and beliefs in response to the criticism or praise provided. The response format consisted of a combination of open-ended questions and forced-choice responses. Care was taken to ensure questions were not asked in a leading fashion. When necessary, additional questions were asked using alternative wordings, in order to ensure key information was not missed due to a participant's difficulties in understanding a particular question.

*Example of Scenario and Response Format:* "A pal is planning a party for some of her friends. She is deciding who should go. You ask if you can go. She says: "We don't want you to come". (Criticism scenario, Popularity theme).

1) *Thought Responses* were ascertained by asking the following open-ended question: "*What do you make of that?*". If the participant failed to respond, the researcher used an alternatively worded question. For example, "*What does it make you think?*" or "*What would be going through your mind?*".

(2) *Emotional Responses* were ascertained by asking the open-ended question: "*How does it make you feel?*" The degree of emotional response was then determined by the forced choice question: "*Would you feel...[A Little Bit, A Bit, or A Lot]?*". This was delivered alongside a visual scale which supported the participant to identify the magnitude of their response.

(3) *Belief Responses* were ascertained by asking a closed question referring specifically to the criticism or praise given in the scenario: "*Would people want you at their party...[Yes or No]?*". The strength of belief response was then determined by a forced choice question "*How often would you say that...[Sometimes, A Lot, or Always]?*". This was delivered alongside a visual scale which again supported the participant to identify the magnitude of their response.

### ***Wechsler Abbreviated Scale of Intelligence- WASI***

The two subset form of the WASI (Wechsler, 1999) was delivered to provide an estimate of the participants' general intellectual functioning. This was used to ensure the study's two participant groups were as closely matched as possible. The WASI demonstrates adequate internal reliability (0.96-0.98), test-retest reliability (0.88-0.92), and concurrent validity (0.87) with the Wechsler Adult Intelligence Scale- Third Edition (Wechsler, 1997).

### **Procedure**

The researcher had a preliminary meeting with interested students to answer any questions they had about the study. Written consent was then obtained using a predesigned form (Appendix I) for those who were agreeable to taking part. Subsequent research meetings took place in a private room at the participants' college and lasted up to 60 minutes for each person. Meetings were recorded on an audio device to ensure all information was accurately collected. Time was initially spent building rapport with participants in order to make them feel at ease. It was made explicit there were no 'right' or 'wrong' answers to the questions. The WASI was completed at the end of each meeting as it contains 'right' and 'wrong' answers and was contrary to the spirit of the main research task.

Given the sensitive nature of the PACT scenarios, the researcher closely observed participant responses to the criticism and praise. Upon completion, each participant was engaged in a brief conversation to ensure they were not upset by the study tasks. Overall the participants engaged well with the research materials and seemed to find the PACT scenarios interesting. No participant appeared to be distressed by the meetings and many reported that they enjoyed the experience.

### **Ethics**

Ethical approval was obtained from the University of Glasgow College Ethics Committee (Appendix J).

## Results

### Demographics

Table 8 displays the descriptive data for the study sample which consisted of college students who were predominantly young men living with their families. The study groups were of similar age and level of intellectual ability. The average deprivation score for each group was also comparable and indicated that the sample was mainly from deprived areas. While aggressive participants reported more symptoms of depression and had a mean GDS-LD score above the clinical threshold, a significant group difference was not observed ( $t(40) = 1.626, p > 0.05$ ).

Table 8:

#### *Descriptive Data*

Variable		Overall Sample	Aggressive	Non-aggressive
Gender	Male	29	15	14
	Female	13	5	8
Living Situation	With Family	38	19	19
	Alone	4	1	3
Age	Mean	23.86 (SD =7.2, range 18-49 )	21.2 (SD =3.3, range 18-32)	26.27 (SD =8.9, range 18-49)
WASI	Mean	59.45 (SD = 5.4, range 55-70)	60.1 (SD =5.7, range 55-70)	58.86 (SD =5.3, range 55-70)
Deprivation Score	Mean	2.64 (SD=3.7, range -5.5-11.5)	2.72 (SD =4.4, range -5.5-11.5)	2.57 (SD =3.1, range -2.7-9.2)
GDS-LD	Mean	11.98 (SD = 6.7, range 0-25)	13.7 (SD =6.7, range 2-25)	10.41 (SD =6.4, range 0-21)

Note: GDS-LD = Glasgow Intelligence Scale for People With a Learning Disability, WASI = Wechsler Abbreviated Scale of Intelligence.

### PACT Data Coding:

The participants' responses, to the PACT questions, were transcribed verbatim onto predesigned forms. Responses to open-ended questions were content analysed, and grouped into categories that characterised different thought and emotional responses. Tables 9 and 10 show how data taken from the PACT were categorised and provide examples of typical responses for each category.

Table 9:  
*Categorisation of Open Ended Questions in Response to Scenarios Containing Criticism*

Question	Category	Sub Category - Coding Criteria	Example Responses*	Overall
<b>Thought Response</b>	<b>Accept Criticism</b>	17.6% <i>Situational Acceptance:</i> Response suggests agreement with the criticism in the context of the scenario.	Aggressive (20%) e.g. "They don't like me" Non-aggressive (15.45%) e.g. "They don't want to listen to me"	30.46%
		6.67% <i>Global Acceptance:</i> Response suggests agreement with the criticism in a broader sense.	Aggressive (7%) e.g. "I'm always left out in class. Always on my own" Non-aggressive (6.36%) e.g. "Their right I can never make my mind up"	
		6.19% <i>Internalised Emotion:</i> An emotion response indicting that the criticism has been internalised in a manner conducive to a negative self view.	Aggressive (7%) e.g. "Make you feel rotten inside" Non-aggressive (5.45%) e.g. "Feel rejected"	
	<b>Reject Criticism</b>	21.9% <i>Disagree with Criticism:</i> Reponses clearly contradicts the criticism.	Aggressive (24%) e.g. "It is not true I do know what I want" Non-aggressive (20%) e.g. "Say to the guy you got it all wrong"	64.86%
		14.76% <i>Externalise Criticism:</i> Response suggests the criticism has been rejected and attributed onto another individual or other factor.	Aggressive (15%) e.g. "They are being rude" Non-aggressive (14.55%) e.g. "Up to her it's her choice"	
		12.86% <i>Question Criticism:</i> Response indicates that the participant has questioned the validity of the criticism.	Aggressive (11%) e.g. "I would ask her why give me a reason" Non-aggressive (14.55%) e.g. "Why are they saying that"	
		8.57% <i>Action Against Criticism:</i> Response indicates the participant would engage in an action that suggests they reject the criticism.	Aggressive (8%) e.g. "I would go home and tell my mum" Non-aggressive (9.09%) e.g. "Yep I would just walk away and be calm"	
		2.38% <i>Externalise Emotion:</i> A significant emotion response which would indicate that the participant rejects the criticism.	Aggressive (2%) e.g. "Quite angry about that" Non-aggressive (2.73%) e.g. "Probably get a bit annoyed"	
		4.39% <i>Unfazed Response:</i> Response indicates the participant has not been affected by the criticism or is not bothered by its content.	Aggressive (3%) e.g. "I think that's ok its fine" Non-aggressive (5.45%) e.g. "It doesn't bother me"	
		3.8% <i>Inappropriate Response:</i> Response unrelated to criticism provided in scenario.	Aggressive (3%) e.g. "It is a picture he is holding" Non-aggressive (4.55%) e.g. "You have done something and not been lazy"	4.8%
		1% <i>No Response:</i> Participant is unable to generate thought response.	Aggressive (0%) Non-aggressive (1.82%)	
<b>Belief Response</b>	<b>Disbelieve Believe</b>	Participant does not believe the criticism.	Answers "Yes" to question	90.48%
		Participant believes criticism.	Answers "No" to question	9.52%
<b>Emotional Response</b>	<b>Internalised</b>	Negative emotion directed internally to oneself.	"Anxious", "Depressed", "Down", "Hurt", "Low", "Sad", "Unhappy" "Upset"	60.95%
	<b>Externalised</b>	Emotion directed externally, often to another person.	"Angry", "Annoyed", "Bad Mood", "Cross", "Furious", "Mood", "Outraged,"	26.67%
	<b>Other</b>	Inappropriate emotion response / neutral emotion.	"Confused", "Not Bothered", "Happy", "Fine"	12.38%

\*Note: In total the aggressive group provided 100 responses whilst the non-aggressive group provided 120 responses. (%) represents the proportion of each type of response within each group.

Table 10:  
*Categorisation of Open Ended Questions in Response to Scenarios Containing Praise*

Question	Category	Sub Category - Coding Criteria		Example Responses*	Overall
Thought Response	Accept Praise	33.81%	<i>Situational Acceptance:</i> Response suggests agreement with the praise in the context of the scenario.	Aggressive (41%) e.g. “I do have good ideas to put across” Non-aggressive (27.27%) e.g. “They are interested in what I have to say”	77.15%
		26.67%	<i>Internalised Emotion:</i> An emotion response indicting that the praise has been internalised in a manner conducive to a positive self view.	Aggressive (24%) e.g. “Happy and Delighted” Non-aggressive (29.09%) e.g. “Makes me feel good about myself”	
		13.81%	<i>Global Acceptance:</i> Response suggests agreement with the praise in a broader sense.	Aggressive (11%) e.g. “I am good at making my own decisions” Non-aggressive (16.36%) e.g. “I am a kind person”	
		2.86%	<i>Praise is Deserved:</i> Response indicates that the participant believes that they deserve the praise being provided.	Aggressive (2, 2%) e.g. “I help everyone all the time when they are stuck” Non-aggressive (n = 4, 3.64% ) e.g. “ I am helpful I help my mum”	
	Reject Praise	10.48%	<i>Question Praise:</i> Response indicates that the participant has questioned the validity of the praise.	Aggressive (9, 9%) e.g. “I worry why she is being so nice to me” Non-aggressive (11.82% ) e.g. “Would raise a concern to me”	17.62%
		4.76%	<i>Externalise Reason for Praise:</i> Response indicates that the participant has not internalised praise and attributes the reason for this onto others.	Aggressive (6%) e.g. “Just that they’re a good friend” Non-aggressive (3.64%) e.g. “They are giving me a chance to pick”	
		2.38%	<i>Disagree with Praise:</i> Response clearly contradicts the praise.	Aggressive (3%) e.g. “Surprised I thought they would say don’t buy that” Non-aggressive (1.82%) e.g. “Depends on what it is”	
	Other	5.24%	<i>Inappropriate Response:</i> Response unrelated to praise provided in scenario.	Aggressive (4%) e.g. “I would be really annoyed” Non-aggressive (6.36%) e.g. “They might start a conversation”	5.24%
	Belief Response	Disbelieve Believe	Participant does not believe the praise.	Answers “No” to question.	4.3%
			Participant believes praise.	Answers “Yes” to question.	95.7%
Emotion Response	Positive	Positive emotion directed internally to oneself.	“Happy”, “Pleased” “Proud”, “Relived”, “Satisfied”, “Super”, “Surprised”	92.9%	
	Unable to Benefit	Neutral / negative emotion response.	“Angry”, “Concerned”, “Confused”, “Down”, “Fine”, “Ok”	7.1%	

\*Note: In total the aggressive group provided 100 responses whilst the non-aggressive group provided 120 responses. (%) represents the proportion of each type of response within each group.

Thought responses to criticism were coded into 11 sub-categories whilst responses to praise were coded into eight. Prior to the main analysis, the frequency of participant responses coded into each sub-category was explored across aggressive and non-aggressive groups. As can be seen in Tables 9 and 10, when presented with criticism or praise the two groups provided a similar frequency of responses in the majority of thought sub-categories. No clear variation was also observed when comparing the content of responses provided by aggressive and non-aggressive participants within each thought sub category. The author, therefore, did not carry out statistical analysis of thought responses at a sub categorical level.

Thought responses were collapsed into three main categories: (a) Accept, (b) Reject, or (c) Other. Emotional responses to criticism were also coded into three categories: (a) Internalised, (b) Externalised, or (c) Not concerned. Emotional responses to praise were coded into two categories: (a) Positive emotion, and (b) Unable to benefit. A second independent rater was asked to group the participants' responses into the categories developed. The inter rater agreement obtained was i) Thought (criticism) Kappa = 0.901, ii) Thought (praise) Kappa = 0.839, iii) Emotion (criticism) Kappa = 0.93, and iv) Emotion (praise) Kappa = 0.928.

Belief responses were coded into two categories: (a) Believe, or (b) Disbelieve depending on the participants' response to the closed question. Responses to other forced choice questions were captured on a three point Likert scale and were summed to produce scale scores which estimated the magnitude of a participants': 1) Emotional response to criticism, 2) Emotional response to praise, 3) Disagreement with criticism, and 4) Agreement with praise.

Data obtained from the PACT was mainly categorical, however, the scale scores were, interval in nature. Chi-square tests and independent t-tests were used to investigate differences between aggressive and non-aggressive participants. A Fisher's exact test was applied when the conditions for a Chi Square test were not met. All analyses were two tailed as the study was exploratory in nature.

## **Overall Responses**

As can be seen in Table 9, the majority of participants from both groups rejected criticism and tended not to believe the critical statements that were provided. Those who rejected criticism generated a cluster of thoughts which

supported them to act out against, externalise, question, or disagree with what was being said. Those who agreed with criticism said they would either accept this in the context of the scenario presented or in a broader sense across contexts out with the scenario. Whilst the majority of participants reported they would feel sad or unhappy in response to criticism, over a quarter said they would feel angry or annoyed.

As can be seen in Table 10, the majority of participants from both groups were accepting of praise and tended to believe the praise that was provided. Around one in ten participants, identified thoughts that questioned the praise they received. Some also reported thoughts which indicated they had externalised the reason for the praise being provided to them. For example, some participants reported the only reason why they were being praised was because the person in the scenario was being kind. The majority of participants reported experiencing a positive emotion in response to praise, however, a small number of individuals were more sceptical.

### **Thoughts, Beliefs and Emotions in Response To Criticism**

Table 11 shows data for the thought, belief and emotional responses to criticism expressed by both groups.

***Thought Responses:*** The majority of both aggressive (97%) and non-aggressive (95%) participants identified relevant thoughts in response to criticism. The majority of participants in both groups rejected criticism. Analysis of the overall thought scores showed no significant difference in the two groups' thought responses to criticism ( $\chi^2(2,210) = 2.114, p > 0.05$ ).

***Belief Responses:*** Analysis of the overall belief scores showed no significant difference in the two groups' belief in criticism ( $\chi^2(1, 210) = 0.232, p > 0.05$ ). When the individual themes of criticism were tested, one significant difference was found as a greater number of non-aggressive participants believed criticism regarding their level of autonomy (Fisher's exact test,  $p = 0.049$ ). Interestingly, no participant believed criticism regarding their level of compassion. Both groups produced similar ratings for their level of disagreement with criticism ( $t(40) = 0.481, p > 0.05$ ).

Table 11:

*Responses When Presented with Criticism*

Variable	Categorisation	Aggressive	Non Aggressive	p value
<b>Thought</b>	<i>Accept Criticism</i>	34%	27.27%	= 0.35
	<i>Reject Criticism</i>	63%	66.36%	
	<i>Other</i>	3%	6.36%	
<b>Belief</b>	<i>Disbelieve Criticism</i>	92%	89.10%	= 0.63
	<i>Believe Criticism</i>	8%	10.91%	
<b>Emotional</b>	<i>Internalised</i>	60%	61.81%	= 0.79
	<i>Externalised</i>	26%	27.27%	
	<i>Not Concerned</i>	14%	10.90%	

**Emotional Responses:** The majority of participants in both the aggressive (96%) and non-aggressive (98%) groups reported an appropriate emotional response to criticism. Analysis of the overall emotional response scores showed no significant group difference in the type of emotional response reported ( $\chi^2 (2,210) = 0.464$ ,  $p > 0.05$ ) as the majority of both groups reported feeling sad, upset or hurt in response to criticism. Both groups were found to experience the same intensity of emotional response to criticism ( $t (40) = 1.282$ ,  $p > 0.05$ ).

**Thoughts, Beliefs and Emotions in Response To Praise**

Table 12 shows data for the thought, belief and emotional responses to praise expressed by both groups.

Table 12:

*Responses When Presented with Praise*

Variable	Categorisation	Aggressive	Non Aggressive	p value
<b>Thought</b>	<i>Accept Praise</i>	78%	76.36%	= 0.74
	<i>Reject Praise</i>	18%	17.27%	
	<i>Other</i>	4%	6.36%	
<b>Belief</b>	<i>Disbelieve Praise</i>	6%	2.72%	= 1.000
	<i>Believe Praise</i>	94%	97.27%	
<b>Emotional</b>	<i>Positive Affect</i>	93%	92.73%	= 0.41
	<i>Unable to Benefit</i>	7%	7.27%	



***Thought Responses:*** The majority of both aggressive (96%) and non-aggressive (93.6%) participants identified relevant thoughts in response to praise. Participants in both groups were, in the main, accepting of praise. Analysis of the overall thought scores showed no significant difference in the two groups' thought response to praise ( $\chi^2(2,210) = 5.93, p > 0.05$ ).

***Belief Responses:*** The majority of both groups believed the praise they were provided, with all participants believing positive comments regarding their popularity and level of compassion. Analysis of the overall belief scores showed no significant difference in the two groups' beliefs about praise (Fishers exact tests,  $p = 0.315$ ). Both groups produced similar ratings for their level of agreement with praise ( $t(40) = -0.288, p > 0.05$ ).

***Emotional Responses:*** The majority of participants in both the aggressive (95%) and non-aggressive (96%) groups reported an appropriate emotional response to praise. Analysis of the overall scores showed no significant group difference in the type of emotional response reported ( $\chi^2(1,210) < 0.00, p > 0.05$ ) with the majority of participants reporting that they would feel positive about the praise.

## Discussion

The study findings suggest that adults with intellectual disabilities who display aggression are as likely to accept, believe and gain positive affect from praise as those who do not display aggression. When presented with positive comments, participants with problems of aggression produced similar thoughts about their social situation than the non-aggressive group. They mainly reported agreement with the praise being conveyed and often provided justification for this being accurate. There was limited evidence to suggest that the aggressive participants would not benefit from positive social interaction.

In keeping with Esdale et al. (2015), the study established that people with intellectual disabilities tend to believe and take benefit from praise. Consequently, those who displayed aggression were not observed to misinterpret this form of social interaction. As explained by Esdale et al. (2015), adults with intellectual disabilities may be more accepting of praise because they lack the subtle social skills to acknowledge this at a proportionate level. An alternative explanation, however, is that the praise presented within the study was particularly salient for the participants. It was noteworthy, for example, that the entire sample believed praise regarding their level of popularity and compassion. This observation is in keeping with Pestana (2015) who found that people with intellectual disabilities tend to hold positive self-perceptions of being friendly, supportive and helpful. The positive comments provided in the study may have, therefore, been congruent with the self-beliefs of both the aggressive and non-aggressive participants. This may partly explain why the forms of praise provided were not misinterpreted by the aggressive group.

The study findings suggest that adults with intellectual disabilities who display aggression are as likely to reject criticism as those who do not display aggressive behaviour. When presented with criticism, participants with problems of aggression produced similar thoughts about their social situation than their non-aggressive peers. They reported that they would externalise, question or disagree with the negative remarks being conveyed. Furthermore, those who displayed aggression tended not to believe criticism and rated disagreement at a similar level to adults in the non-aggressive group. Interestingly, only a minority of aggressive participants felt angry in response to criticism. Instead, like the non-aggressive group, they tended to feel sad, upset or hurt when presented with criticism. The

emotional responses of the aggressive participants also suggested that their level of distress from criticism was the same as their non-aggressive peers.

When presented with criticism, those who displayed aggression reported similar cognitive and emotional responses as their non-aggressive peers. An underlying sensitivity towards criticism was, therefore, not observed in the study's aggressive participants. When considering the competing explanations for these findings it was recognised that participant responses may have been influenced by: 1) a reduced level of emotional arousal, 2) a positive belief system, and / or 3) methodological weaknesses.

Both the Frustration-aggression theory (Dollard, Doob, Miller, Mowrer, & Sears, 1939) and Cognitive Neo-association model of aggression (Berkowitz, 1990) propose that underlying feelings of frustration or anger can strongly influence an adult's tendency to respond aggressively. Berkowitz (2012) highlights that these forms of negative affect can trigger various thoughts, memories, motor reactions and physiological responses associated with deep rooted 'fight or flight' responses. It is, therefore, significant that only a small proportion of the aggressive participants experienced feelings of anger or frustration in response to the criticism provided. The PACT failed to generate these forms of affect and may have lacked the capacity to elicit group differences in the sample's responses to criticism. Both the aggressive and non-aggressive group reported experiencing the same intensity of emotion when presented with criticism. As a result, it appears that the PACT's critical scenarios may have been less emotionally salient for the aggressive participants than originally envisaged. Lower levels of emotional arousal may not trigger the same appraisals and decision making processes that contribute to an adult engaging in an aggressive response (Knight, Guthrie, Page, & Fabes, 2002). The PACT's ability to draw out underlying interpersonal sensitivities, common to those who display aggression, may have been compromised by the limited salience of its critical scenarios. Group differences would perhaps have been more evident if the PACT had asked the study participants how they would behave in response to criticism.

In the general population, adults with a greater tendency to accept criticism often hold a range of self-critical beliefs (Gilbert, Durrant & McEwan, 2006), with those demonstrating a sensitivity to 'social put down' typically experiencing symptoms of depression (Gilbert, Irons, Olsen, Gilbert, & McEwan, 2006). In contrast, the study's aggressive participants reported a more autonomous self-view

than their non-aggressive peers and conveyed strong protective values regarding their kindness and ability to help others. They also reported a similar frequency of depressive symptoms than the non-aggressive group, with only half reporting a level of depression above the clinical threshold. Given these findings, it appears that not all the participants who displayed aggression had negative self-perceptions. This observation is in keeping with self-esteem theories of aggression which highlight that aggressive behaviour can be associated with both low self-esteem and threatened egotism (Ostrowsky, 2010). As a result, the participants' responses to criticism may have been partially dependant on their sense of self. For example, some aggressive participants may have been more capable of rejecting criticism as this was incongruent with their positive self-view. Variation in the participants' self-beliefs may therefore explain why an underlying sensitivity to criticism was not clearly observed in the aggressive group's cognitive and emotional responses.

It is important to acknowledge that the study's findings could have been influenced by methodological weaknesses. Whilst the PACT attempted to represent legitimate social experiences, its hypothetical scenarios may not have triggered the same cognitive and emotional processes that occur when someone who displays aggression is exposed to criticism in the real world. The nature of the PACT's assessment battery and the environmental context in which it was administered may have also led some participants to report socially desirable responses. It was observed, for example, that a proportion of the sample responded to the critical scenarios in a manner that was initially socially scripted or rehearsed. Additional forms of response bias (i.e. acquiescence, set responses, extreme responses) were more difficult to recognise and could perhaps have further shaped the study's findings. The ability of the study to identify differences in the participants' responses to criticism may also have been inhibited by the manner in which the aggressive and non-aggressive groups were defined. Selection bias may have been generated from the college staff's interpretation of the study's inclusion criteria. Aggression displayed by participants in settings outside college was also not taken in consideration. As a result, the study's groups may not have been as distinctive as presumed and there may have been a number of aggressive individuals in the non-aggressive group. The power of the study to detect differences between aggressive and non-aggressive participants was further limited by its small sample size.

Although the exploratory study findings need to be interpreted with caution, they are consistent with earlier literature suggesting that those who display aggressive behaviour do not always have a distorted view of social interactions. For example, when examining the social information-processing skills of people with intellectual disabilities, Fuchs and Benson (1995) found that those who displayed aggression did not make more frequent hostile attributions than their non-aggressive peers. Within the current study those who displayed aggression also did not appear to have difficulties with interpreting the PACT's social scenarios. This was in keeping with Binzley, Shah, and Polomsky (1986) who found no difference in the social perceptions of aggressive and non-aggressive adults when describing pictures depicting social situations. The observation that the study's aggressive participants did not have difficulties interpreting both negative and positive forms of social interaction challenges the assumption that aggression will always be linked to poor social understanding in people with intellectual disabilities. In doing so, the study appears to contradict existing cognitive theories of aggression such as the Social Information Processing (SIP) model (Crick & Dodge, 1994). Fontaine and Dodge (2006), however, have already recognised that an individual's immediate interpretation of social events cannot fully explain why they enact different social behaviours. Recent theoretical incarnations of the SIP model suggest that latent mental structures, emotional regulation and moral reasoning can also have a significant effect on an adult's response to social cues (Lemerise & Arsenio, 2000).

Pert and Jahoda (2008) have previously highlighted that the social responses of adults with intellectual disabilities who display aggression may be influenced by strong personal values such as 'showing strength', 'saving face' and 'staying strong' in the face of conflict. An onus should perhaps be placed on further exploring the underlying belief systems and knowledge structures that may influence the intellectually disabled adult's behavioural presentation. A limited body of research has examined the social, moral and normative beliefs held by adults with intellectual disabilities who display aggression. Moreover, no research has made direct connections with how these mental constructs influence this client group's enactment of aggressive social responses. Future research should also consider how the emotional arousal of adults with intellectual disabilities shapes their behaviour during specific types of social interaction. In particular, no research has explored

how heightened levels of arousal affect this client group's social information processing skills or the way in which they access, evaluate and enact behaviour.

### **Clinical Implications**

The study recruited a non-clinical sample and was exploratory in nature; its relevance in clinical practice therefore requires careful consideration. The study findings suggest that adults with intellectual disabilities who display aggression can benefit from praise and will not necessarily develop an underlying sensitivity to criticism. Ensuring that people who present with aggression continue to receive positive affirmation may, therefore, help to maintain their social and psychological wellbeing.

In keeping with previous research (Dagnan & Chadwick, 1997; Dagnan, Chadwick & Proudlove, 2000), the study demonstrated the utility of hypothetical case vignettes in supporting adults with mild or moderate intellectual disabilities to identify and report upon their thoughts and feelings. The growing recognition that Cognitive Behavioural Therapy (CBT) can be an appropriate treatment option for people with intellectual disabilities who display aggression (Lindsay et al. 2004; Rose, West & Clifford, 2000; Willner et al., 2013) is thus supported by the ability of the study's participants to reflect upon their thoughts and feelings. Deficit based CBT interventions, however, are still commonly used with people who present with problems of aggression. The study found that adults with less severe forms of intellectual disability may not have difficulties in interpreting or understanding their social world or emotional experience. The use of psycho-educational based approaches to increase this client group's socio-emotional understanding may, therefore, be contraindicated. The adaptation of particular therapeutic interventions could perhaps be better guided by an initial assessment which examines a client's ability to interpret social scenarios.

The participants in the study appeared to hold strong beliefs about their ability to be kind and helpful to others. They also generated self-assuring statements in response to praise. Given that acts of kindness towards oneself and others are considered the foundations of a compassionate mind (Gilbert, 2009); it is possible that adults with intellectual disabilities would have the ability to engage meaningfully with compassion focused therapy. Therapeutic techniques that support

the development of compassionate attention, behaviour and imagery could be adapted for this client group and should be further considered in the clinical field.

## **Limitations**

The study was perhaps restricted by potential limitations in the PACT's design. Firstly, the case vignettes used may not have captured the typical social experiences of people with intellectual disabilities. It is also possible that the PACT's hypothetical scenarios failed to trigger the same cognitive processes which contribute to the emotional dysregulation of those who display aggression. In particular, the forms of criticism delivered in the PACT may not have been emotionally salient enough to draw out the cognitive and emotional responses that perhaps would be evident during real life experiences of social criticism. The PACT's design also relied heavily upon the sample's ability to self-report their thoughts and feelings in response to forms of social interaction. Whilst most participants were able to complete this task, some struggled to report their cognitions and had a tendency to provide set responses when asked about their thoughts in response to criticism or praise. Further sources of response bias may have stemmed from the PACT's repetitive nature, its use of closed questions, the length of the hypothetical scenarios and the fact that some forms of criticism / praise contained double negatives. Variation in how the forms of criticism / praise were delivered in the PACT may have also shaped participant responses and introduced bias.

An additional limitation of the current study may have been its use of a content analysis. Although this approach enabled the participants' responses to be statistically evaluated, it may have prevented a deeper qualitative insight from being obtained about the different views held by the aggressive and non-aggressive groups. In keeping with Esdale et al. (2015), a compromise had to be reached between producing meaningful categories from the participants' responses and having sufficient data in each category to allow for statistical analysis. However, using common coding criteria to categorise the two group's responses to different forms of criticism and praise may have hidden subtle group differences.

It should be acknowledged that the study findings concern a sample which largely consisted of young men from socially deprived areas who were living with their family. A challenge when identifying participants was that the colleges could

not administratively define the severity of their students' intellectual disability. As a result, the sample had a lower level of ability than initially envisaged. Some adults with moderate intellectual disabilities had difficulty engaging with the research materials and tended to be more acquiescent. By not using a standardised assessment measure to evaluate the participants' aggression, the study may have also been vulnerable to selection bias when recruiting its aggressive and non-aggressive groups. Caution is perhaps warranted before generalising the study's findings given the heterogeneous nature of its small sample.

Within the current study, the PACT did prove effective in allowing adults with intellectual disabilities to report upon their thoughts and feelings. This tool could be developed in order to carry out further research exploring how those who display aggression respond to different forms of social interaction. The criticism portrayed in the PACT, however, requires careful consideration and adaptation. In order to identify more salient forms of negative social interaction it perhaps would be beneficial to directly consult with the target population. Focus groups, for example, could be used to better identify the unique forms of negative social interaction that are salient for those who display aggression. It perhaps would also be beneficial for the PACT to evaluate the predicted behavioural responses of people with intellectual disabilities to forms of criticism and praise. This may help identify subtle differences between participant groups, whilst creating a further opportunity to draw out key cognitions and underlying beliefs during administration of the PACT. Alternatively, qualitative and ethnographic methods might offer a unique approach to investigating the research topic and would perhaps provide a more detailed examination of how criticism and praise are perceived in real life settings. An in depth assessment of an adult's aggressive behaviour, across settings, would be essential in supporting both these approaches to identify group differences.

## **Conclusion**

This study undertakes an initial exploration into how adults with intellectual disabilities who display aggression respond to criticism and praise. The lack of disparity demonstrated between this client group and their non-aggressive peers may reflect a greater resilience to social adversity than had been initially attributed. It



seems that the self-perceptions and social understanding of those who display aggression may serve a protective function during their social interaction with others. Caution is, therefore, warranted before generically applying existing cognitive theories of aggression to the intellectually disabled population. Gaining further insight into how adults with intellectual disabilities who display aggression perceive and respond to social situations has significant implications for improving their social and emotional wellbeing. Future research should, perhaps, build upon existing theoretical frameworks by considering how the social responses of adults with intellectual disabilities who display aggression are mediated by their underlying belief systems and levels of emotional arousal.

## References

- Allen, D. (2000). Recent research on physical aggression in persons with intellectual disability: an overview. *Journal of Intellectual and Developmental Disability*. **25**, 41–57. doi: 10.1080/132697800112776.
- Basquill, M. F., Nezu, C. M., Nezu, A. M., & Klein, T. L. (2004). Aggression-related hostility bias and social problem-solving deficits in adult males with mental retardation. *American Journal of Mental Retardation*. **109**(3), 255-263. doi: 10.1352/0895-8017(2004)109<255:AHBASP>2.0.CO;2.
- Beart, S., Hardy, G., & Buchan, L. (2005). "How people with intellectual disabilities view their social identity: a review of the literature." *Journal of Applied Research in Intellectual Disabilities*. **18**(1), 47-56. doi: 0.1111/j.1468-3148.2004.00218.
- Beck, A.T., Steer, R.A., & Brown, G.K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Berkowitz, L. (1990). On the formation and regulation of anger and aggression: A cognitive-neoassociationistic analysis. *American Psychologist*. **45**(4), 494-503. doi: 10.1037//0003-066X.45.4.494.
- Berkowitz, L. (2012). A different view of anger: The cognitive-neoassociation conception of the relation of anger to aggression. *Aggressive Behavior*. **38**(4), 322-333. doi: 10.1002/ab.21432.
- Binzley, V.A., Shah, P., & Polomsky, P. (1986). A Social-Psychological Comparison of Aggressive and Nonaggressive Institutionalized Moderately Retarded Adults. In: *Science and Service in Mental Retardation* (Ed: J. M. Berg). pp. 363-369. New York, US: Methuen.
- Bramston, P., Fogarty, G. J., & Cummins, R. A. (1999). The nature of stressors experienced by people with an intellectual disability. *Journal of Applied Research in Intellectual Disabilities*. **12**(1), 1-10. doi:10.1111-j.1468-3148.1999.tb00046.

Brown, D., Allik, M., Dundas, R., & Leyland, A. H. (2014). *Carstairs Scores for Scottish Postcode Sectors, Datazones and Output Areas from the 2011 Census: Technical Report*. Glasgow: University of Glasgow.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*. **115**(1), 74. doi: 10.1037/0033-2909.115.1.74.

Crocker, A. G., & Hodgins, S. (1997). The Criminality of Noninstitutionalized Mentally Retarded Persons Evidence from a Birth Cohort Followed to Age 30. *Criminal Justice and Behavior*. **24**(4), 432-454. doi: 10.1177/0093854897024004003.

Cuthill, F.M., Espie, C.A & Cooper, S.A. (2003). "Development and psychometric properties of the Glasgow Depression Scale for people with a Learning Disability Individual and carer supplement versions." *The British Journal of Psychiatry*. **182**(4), 347-353. doi: 10.1192/bjp.182.4.347.

Dagnan D. & Chadwick P. (1997) Cognitive-behaviour therapy for people with learning disabilities: assessment and intervention. In: *Cognitive Behaviour Therapy for People with Learning Disabilities* (Eds B. Stenfort Kroese, D. Dagnan, & K. Loumidis), pp. 110-123. London: Routledge.

Dagnan, D., Chadwick, P., & Proudlove, J. (2000). Toward an assessment of suitability of people with mental retardation for cognitive therapy. *Cognitive Therapy and Research*. **24**(6), 627-636. doi: 10.1023/A:1005531226519.

Dodge, K., Coie, J., & Lynam, D. (2006). Aggression and antisocial behaviour in youth. In: *Handbook of child psychology Sixth Edition: Vol. 3. Social, emotional, and personality development* (Eds: W. Damon, R. Lerner & N. Eisenberg), pp 719–788. New York: Wiley.

Dollard, J., Miller, N. E., Doob, L. W., Mowrer, O. H., & Sears, R. R. (1939). *Frustration and aggression*. New Haven: Yale University.

Esdale, L., Jahoda, A., & Pert, C. (2015). Coping With Criticism and Praise. *American Journal on Intellectual and Developmental Disabilities*. **120**(3), 258-268. doi:1352/1944/7758/120.3.258.

Finlay, W. M. L., Rutland, A., & Shotton, J. (2003). 'They were brilliant, I don't know what I would've done if they hadn't been here': the group concept problem revisited. *Journal of Community & Applied Social Psychology*. **13**(4), 300-313. doi: 10.1002/Casp.733.

Fogarty, G. J., Bramston, P., & Cummins, R. A. (1997). Validation of the Life stress Inventory for people with a mild intellectual disability. *Research in Developmental Disabilities*, **18**(6), 435-456. doi: 10.1016/S0891-4222 (99) 00021-8.

Fontaine, R. G., & Dodge, K. A. (2006). Real-Time Decision Making and Aggressive Behavior in Youth: A Heuristic Model of Response Evaluation and Decision (RED). *Aggressive Behavior*. **32**, 604-624. doi: 10.1002/ab.20150.

Fuchs, C., & Benson, B. A. (1995). Social information processing by aggressive and nonaggressive men with mental retardation. *American Journal on Mental Retardation*. **100**, 244-252.

Gilbert, P. (1989). *Human nature and suffering*. Hove, UK: Lawrence Erlbaum Associates.

Gilbert, P. (2000). Social mentalities: Internal 'social' conflicts and the role of inner warmth and compassion in cognitive therapy. In: *Genes on the couch: Explorations in evolutionary psychotherapy*. (Eds P. Gilbert & K. G. Bailey), pp 118–150. Hove, UK: Psychology Press.

Gilbert, P. (2009). *The Compassionate Mind: A New Approach to Life's Challenges*. UK: Constable-Robinson.

Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology*. **53**(1), 6-41. doi: 10.1111/bjc.12043.

Gilbert, P., Durrant, K. & McEwan, K. (2006). Investigating relationships between perfectionism, forms and functions of self-criticism, and sensitivity to putdown. *Personality and Individual Differences*. **41**, 1299- 1308. doi: 10.1016/j.paid.2006.05.004.

Gilbert, P., Irons, C., Olsen, K., Gilbert, J., & McEwan, K. (2006). Interpersonal sensitivities: Their links to mood, anger and gender. *Psychology and Psychotherapy: Theory, Research and Practice*. **79(1)**, 37-51. doi: 10.1348/147608305X43856.

Gilbert, P., & Miles, J. N. (2000). Sensitivity to Social Put-Down: it's relationship to perceptions of social rank, shame, social anxiety, depression, anger and self-other blame. *Personality and Individual Differences*. **29(4)**, 757-774. doi: doi:10.1016/S0191-8869(99)00230-5.

Harris, P., Humphreys, J., & Thomson, G. (1994). A checklist of challenging behaviour: The development of a survey instrument. *Mental Handicap Research*. **17**, 118–133. doi: 10.1111/j.1468-3148.1994.tb00120.

Hartley, S. L., & MacLean, W. E. (2008). Coping strategies of adults with mild intellectual disability for stressful social interactions. *Journal of Mental Health Research in Intellectual Disabilities*. **1(2)**, 109-127. doi: 10.1080/19315860801988426.

Hastings, R. P., & Remington, B. (1994). Staff behaviour and its implications for people with learning disabilities and challenging behaviours. *British Journal of Clinical Psychology*. **33(4)**, 423-438. doi: 10.1111/j.2044-8260.1994.tb01140.

Jahoda, A., & Markova, I. (2004). Coping with social stigma: People with intellectual disabilities moving from institutions and family home. *Journal of Intellectual Disability Research*. **48(8)**, 719-729. doi: 10.1111/j.1365-2788.2003.00561.

Jahoda, A., Markova, I., & Cattermole, M. (1988). Stigma and the self-concept of people with a mild mental handicap. *Journal of Intellectual Disability Research*. **32(2)**, 103-115. doi: 10.1111/j.1365-2788.1988.tb01396.

Jahoda, A., Pert, C. & Trower, P. (2006). Socio-emotional understanding and frequent aggression in people with mild to moderate intellectual disabilities. *American Journal on Mental Retardation*. **111(2)**: 77-89.

Knight, G. P., Guthrie, I. K., Page, M. C., & Fabes, R. A. (2002). Emotional arousal and gender differences in aggression: A meta-analysis. *Aggressive Behavior*. **28(5)**, 366-393. doi: 10.1002/ab.80011.

Lemerise, E. A., & Arsenio, W. F. (2000). An Integrated Model of Emotion Processes and Cognition in Social Information Processing. *Child Development*. **71**, 107-118. doi: 10.1111/1467-8624.00124.

Lindsay, W. R., Allan, R., Parry, C., Macleod, F., Cottrell, J., Overend, H., & Smith, A. H. (2004). Anger and aggression in people with intellectual disabilities: treatment and follow-up of consecutive referrals and a waiting list comparison. *Clinical Psychology & Psychotherapy*. **11(4)**, 255-264. doi: 10.1002/cpp.415.

Mansell, J., Beadle-Brown, J., Macdonald, S., & Ashman, B. (2003). Resident involvement in activity in small community homes for people with learning disabilities. *Journal of Applied Research in Intellectual Disabilities*. **16(1)**, 63-74. doi: 10.1046/j.1468-3148.2003.00146.

Matheson, E., & Jahoda, A. (2005). Emotional understanding in aggressive and nonaggressive individuals with mild or moderate mental retardation. *American Journal of Mental Retardation*. **110(1)**, 57-67.

Murphy, G.H. & Clare, C.H.I. (2012). Working with offenders or alleged offenders with intellectual disabilities. In: *Clinical Psychology and People with Intellectual Disabilities-Second Edition* (Eds: E. Emerson, C. Hatton, K. Dickson, R. Gone, A. Caine, & J. Bromley), pp 235-273. UK: Wiley-Blackwell.

Murphy, G.H., O'Callaghan, A.C., & Clare, I. (2007). "The impact of alleged abuse on behaviour in adults with severe intellectual disabilities." *Journal of Intellectual Disability Research*. **51(10)**, 741-749. doi: 10.1111/j.1365-2788.2007.00973.

Nihira, K., Leland, H., & Lambert, N. (1993). *AAMR Adaptive Behaviour Scales - Residential and Community (ABS:RC-2)*. Austin, Texas: Pro-Ed.

Ostrowsky, M. K. (2010). Are violent people more likely to have low self-esteem or high self-esteem?. *Aggression and Violent Behavior*. **15(1)**, 69-75. doi: 10.1016/j.avb.2009.08.004.

Pert, C. & Jahoda, A. (2008). Social goals and conflict strategies of individuals with mild to moderate intellectual disabilities who present problems of aggression. *Journal of Intellectual Disability Research*. **52(5)**, 393-403. doi: 10.1111/J 1365-2788.01039.

Pert, C., Jahoda, A., & Squire, J. (1999). Attribution of intent and role-taking: Cognitive factors as mediators of aggression with people who have mental retardation. *American Journal on Mental Retardation*. **104(5)**, 399-409.

Pestana, C. (2015). Exploring the self-concept of adults with mild learning disabilities. *British Journal of Learning Disabilities*. **43(1)**, 16-23. doi: 10.1111/bld.12081.

Rose, J., West, C., & Clifford, D. (2000). Group interventions for anger in people with intellectual disabilities. *Research in Developmental Disabilities*. **21(3)**, 171-181. doi: 10.1016/S0891-4222(00)00032-9.

Rusch, R. G., Hall, J. C., & Griffin, H. C. (1986). Abuse-provoking characteristics of institutionalized mentally retarded individuals. *American Journal of Mental Deficiency*. **90**(6), 618-624.

Sherry, M. (2012). *Disability hate crimes: Does anyone really hate disabled people?*. UK: Ashgate Publishing, Ltd.

Wechsler, D. (1997). *Wechsler Adult Intelligence Scale— Third Edition*. San Antonio: The Psychological Corporation: Harcourt Brace & Company.

Wechsler, D. (1999). *Wechsler Abbreviated Scale of Intelligence*. New York. The Psychological Corporation: Harcourt Brace & Company.

Willner, P., Rose, J., Jahoda, A., Stenfort-Kroese, B., Felce, D., Cohen, D., MacMahon, P., Stimpson, A., Rose, N., Gillespie, D., Shead, J., Lammie, C., Woodgate, C., Townson, J., Nuttall, J., & Hood, K. (2013). Group-based cognitive-behavioural anger management for people with mild to moderate intellectual disabilities: cluster randomised controlled trial. *The British Journal of Psychiatry*. **203**, 288-296. doi: 10.1192/bjp.bp.112.124529.



## **CHAPTER THREE**

### **Course 12**

#### **Advanced Clinical Practice 1: Reflective Account**

#### **“A Reflection On My Tolerance Towards Uncertainty”.**

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**31<sup>st</sup> July 2015**

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*Submitted in partial fulfilment of the requirements for the Degree of Doctor of  
Clinical Psychology (DClinPsy)*

### **Abstract:**

Applying Gibb's (1988) model, the account provided the author with an opportunity to reflect upon his growing tolerance towards uncertainty. I looked back on my experiences of ambiguity in a clinical context and how I initially acted in response to a reduced sense of control. In particular, I reflected upon the feelings of insecurity that were experienced when managing the uncertainty of client risk, complexity and transference. I also considered the concerns I previously held regarding my own knowledge base and professional competency. The account, therefore, encouraged me to review the learning experiences that have matured my response to uncertainty. I commented on the skills I have now acquired which support me to identify and address areas of ambiguity. In particular, I considered the development of my professional writing style and the challenges this poses across contexts. I spent some time reviewing the maladaptive ways in which I previously coped with this deficit and the proactive strategies that now support me to better manage. I concluded by acknowledging that my written language will be an ongoing area of development and uncertainty.

## **CHAPTER FOUR**

### **Course 13**

#### **Advanced Clinical Practice 2: Reflective Account**

##### **“A Reflection On My Professionalism”.**

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**31<sup>st</sup> July 2015**

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*Submitted in partial fulfilment of the requirements for the Degree of Doctor of  
Clinical Psychology (DClinPsy)*

### **Abstract:**

During the second reflective account, I initially considered the past perceptions that I held regarding the role of a clinical psychologist. I discussed how my identity as a therapist has changed from being a “caring psychologist” to someone who is more invested in a diverse range of professional roles. I touched upon the insights that have led me to better consider the manner in which I present and interact with others. This led to further reflections upon my development of self discipline and the challenges I have faced in balancing humour within my professional role. The account considered the unique experiences which have led me to more readily acknowledge the role that my professional competencies have in the delivery of therapeutic resource. In particular, I explored how the leadership and training of others has led me to become more comfortable with the role I have in delivering indirect forms of psychological intervention. This led me to consider the professional responsibilities that I have in the future development of learning disability services. In particular, I reflected upon my investment in professionalism and my development of confidence and leadership in the provision of psychological care.

## **Appendix A: Requirements for Journal Submission**

## Submission Requirements

American Journal on Intellectual and Developmental Disability.

The screenshot shows a web browser window with the address bar displaying [www.aaiddjournals.org/page/authors/ajidd](http://www.aaiddjournals.org/page/authors/ajidd). The page features the AAIDD logo and navigation links: AAIDD, Content, AJIDD, IDD, INCL, Subscriptions, Librarians, and Help. A search bar is located on the right. The main heading is "Information for Authors", with a link to "Advanced Search". Below this, the "Manuscript Submission" section provides detailed instructions. It states that the American Journal on Intellectual and Developmental Disability (AJIDD) uses a Web-based manuscript submission and peer-review system called AllenTrack. Manuscripts should be submitted electronically to [ajidd.allentrack.net](mailto:ajidd.allentrack.net). The page also lists the contact information for the editorial office and the requirements for manuscript submission, including the need for a cover page and specific file formats.

**Manuscript Submission**

American Journal on Intellectual and Developmental Disability (AJIDD) uses a Web-based manuscript submission and peer-review system called AllenTrack. Manuscripts should be submitted electronically to [ajidd.allentrack.net](mailto:ajidd.allentrack.net). Given that all manuscripts will be reviewed anonymously, the author's name and other identifying information should appear only on the cover page. Potentially identifying information in the text should be removed prior to submission. The journal's Editor and Associate Editors oversee manuscript reviews. Once a manuscript is submitted, an Editor-in-Charge is assigned who is responsible for assigning the peer reviewers and deciding on the disposition of all manuscripts (acceptance, rejection, or requests for revision). The initial review process ordinarily takes from 8 to 10 weeks and revisions are often requested. Once a manuscript is accepted for publication, the remainder of the production process is coordinated by AAIDD's Publications Department ([journals@aaidd.org](mailto:journals@aaidd.org)).

Corresponding authors who require assistance in submitting their manuscripts through AllenTrack should contact the editorial office via e-mail at [leonard.abbaduto@ucdavis.edu](mailto:leonard.abbaduto@ucdavis.edu). AllenTrack can convert most word-processing files (e.g., Word, WordPerfect, Text, Postscript, and Rich Text Format).

Before submitting a manuscript, please gather the following information:

- All Authors
  - First Names, Middle Names/Initials, Last Names
  - Institution
  - Department
  - E-mail addresses
- Title and Running Title (you may copy and paste these from your manuscript)
- Abstract (you may copy and paste this from your manuscript)
- Key words
- Manuscript files in Word (.doc), WordPerfect (.wpd), or Rich Text Format (.rtf)
- All tables and figures will have to be provided as either Word or Excel files.

The separate Cover Page, Word (.doc), WordPerfect (.wpd), or Rich Text Format (.rtf) should include the following elements:

Cover Page

TITLE OF MANUSCRIPT  
(All Authors First Names, Middle Initials [if applicable], Surnames [in order of authorship])

Corresponding Author:

Full guidelines can be found at: <http://www.aaiddjournals.org/page/authors/ajidd>

## **Appendix B: Electronic Search Strategy**

## Search Strategy for Electronic Databases

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### *EBSCO SEARCH*

*MEDLINE (January 2015- January 2015)*

1 (MH "Affect") OR (MH "Affective Symptoms") OR (MH "Mood Disorders") OR (MH "Depressive Disorder") OR (MH "Depression") OR (MH "Depressive Disorder, Major") OR (MH "Mental Health") OR (MH "Mental Disorders") OR (MH "Diagnosis, Dual (Psychiatry)")

**OR**

2. "Affective Symptom\*" OR "Affective Disord\*" OR "Depress\*" OR "Mood\*" OR "Psychiatric" OR "Mental Ill health"

**AND**

3. (MH "Aggression") OR (MH "Violence") OR (MH "Hostility")

**OR**

4. "Aggress\*" OR "Anger Problem\*" OR "Anger Difficulti\*" OR "Hostil\*" OR "Violen\*" OR "Destructive Behaviour\*" OR "Assual\*" OR "Challenging Behaviour\*" OR "Problem Behaviour" OR "Depressive Equivalents"

**AND**

5. (MH "Intellectual Disability") OR (MH "Mentally Disabled Persons") OR (MH "Developmental Disabilities")

**OR**

6. "Learning Disabilit\*" OR "Mental Retard\*" OR "Mental Disabilit\*" OR "Mental Handicap\*" OR "Intellectual Disabilit\*" OR "Intellectual Handicap\*" OR "Developmental Disabili\*"

---

### *OVID*

*EMBASE(January 2015- January 2015)*

1. Long term depression/ or depression/ or recurrent brief depression/ or major depression/ or late life depression/ or atypical depression/ or reactive depression/ or affect/ or mood disorder/ or emotional disorder

**OR**

2. Affective Symptom\* or Affective Disord\* or Depress\* or Mood\* OR Psychiatric OR Mental Ill health

**AND**

3. Aggression/ or aggressiveness/ or hostility/ or verbal hostility/ or violence/ or physical violence/ or assault/

**OR**

4. Aggress\* or Anger Problem\* or Anger Difficulti\* or Hostil\* or Violen\* or Destructive Behaviour\* or Assual\* or Challenging Behaviour\* OR Problem Behaviour

**AND**

5. Developmental disorder/ or intellectual impairment/ or learning disorder/ or mental deficiency/

**OR**

6. "Learning Disabilit\*" OR "Mental Retard\*" OR "Mental Disabilit\*" OR "Mental Handicap\*" OR "Intellectual Disabilit\*" OR "Intellectual Handicap\*" OR "Developmental Disabili\*"

---

### *EBSCO SEARCH*

*PSYCHINFO/ PBSC/ PSYCHARTICLES (January 2015- January 2015)*

1. (DE "Affective Disorders") OR (DE "Depression (Emotion)") OR (DE "Major Depression") OR (DE "PSYCHIATRIC epidemiology") OR (DE "MENTAL health") OR (DE "AFFECT (Psychology)") OR (DE "MENTAL depression") OR (DE "MOOD (Psychology)")

**OR**

2. "Affective Symptom\*" OR "Affective Disord\*" OR "Depress\*" OR "Mood\*" OR "Psychiatric" OR "Mental Ill health"

**AND**

3. (DE "Aggressive Behavior") OR (DE "Aggressiveness") OR (DE "Hostility") OR (DE "Violence") OR (DE "Patient Violence") OR (DE "AGGRESSION (Psychology)") OR (DE "HOSTILITY (Psychology)") OR (DE "VIOLENCE -- Psychological aspects") OR (DE "VIOLENCE -- Risk factors")

**OR**

4. "Aggress\*" OR "Anger Problem\*" OR "Anger Difficulti\*" OR "Hostil\*" OR "Violen\*" OR "Destructive Behaviour\*" OR "Assual\*" OR "Challenging Behaviour\*" OR "Problem Behaviour" OR "Depressive Equivalents"

**AND**

5. (DE "Developmental Disabilities") OR (DE "Intellectual Development Disorder") OR (DE "Learning Disabilities") OR (DE "Learning Disorders")

**OR**

6. "Learning Disabilit\*" OR "Mental Retard\*" OR "Mental Disabilit\*" OR "Mental Handicap\*" OR "Intellectual Disabilit\*" OR "Intellectual Handicap\*" OR "Developmental Disabili\*"



## **Appendix C: Quality Rating Scores**

### Quality Rating Scores: Rater 1

Study	Study Question	Sampling	Sample	ID Assessment	Wellbeing Measurement	Aggression Measurement	Statistical Analysis	Total Score / Category
Hemmings et al. (2006)	2	2	2	1	3	2	3	15 ADEQUATE
Crocker et al. (2007)	2	2	3	1	3	3	3	17 ADEQUATE
Langlois & Martin (2008)	2	4	2	2	3	3	1	17 GOOD
Hurley* (2008)	1	2	0	1	1	1	1	7 POOR
Cooper et al. (2009)	2	4	3	2	3	3	2	19 GOOD
Tenneij et al. (2009)	1	2	2	3	2	2	1	13 GOOD
Tsiouris et al. (2011)	2	4	3	1	1	3	3	17 ADEQUATE
Allen et al. (2012)	1	4	2	2	3	3	1	16 GOOD
Lundqvist (2013)	2	4	2	1	1	3	2	15 ADEQUATE
Turygin et al. (2013)	1	2	1	3	3	3	1	14 GOOD

\*Note: Study Excluded From Systematic Review

### Quality Rating Scores: Rater 2

Study	Study Question	Sampling	Sample	ID Assessment	Wellbeing Measurement	Aggression Measurement	Statistical Analysis	Total Score / Category
Hemmings et al. (2006)	2	2	2	1	3	2	3	15 ADEQUATE
Crocker et al. (2007)	2	3	3	1	2	3	3	17 ADEQUATE
Langlois & Martin (2008)	2	4	3	3	3	3	1	19 GOOD
Hurley* (2008)	1	2	0	1	1	1	1	7 POOR
Cooper et al. (2009)	2	4	3	2	3	3	2	19 GOOD
Tenneij et al. (2009)	1	2	2	3	2	2	1	13 GOOD
Tsiouris et al. (2011)	2	4	3	1	3	3	3	19 ADEQUATE
Allen et al. (2012)	1	4	2	2	3	3	1	16 GOOD
Lundqvist (2013)	2	4	2	1	1	3	2	15 ADEQUATE
Turygin et al. (2013)	1	2	1	3	3	3	1	14 GOOD

\*Note: Study Excluded From Systematic Review

## **Appendix D: Major Research Proposal**

## **MAJOR RESEARCH PROJECT PROPOSAL**

**“How do adults with intellectual disabilities and anger problems respond to criticism and praise?”**

Matriculation Number: 2058485s

Date of Submission: October 2014

Version Number: 10

Word Count: 3863

## **Abstract**

**Background:** Adults with intellectual disabilities who display frequent aggression have a higher vulnerability to negative social experience than their non-aggressive peers. In turn, negative social experience could influence the interpersonal behaviour of people who are frequently aggressive and, in particular, how these individuals respond to the criticism and praise of others.

**Aims:** The study will explore if adults with intellectual disability (ID) who are frequently aggressive experience criticism and praise differently than their non-aggressive peers.

**Method:** Twenty three frequently aggressive and twenty three non-aggressive participants will take part in the study. Participants will be aged between 18- 65 years, have mild or moderate intellectual disability and be recruited from Further Education Colleges or Social Care Providers in Glasgow. A Praise and Criticism Task will use case vignettes to explore how participants perceive and respond to criticism and praise. The Glasgow Depression Scale-LD will be used as a measure of depression.

**Research Questions:** Of interest are the potential differences between the two groups in terms of: (1) Their perception of and response to criticism and praise (2) their levels of depression, and (3) whether the nature of the participants' experience of criticism and praise is associated with depression.

**Data Analysis:** The study's data will be subject to: i) A content analysis to examine the nature of the responses obtained from the study's two groups ii) Non parametric statistics to analyse quantitative groups differences on scores developed from data extracted through qualitative analysis iii) T-tests differences in depression scores, and iv) Spearman's associations between different responses on the PACT and depression scores.

**Application:** The study is considered to have therapeutic importance as it may indicate how the frequently aggressive adult with ID copes with particular interpersonal processes. This may in turn direct future therapeutic approaches used with aggressive people with ID.

## **Introduction**

Negative social interaction has been indicated by Hartley and MacLean (2008) to be one of the most stressful life events experienced by the adult with intellectual disability (ID). As a result, people with ID may be particularly vulnerable to psychological distress stemming from negative interpersonal experience. This perhaps is further contributed to by the way in which the adult with ID copes with stressful social events.

The display of frequent aggression is arguably the most problematic outcome of non adaptive coping for the adult with ID. Current estimates indicate that between 2-20% of people who have intellectual disability display aggressive behaviour (Davies & Oliver, 2013). Aggression can be defined as “any verbal or physical behaviour directed against another person for the purpose of physically and psychologically threatening that person” (Harris & Humphreys, 1994). It can also be described as an interpersonal process which can fuel social conflict and negative interpersonal experience.

Acts of aggression make it difficult for the adult with ID to establish or maintain friendships and can often lead to their exclusion from social, residential, educational or occupational resource (Allen, 2000). Frequently aggressive adults with ID also appear to experience greater levels of victimisation, criminalisation and stigma than their peers (Crocker et al, 2006). Their actions can additionally have a negative impact on the psychological wellbeing and care giving behaviour of their support system (Rose et al, 2004). The interpersonal experience of the aggressive adult with ID can, not surprisingly, become highly aversive, isolating and excluding in nature. This may contribute to the higher levels of mental health problems experienced by the aggressive adult with ID (Tsiouris et al, 2011). Current literature, therefore, continues to develop psychological therapies to support the frequently aggressive adult with ID.

Whilst Applied Behavioural Analysis (ABA) remains the dominant therapeutic approach used to manage aggression in the intellectual disability population, authors such as Stenfert-Kroese (1997) have highlighted that it fails to address the

underlying psychological processes that fuel the difficulties faced by this group of people. Berkowitz's (1993) cognitive model of aggression suggests that dysfunctional cognitions and information processing in addition to physiological and emotional arousal can contribute to an adult's aggressive behaviour. Effective forms of cognitive behavioural therapy (CBT) have subsequently been developed to address maladaptive thinking in adults with mild to moderate intellectual disabilities who are aggressive (e.g. Taylor & Novaco, 2005). Such therapeutic approaches may, however, be limited by their failure to fully consider the interpersonal nature of aggression and its negative social impact. As a result, research is required to explore the interpersonal processes that may contribute to an individual's aggressiveness.

Aggressive behaviour is often triggered by interpersonal threat with Dickerson & Kemeny (2004) highlighting that social criticism is one of the most powerful elicitors of the fight or flight response. As previously highlighted, the aggressive adult with ID can regularly face threatening interpersonal events and may also be subject to ongoing criticism from others as a direct result of their behaviour. Compassion focused literature (Gilbert, 2009) suggests that such heightened levels of negative social experience may lead an individual to become particularly sensitive to criticism. Unfortunately, this vulnerability has been associated with greater levels of depressive symptoms within the intellectual disability population (Hartley & MacLean, 2009). Frequently aggressive adults with ID may therefore be more likely to develop depression as a result of reacting more negatively to interpersonal criticism. No existing research has, however, explored how frequently aggressive adults with ID perceive or respond to interpersonal criticism or how these processes relate to depression in this group of people.

Research within the general population suggests that aggression can be related to both low self-esteem and high self-esteem (Ostrowsky, 2010). The self-perceptions of frequently aggressive adults with ID may have an effect on their subsequent interpersonal experiences. For example, frequently aggressive adults with ID and a negative self concept may view positive social interaction such as praise differently from their more confident peers. Compassion focused literature (Gilbert, 2009) would suggest that such individuals may find it difficult to accept the kindness of others due to a heightened expectation for sources of internal or external threat. This



group of people's potential difficulty in accepting praise may prevent them from gaining positive feedback from their social interactions and increase vulnerability to depression. No existing research has, however, explored how frequently aggressive people with ID perceive and respond to interpersonal praise or how this process influences wellbeing.

Ackland, Jahoda & Pert (In Press) have previously explored how the intellectual disability population as a whole experience criticism and praise. Using a Praise and Criticism Task (PACT), their study compared how adults with and without intellectual disabilities, perceived and responded to these interpersonal processes. The PACT used semi structured interviews concerning vignettes of interpersonal situations to capture qualitative and quantitative data about how participants' felt, believed and accepted forms of criticism and praise. The study indicated that participants with ID were more likely to believe and be distressed by criticism than the general population. It also found that participants with ID were more likely to accept and experience positive affect from praise.

Ackland and colleagues' PACT used a novel and creative research approach to explore how people with an intellectual disability perceived and responded to criticism and praise. The method was found to be engaging and of interest to participants with intellectual disabilities and proved to be a valuable source of data regarding the interpersonal experience of adults with an intellectual disability. The proposed study intends to apply the PACT within a sample of frequently aggressive and non-aggressive adults with intellectual disabilities. In doing so, the study aims to explore how these two groups differ in their perception and response to interpersonal criticism or praise whilst also considering how such processes relate to depression ratings in these groups.

## **Research Questions**

This is an essentially exploratory study addressing the following questions:

### ***Between Groups:***

In comparison to their non-aggressive peers, are frequently aggressive adults with ID:

- More likely to: i) Believe criticism.  
ii) Feel bad in response to criticism.
- More likely to: i) Believe Praise  
ii) Feel good in response to praise.
- More likely to: i) Experience depression.

### ***Within Groups:***

Are higher levels of depression associated with:

- i) Acceptance of Criticism      ii) Rejection of Praise

## **Plan of Investigation**

### ***Study Design***

This is an exploratory group comparison design, examining whether frequently aggressive and non-aggressive adults with intellectual disabilities quantitatively differ in their perceptions of criticism and praise and how they respond emotionally. Levels of depression within the study's sample will also be subject to a between groups analysis whilst associations between the study's quantitative measures will be explored within each of the study's groups.

### ***Participants***

Twenty three individuals who are frequently aggressive will be recruited. These participants' will have a history of frequent aggression and will have displayed more than four significant episodes of verbal/physical aggression towards others in the last three months. A further twenty three individuals will also be recruited who have displayed no significant episodes of aggression towards others within the last twelve months. Consequently, the study will have a total sample size of forty six. The two groups of participants will be as closely matched as possible in terms of gender, age, sociodemographic status and level of cognitive functioning.

### ***Inclusion Criterion***

Participants will be included in the study if they:

- Are eighteen to sixty five years old.
- Have a mild or moderate intellectual disability.
- Have the ability to provide consent.
- Have sufficient receptive / expressive verbal ability to describe everyday events.
- Display the frequency of aggression required to be included in the study's groups:
  - A) A minimum of four episodes of serious aggression towards others within the last three months.
  - B) No episodes of aggression towards others within the last twelve months.

A background information form (Supporting Document B) will be used to ensure each participant meets the above eligibility criteria. This will apply items taken from the Adaptive Behaviour Scale (ABS-RC: 2, Nihira, Leland & Lambert, 1993) in order to ascertain the participant's level of ability and a singular item designed to assess the frequency of their aggressive behaviour.

### ***Exclusion Criterion***

Participants will be excluded if they:

- Do not speak English as their first language.
- Have a severe intellectual disability.
- Have a low level of receptive/expressive verbal ability.
- Have a visual or hearing impairment.
- Have a diagnosis of autistic spectrum disorder.
- Predominantly displays self injurious aggression.

These characteristics are perceived to impair a participant's ability to fully understand and engage with the research material. Participants will also be excluded if they do not display the frequency of aggression required.

### ***Participant Recruitment***

In order to ascertain levels of interest, a letter introducing the proposed study (Supporting Document F) will be sent to managers of Further Education Colleges (FEC) and Social Care Providers (SCP) based within the Glasgow area. It is perceived that these services will be able to identify frequently aggressive / non-aggressive adults with ID or know other community based organisations that do so. Utilising a supplied suitability checklist (Supporting Document G), FEC and SCP managers will identify and approach groups of adults with ID who may be interested in participating. A separate information booklet designed for people with intellectual disabilities (Enclosed with Ethics Application) will be provided to interested parties by FEC and SCP managers. Upon request, the researcher will give a brief presentation to identified groups of interested adults. This will provide an overview of the study's rationale, its eligibility criteria and what participation would involve. People will then be invited to express interest in participation by contacting the researcher by reply slip, email, telephone or through their staff members. The

researcher will initially meet interested parties in order to review the study's goals and participation requirements before collating the individual's written consent to participate using a predesigned consent form (Enclosed with Ethics Application).

### ***Measures***

The measures will be delivered to each participant over two thirty minute sessions or within one sixty minute session in the order presented.

#### ***Background Information Form***

Completion of this document will be supported by the input of the participants' key staff member and will ensure the study's inclusion criteria are met. The form contains items from the ABS: RC-2 and a singular item designed to measure the frequency of the participant's verbal /physical aggression towards others. The ABS: RC-2 is a check list of skills, abilities and problematic behaviour that is completed by a person familiar to the individual being assessed. Internal consistencies and reliabilities for all scores on the ABS: RC-2 exceed 0.8. The singular item assessing the frequency of the participant's aggressive behaviour will use criteria adapted from Jahoda, Pert & Trower (2006) and Pert & Jahoda (2008) to confirm that the participant has displayed zero acts of aggression towards others in the last twelve months or a minimum of four acts of aggression within the last three months.

To ensure that the study's groups are as closely matched as possible, the background information form will also gather the participant's 1) Age, 2) Gender 3) Living situation, 4) Employment and 5) Postcode. The postcode data will be utilised to measure socio- economic status using the Carstairs Index (Carstairs & Morris, 1991). The Carstairs Index is composed of four indicators judged to represent material disadvantage namely low social class, lack of car ownership, overcrowding and male unemployment.

#### ***Praise and Criticism Task - PACT***

The PACT was developed by Ackland et al. (In Press) and stems from past research that has used hypothetical vignettes to investigate the social-cognitive responses of people with ID to interpersonal situations (e.g. Pert & Jahoda, 2008; Jahoda, et al, 2006). It is designed to assess how participants' perceive and respond to criticism or

praise. The PACT will present each participant with self-referent scenarios that will require them to imagine encountering a person who says something unambiguously positive (praise) or negative (criticism) about them. Each hypothetical scenario will be illustrated within a story board format with the scenario's narrative being read to the participant. Following each scenario, an interview protocol will assess the participant's emotions, beliefs and thoughts in relation to the criticism or praise. The response format will be a combination of open ended and forced choice questions which will produce qualitative and categorical data. Open ended responses will be recorded, analysed and coded into themes. Such examination will produce categorical data that categorises the participant's emotion, belief and level of acceptance in response to criticism and praise. Supporting Document C provides examples of PACT scenarios and questions. Participants will be read and shown ten scenarios (each with alternative endings of criticism and praise) covering five themes namely i) Performance, ii) Skill, iii) Popularity, iv) Future Goals and v) Autonomy. The PACT may require adjustment so that its themes, scenarios and questions are more relevant to frequently aggressive adults with ID. The PACT will therefore be piloted with the first three individuals volunteering to take part in the proposed study. These individuals will go through the same recruitment process as the rest of the study's sample. The same approach to gathering participant consent will be utilised.

#### *The Glasgow Depression Scale for Learning Disability -GDS-LD*

The GDS-LD (Cuthill, Espie & Cooper, 2003) is a 20 item questionnaire designed to measure depression within the intellectual disability population. The GDS-LD (Supporting Document D) is strongly correlated with the Beck Depression Inventory II ( $p = 0.88$ ) and demonstrates good test-retest reliability ( $r = 0.97$ ) and internal consistency ( $\alpha = 0.90$ ). GDS-LD items ask participants to reflect on their feelings over the past week. Each item is then asked in two parts. The participant is asked to choose between a 'yes' and 'no' answer and if their response is 'yes', they are asked if that is 'sometimes' or 'always'.

#### *Wechsler Abbreviated Scale of Intelligence 2nd Ed- WASI-II*

The Vocabulary and Matrix Reasoning subscales of the WASI-II (Wechsler, 2011) will be delivered to provide an estimate of the participant's level of cognitive functioning. This will be used to ensure that the study's groups are as closely

matched as possible. Correlations between the WASI-II and measures of similar constructs such as the Wechsler Adult Intelligence Scale are acceptable ranging from between 0.71 and 0.92.

### ***Settings and Equipment***

Data collection will occur in the learning, occupational or community facility from which the participant is recruited. Access to the WASI-II will be required. When appropriate, responses will be recorded straight onto predesigned response forms. Meetings will be recorded using a digital recorder and transcribed verbatim.

### ***Data Analysis***

#### ***Between Groups***

The PACT's qualitative data will be subject to a content analysis to examine the nature of the responses obtained from the study's two groups. This will produce a descriptive account of how the groups differ in their perception and response to criticism and praise. Qualitative responses for both groups will also be transformed into categorical data representing each participant's belief, level of acceptance and emotion in response to criticism and praise. This quantitative data will be subject to non parametric tests which will further explore variation between the study's two groups. Independent T-tests will be used to evaluate between group differences in depression scores.

#### ***Within Groups***

Spearman Rank Order Correlations will be used to explore the associations between the transformed quantitative data taken from the PACT and depression scores.

### ***Justification of Sample Size***

No existing study appears to compare how frequently aggressive and non-aggressive adults with ID perceive and respond to criticism and praise. The study is therefore considered to be exploratory in nature. G Power software (Faul et al, 2007) was utilised to undertake a power calculation. To use Independents t-tests (two-tailed) to find an effect size of 0.5 at a power level of 0.80 and 5% significance level, the study would need to recruit one hundred and twenty eight participants. Such a sample size

was considered to be unrealistic due to the time restrictions of a DClinPsych research project and because the study's target population is difficult to reach. Ackland et al. (In Press) carried out a study, examining peoples' perceptions and responses to criticism and praise, using a sample size of forty participants with and without intellectual disability. This study found statistically significant results indicating that participants with intellectual disability more frequently believed in criticism ( $\chi^2(1) = 3.87, p = 0.049$ ) and experienced negative emotion in response to criticism ( $\chi^2(1) = 22.33, p = 0.001$ ) than participants without intellectual disability. Consequently, the sample size for the proposed study will be forty.

### ***Researcher Safety Issues***

Data collection will comply with standard safety and lone working procedures. Meetings will take place during normal working hours in a safe environment with a staff member being made aware of all meetings. The researcher will have access to a personal safety alarm and when appropriate will request staff supervision. The research material is perceived to be interesting and non-threatening with no incidents of concern being highlighted in similar research using case vignettes with aggressive adults with ID (e.g. Pert & Jahoda, 2008; Jahoda et al, 2006; Ackland et al, In Press).

### ***Participant Safety Issues***

Before commencing the study each participant will be required to provide informed consent which can be withdrawn at any point. No forms of deception will be used. The limitations of confidentiality will be explained to each participant. If any individual becomes distressed during participation, the researcher will initially attempt to deescalate the situation. When necessary and with the participant's consent, the researcher will then help the individual to access support from their staff members, family or other relevant authorities.

## **Ethical Issues**

Participants will be clearly briefed on the study's objectives, aims and their voluntary participation. Each participant will be capable of providing verbal and written consent to volunteer in the proposed study. Encryption will maintain participant confidentiality with data being stored in line with the University of



Glasgow's policy on data protection. Ethical approval will be gained from University of Glasgow College of Medical, Veterinary and Life Sciences Research Ethics Committee and permission to recruit from interested organisations will be obtained from their managers. A similar research approach has been used by Ackland et al. (In Press) and was reported to be engaging and of interest to the participants, without causing distress or upset. If any participant experiences distress in response to the study materials, the researcher will address this accordingly and when necessary terminate the research task.

### **Data Management**

The researcher, Mr James Andrew Savage, and Professor Andrew Jahoda will have access to the study's data. Data will only be used for those purposes approved by the MVLS College Ethics committee. Quantitative data extracted from the PACT, GDS-LD, WAIS-II and background information forms will be electronically input into an SPSS database. Written material used to collect such data will, be shredded by July 2015. Qualitative data produced by the PACT will be transcribed onto Microsoft Word documents. All electronic data will be stored on a virtual drive (truecrypt) mounted on a University of Glasgow server. In accordance with the University of Glasgow's Code of Practice (2013) electronic files will be stored securely on a university computer for no less than ten years. Similarly, participant consent forms and reply slips will be held securely within a locked cabinet within the University of Glasgow Institute of Health & Wellbeing for a period of ten years.

So as to maintain client confidentiality, no personal identifiable data will be processed during the study's analysis. Any form of personal identifiable information inadvertently extracted during electronic recording of face to face interviews will be removed during transcription. Digital recordings of face to face interviews will be deleted following transcription. Whilst quotes taken from participant responses will be used within the analysis and discussion sections of the proposed study's write up, they will be conveyed anonymously.

Findings will be reported as part of the applicant's Doctorate in Clinical Psychology dissertation. A copy of this will be held on the university website and a bound hard copy will be kept at a University of Glasgow Library. It is the intention of the researcher that a research article will be written and submitted to a peer reviewed

journal for consideration. Similarly, findings may be disseminated through poster presentations at relevant conferences. Feedback on the proposed study's findings will be provided to participants via a letter to their Further Education College or Social Care Provider.

### **Financial Issues**

The proposed study will incur costs of £198.10 stemming from the purchase of WASI-II, Response Booklets, Freepost Letters, A4 Envelopes and Laminating Pouches.

### **Timetable**

2014	March -August September- October August- January November	Submit proposal and alterations Submit & obtain ethical approval Systematic Review Pilot and begin recruitment
2015	January February- March April June July September	Complete recruitment Collate Data Data analysis Write up Loose bound portfolio submission Viva

### **Practical Applications**

The proposed study may allow the clinical field to better consider how frequently aggressive adults with ID tolerate particular interpersonal processes. It perhaps will shed light on how this group of people copes with criticism and whether such individuals have difficulty in taking benefit from praise. The study may highlight how these interpersonal processes influence levels of depression experienced by the frequently aggressive adult with ID. There are therefore, implications for the development of therapeutic techniques designed to address aggression and depression in the intellectual disability population.

## References

- Ackland, L., Jahoda, A. & Pert, C. (In Press). Coping with criticism and praise; the emotional well-being of people with intellectual disabilities. *Journal of Intellectual Disability Research*.
- Allen, D. (2000). Recent research on physical aggression in persons with intellectual disability: an overview. *Journal of Intellectual and Developmental Disability*. **25**, 41–57.
- Berkowitz, L. (1993). *Aggression in Causes, Consequences and Control*. New York: McGraw-Hill.
- Carstairs, V. & Morris, R. (1991). *Deprivation and health in Scotland*. Aberdeen: Aberdeen University Press.
- Crocker, A. G., Mercier, C., Lachapelle, Y., Brunet, A., Morin, D. & Roy, M.E. (2006). Prevalence and characteristics of aggressive behaviour among adults with intellectual disabilities. *Journal of Intellectual Disability Research*. **50**, 652–661.
- Cuthill, F. M., Espie, C. A., & Cooper, S.A. (2003). Development and psychometric properties of the Glasgow Depression Scale for People with a Learning Disability: Individual and carer supplement versions. *British Journal of Psychiatry*. **182**, 347–353.
- Dagnan, D., & Sandhu, S. (1999). Social comparison, self esteem, and depression in people with learning disabilities. *Journal of Intellectual Disability Research*. **43**, 372–379.
- Davies, L. & Oliver, C. (2013). The age related prevalence of aggression and self-injury in persons with an intellectual disability: A review. *Research in Developmental Disabilities*. **34**, 764–775.

Dickerson, S.S. & Kemeny, M.E. (2004). Acute Stressors and Cortisol Responses: A Theoretical Integration and Synthesis of Laboratory Research. *Psychological Bulletin*. **130**, 355–391.

Gilbert, P. (2009). *The Compassionate Mind: A New Approach to Life's Challenges*. Constable-Robinson.

Hartley, S.L. & MacLean W. E (2008). Coping Strategies of Adults with Mild Intellectual Disability for Stressful Social Interactions. *Journal of Mental Health Research in Intellectual Disabilities*. **1(2)**, 109–127.

Harris, P & Humphreys, S. (1994). A checklist of challenging behaviour: the development of a survey instrument. *Mental Handicap Research*. **7(2)**, 118–133

Hartley, S.L. & MacLean, W.E. (2009). Depression in adults with mild intellectual disability: role of stress, attributions, and coping. *American Journal on Intellectual and Developmental Disabilities*. **114 (3)**, 147-160.

Jahoda, A., Pert, C., & Trower, T. (2006). Frequent aggression and attribution of hostile intent in people with mild to moderate intellectual disabilities: An empirical investigation. *American Journal on Mental Retardation*. **111 (2)**: 90–99.

Nihira, K., Leland, H. & Lambert, N. (1993). *Adaptive Behaviour Scale- Residential and Community: 2nd Edition*. The American Association on Mental Retardation, Austin.

Ostrowsky, M.K. (2010). Are violent people more likely to have low self-esteem or high self-esteem? *Aggression and Violent Behaviour*. **15**, 69–75.

Pert, C. & Jahoda, A. (2008). Social goals and conflict strategies of individuals with mild to moderate intellectual disabilities who present problems of aggression. *Journal of Intellectual Disability Research*. **52 (5)**, 393-403.

Rose, D., Horne S., Rose, J.L. & Hastings, R.P. (2004). Negative Emotional Reactions to Challenging Behaviour and Staff Burnout: Two Replication Studies. *Journal of Applied Research in Intellectual Disabilities*. **17**, 219–223.

Stenfert-Kroese, B. (1997). Cognitive-Behavioural Therapy for People with Learning Disabilities. *Behavioural and Cognitive Psychotherapy*, **26**: 315–322.

Taylor, J.L. & Novaco, R.W. (2005). *Anger Treatment for People with Developmental Disabilities: A theory, evidence and manual based approach*. Chichester: Wiley.

Tsiouris, J. A., Kim, S.Y., Brown, W.T., & Cohen, I. L. (2011). Association of aggressive behaviours with psychiatric disorders, age, sex and degree of intellectual disability: a large-scale survey. *Journal of Intellectual Disability Research*. **55(7)**, 639-649.




Wechsler, D. (2011). *Wechsler Abbreviated Scale of Intelligence–Second Edition (WASI-II)*. San Antonio, TX: NCS Pearson.

## **Appendix E: Participant Information Booklet**








## PARTICIPANT INFORMATION BOOKLET

### Research study:


**“Criticism & Praise: The cognitive emotional responses of adults with an intellectual disability who display aggression.”**

 	<p>Please read this booklet or ask someone to read it with you.</p> <p>You can talk to your staff or family about the study.</p> <p>Ask them what they think.</p>
	<p>My name is Andrew Savage.</p> <p>I am studying at the University of Glasgow.</p>



### What is this about?

	<p>I am doing a research study.</p>
	<p>As part of my training at the University of Glasgow.</p>
	<p>I am asking you to take part.</p>
	<p>My research study looks at how people with learning disabilities cope with other people trying to praise or criticise them.</p>
	<p>I want to find out if adults who find it difficult to stay calm, feel differently about what other people say to them, than adults who find it easier to stay calm.</p>
	<p>My study is also interested in how people are feeling day to day.</p>
	<p>I hope the study will help others to learn how adults, who have problems staying calm, cope with criticism and praise. This may give others ideas of how to help people feel more in control.</p>


### How long does the study last?

	<p>My research study starts in October 2014 and ends in August 2015.</p>
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### Why do you want me to take part?

	<p>I am asking you to take part because I am interested in your opinion as you are from a specific group of people.</p>
	<p>I am going to speak to two groups of people:  <i>Group A</i> → Adults who can have problems staying calm.  <i>Group B</i> → Adults who do not have problems being calm.          I hope that forty six people will take part in the study.</p>




### Do I have to take part?

	<p>No, you decide if you want to take part.          It is OK to say 'No'.          It is OK to change your mind. You don't have to say why</p>
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### What will happen if I decide not to take part?

	<p>It's ok to say 'No'. If you don't want to take part, this will not affect the care and support you receive. If you do not take part, it will not affect your grades in any way.</p>
---	--


### What do I have to do if I take part?

	<p>I will meet you at college, work or in your community.</p>
	<p>If you say 'Yes', you will be asked to sign a form saying you consent to taking part in the study.</p>
	<p>I will meet with you once for about an hour. If this is too long for you we can meet for two shorter meetings. I will need to speak with your family or staff. You will be told what I am speaking to your family/staff about.</p>




	<p>Our meeting(s) will be recorded with a tape recorder.</p>
	<p>Our meeting(s) will be in four parts:</p> <p>(1) I will ask you questions about yourself such as your name, age and where you live.</p> <p>(2) I will show you some pictures that tell a story. I will read out the story and ask you to imagine you are in it. A person in the story will praise or criticise you. I will ask you questions about your opinion on this.</p> <p>(3) I will ask you some questions about how you have been feeling recently.</p> <p>(4) I will ask you to do some puzzles with pictures and words.</p>


**What if I change my mind and do not want to take part during the study?**

	<p>You can change your mind about taking part You can stop at any time. If you change your mind this will not affect the care and support you receive.</p>
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**Will anything bad happen if I take part?**

	<p>You have to give up an hour of your time. It is unlikely that anything bad will happen to you as a result of taking part.</p>
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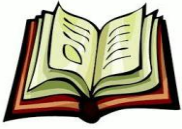
**Are there any benefits to taking part?**

	<p>You are unlikely to feel any benefit from talking to me. People in the past have found it interesting to take part in similar studies. I will send you a copy of the results in a letter. Your opinion could help support others in the future.</p>
---	--


### Will other people find out about what I say?

	<p>Everything you say will be kept private. The information you give me will be stored safely on a computer. Your name or personal details will not be used in the study.</p>
	<p>I may write about the things you have said in a report. Your name will not be in the report No one will know that you spoke to me unless you tell them.</p>
	<p>The only time I may have to talk to someone else about you or share what you say with others is if: → I think you need extra help. → I am very worried about you or someone else.</p>

### What will happen to what I say?




	<p>When the study is finished: I will write a report about what you and other people have said. Other people will be able to read the report. A copy of the report is kept at the library at the university.</p>
---	--

### How can I take part?

	<p>You can let your staff know and they will pass your name onto me.</p> <p>You can fill in the reply form and post this using the stamp addressed envelope provided.</p> <p>You can ask someone to help you with this.</p> <p>You can contact me on the telephone or email address below.</p> <p>I will then arrange to meet with you to talk about taking part.</p>
---	---

**Thank you for reading this**  
**You can keep this information booklet.**

## REPLY FORM

	<p>If you would like to volunteer to take part in my study, please fill in this form.</p>
	<p>You can get help from your staff to fill this out.</p>
	<p>Once finished filling in the form you can:</p> <ol style="list-style-type: none"> <li>1) Give this to a member of your staff.</li> <li>2) Post it using the stamped address envelope.</li> </ol> <p>We will then meet to talk about my study and what you will be required to do if you volunteer to take part. You will be asked to sign and keep a copy of a consent form.</p> <p>You will be asked to keep a copy of the information booklet.</p>

**Name**

.....

**Address**

.....  
 .....

**Telephone Number**

.....

**College/Work Place/ Community Organisation**

.....

**Please return to via Stamped Addressed Envelope to:**

Mr Andrew Savage, Trainee Clinical Psychologist, Mental Health &  
 Wellbeing Gartnavel Royal Hospital, 1055 Great Western Road, Glasgow,  
 G12 0XH.

Tel: 0141 211 3920

Email: a.savage.1@research.gla.ac.uk

## **Appendix F: Participant Suitability Checklist**

## PARTICIPANT SUITABILITY CHECKLIST



The below statements can be used to assess if someone can volunteer in the research study: *“Criticism & Praise: The cognitive emotional responses of adults with an intellectual disability who display aggression”*.

A student may be able to volunteer in the research study if ALL the below statements are TRUE about them.

	True ✓
<u>1.</u> Student is aged between 18 and 65.	
<u>2.</u> Student’s first language is English.	
<u>3.</u> Student can talk to others about sports, family or group activities.*	
<u>4.</u> Student can sometimes use complex sentences containing the words ‘because’ or ‘but’.*	
<u>5.</u> Student can answer simple questions such as ‘What is your name?’ or ‘What are you doing?’*	
<u>6.</u> Student displays aggression: Which is <u>NOT</u> predominantly self injurious in nature.	
<u>7.</u> Student has been involved in: “No incidents of verbal/ physical aggression towards others in the last three months”. <u>OR</u> “A minimum of four serious incidents of serious verbal/ physical aggression towards others in the last three months”.	
<u>8.</u> Student has <u>NO</u> other condition which would limit their ability to volunteer in the research study (e.g. Sensory Impairment / Autism Spectrum Disorder).	
<u>9.</u> Considering my above answers, I would believe the student has the capacity to freely consent to participating in the current study.	

\*Items taken from the *Adaptive Behaviour Scale-Residential and Community: 2nd Edition* (Nihira, K., Leland, H. & Lambert, N. (1993). Adaptive Behaviour Scale- Residential and Community: 2nd Edition. The American Association on Mental Retardation, Austin) so as to assess if participant has sufficient communication skills to describe every day events.

## **Appendix: G Background Information Form**



## **BACKGROUND INFORMATION FORM**



Participant Number.....

### **Inclusion Criteria**

	True ✓	False X
Is the individual aged between 18 and 65?	<input type="checkbox"/>	<input type="checkbox"/>
Do they have a reported intellectual disability?	<input type="checkbox"/>	<input type="checkbox"/>
* Can the adult talk to others about sports, family or group activities.	<input type="checkbox"/>	<input type="checkbox"/>
* Can they sometimes use complex sentences containing 'because' or 'but'?	<input type="checkbox"/>	<input type="checkbox"/>
* Can they answer simple questions i.e. 'What is your name?' 'What are you doing?'	<input type="checkbox"/>	<input type="checkbox"/>

\* Items taken from the *Adaptive Behaviour Scale- Residential and Community: 2nd Edition*<sup>1</sup> so as to assess if participant has sufficient communication skills to describe every day events.

How frequently has the participant exhibited:  
**'Verbal and /or Physical Aggression Towards Others'**  
In the last twelve months?

	True ✓	
<b>This behaviour has not occurred during the past three months</b>	<input type="checkbox"/>	NON-AGGRESSIVE GROUP
The individual has been aggressive on more than one occasion in the last three months	<input type="checkbox"/>	
Predominantly displays self injurious aggression	<input type="checkbox"/>	
<b>The individual has displayed a minimum of four serious episodes of aggressive behaviour in the last three months.</b>	<input type="checkbox"/>	AGGRESSIVE GROUP

If any of the above answers are outside a highlighted box True ☒ the participant will be deemed unsuitable to volunteer in study. Further data is not required for these individuals.

### **Demographics:**

GENDER : MALE / FEMALE

AGE.....

LIVING SITUATION

.....

EMPLOYMENT.....

POSTCODE.....

<sup>1</sup> Nihira, K., Leland, H. & Lambert, N. (1993). *Adaptive Behaviour Scale- Residential and Community: 2nd Edition*. The American Association on Mental Retardation, Austin.

## **Appendix H: Praise and Criticism Task (PACT)**



## **POPULARITY ONE:**

**Participant Number.....**

### **Narrative:**

A pal is planning a party for some of her friends. She is deciding who should go.  
You ask if you can go. She says:

**Criticism:** *"We don't want you to come".*

**Praise:** *"We would love you to come".*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that?' .....

b) 'What does that make you think?' .....

    'When your pal says' .....

(Criticism): *"We don't want you to come".*

(Praise): *"We would love you to come".*

Or 'You said you would feel.... (Insert stated emotion)'

    'When your pal says' .....

(Criticism): *"We don't want you to come".*

(Praise): *"We would love you to come".*

    'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when your pal says'

(Criticism): *"We don't want you to come"*

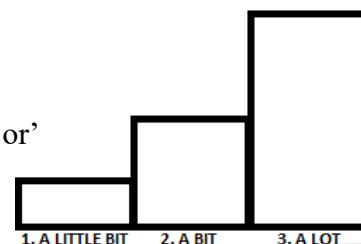
(Praise): *"We would love you to come"*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



---

**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Would people want you at their party?'

**Yes / No**

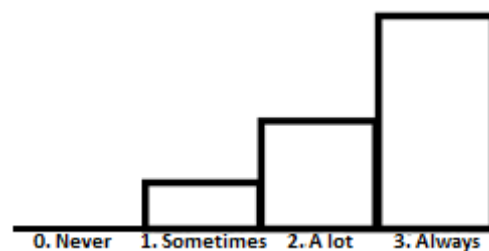
If 'Yes' continue to b) if 'No' circle (0)'Never'

b) 'How often would you say that?'

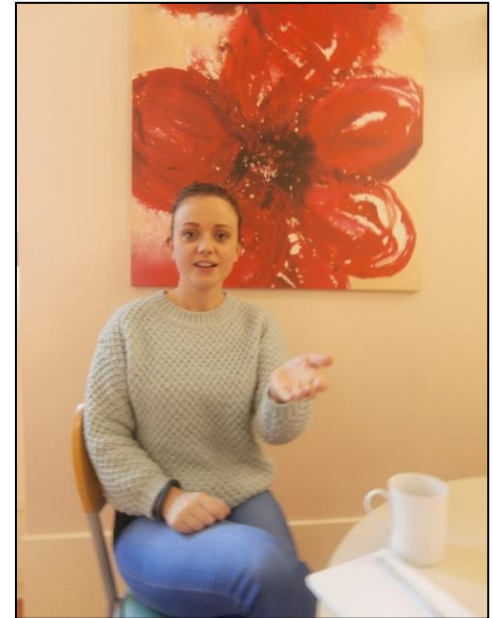
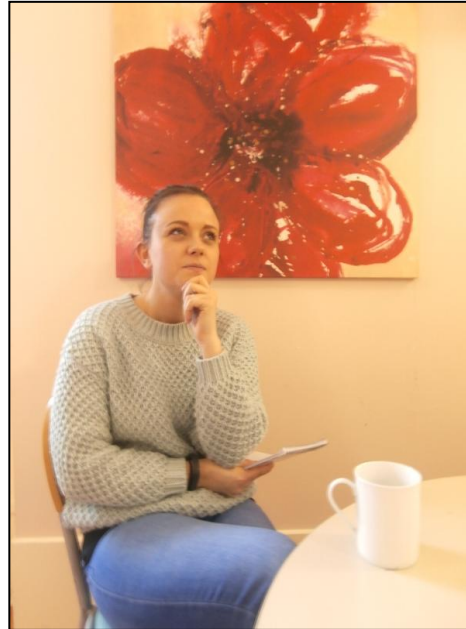
(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



## POPULARITY ONE



## **POPULARITY TWO:**

**Participant Number.....**

### **Narrative:**

You walk past two of your tutors (staff/carers) chatting. You hear them talking about you. You hear them say:

**Criticism:** “Some people don’t get on with (Participant’s name)”.

**Praise:** “Everyone gets on with (Participant’s name)”.

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) ‘What do you make of that?’ .....

b) ‘What does that make you think?’ .....

‘When your tutors (staff/carers) say.....

(Criticism): “Some people don’t get on with (Participant’s name)”.

(Praise): “Everyone gets on with (Participant’s name)”.

Or ‘You said you would feel..... (Insert stated emotion)

‘When your tutors (staff/carers) say’ .....

(Criticism): “Some people don’t get on with (Participant’s name)”.

(Praise): “Everyone gets on with (Participant’s name)”.

‘What would be going through your mind?’

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) ‘How do you feel when your tutors (staff/carers) say’:

(Criticism): “Some people don’t get on with (Participant’s name)”.

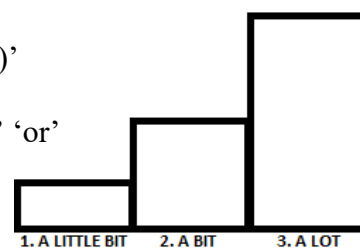
(Praise): “Everyone gets on well with (Participant’s name)”.

Or ‘You said you would feel.... (Insert previously stated emotion)’

b) ‘Would you feel?’ : (i) ‘A Little Bit (insert person’s response)’ ‘or’

(ii) ‘A Bit (insert person’s response)’ ‘or’

(iii) ‘A Lot (insert person’s response)’



---

**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual’s self-views regarding the above theme:

a) ‘Do people get along with you?’ **Yes / No**

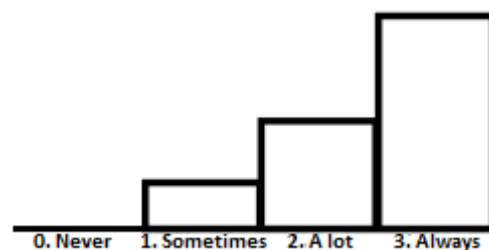
If ‘Yes’ continue to b) if ‘No’ circle (0) ‘Never’

b) ‘How often would you say that?’:

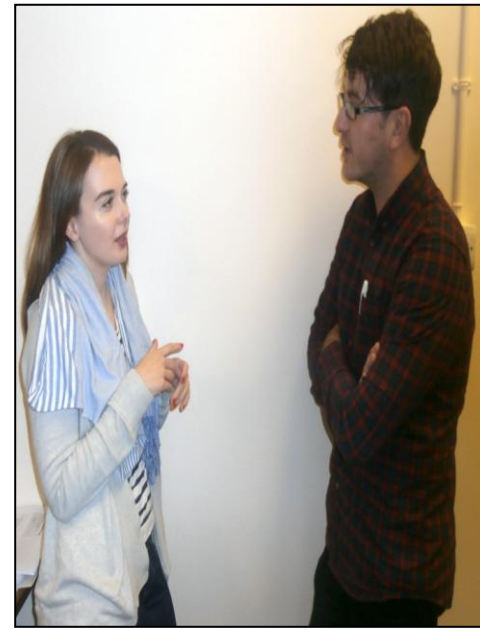
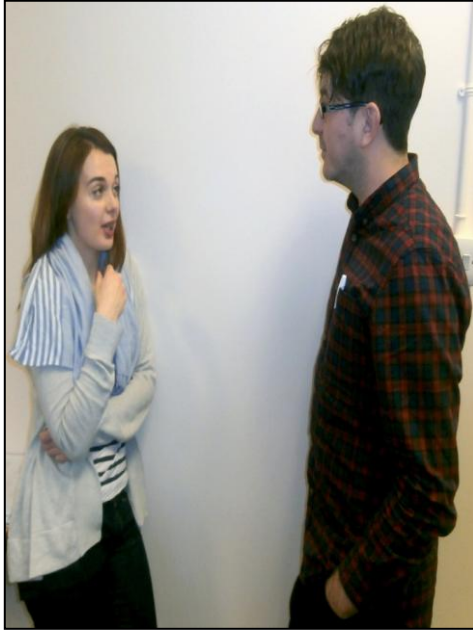
(i) ‘Sometimes’ ‘or’

(ii) ‘A lot’ ‘or’

(iii) ‘Always’



## POPULARITY TWO



## **RESPECT ONE:**

**Participant Number.....**

### **Narrative:**

You are watching TV with people you know. You tell them a piece of your news.  
One of them turns and says:

**Criticism:** *"I'm not really interested in what you're saying"*

**Praise:** *"I'm really interested in what you're saying".*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that? .....

b) 'What does that make you think?' .....

    'When your pal says' .....

(Criticism): *"I'm not really interested in what you're saying"*

(Praise): *"I'm really interested in what you're saying".*

Or 'You said you would feel.... (Insert stated emotion)

    'When your pal says' .....

(Criticism): *"I'm not really interested in what you're saying"*

(Praise): *"I'm really interested in what you're saying".*

    'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when your pal says':

(Criticism): *"I'm not really interested in what you're saying"*

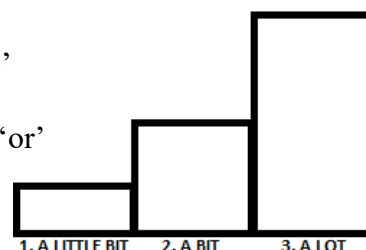
(Praise): *"I'm really interested in what you're saying".*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



---

**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Are people interested in what you say?' **Yes / No**

If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

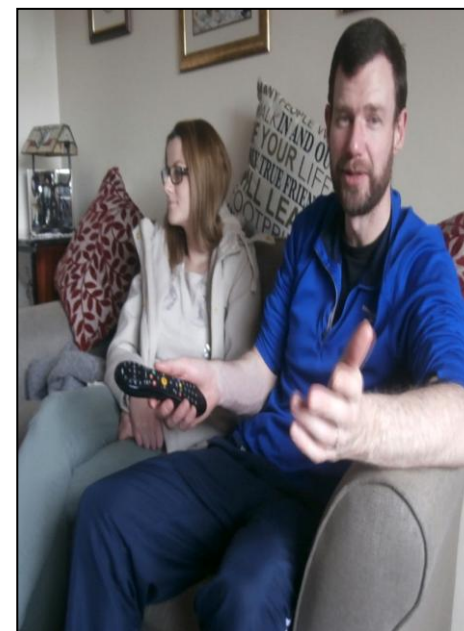
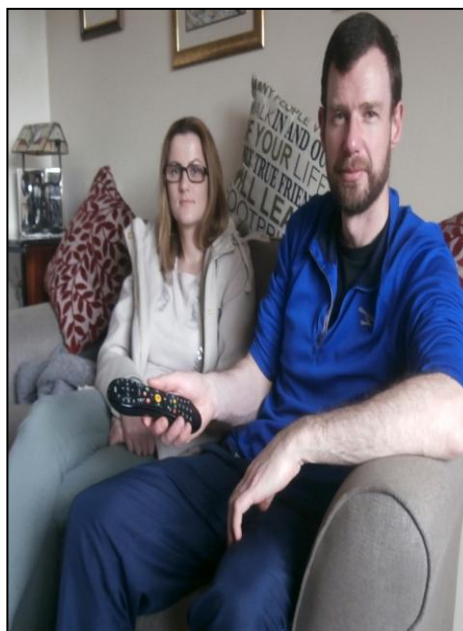
(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



**RESPECT ONE:**





## **RESPECT TWO:**

**Participant Number.....**

### **Narrative:**

Your tutor (staff/carer) is fixing a problem. You have an idea that could help and tell them about it. Your tutor (staff/carer) says:-

**Criticism:** *"We don't want to hear your idea"*

**Praise:** *"We would love to hear you idea"*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that?' .....

b) 'What does that make you think?' .....

    'When your tutor (staff/carer) says' .....

(Criticism): *"We don't want to hear your idea"*

(Praise): *"We would love to hear you idea"*

Or 'You said you would feel.... (Insert stated emotion)'

    'When your tutor (staff/carer) says' .....

(Criticism): *"We don't want to hear your idea"*

(Praise): *"We would love to hear you idea"*

    'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when your tutor (staff/carer) says:

(Criticism): *"We don't want to hear your idea"*

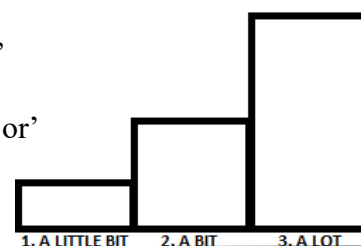
(Praise): *"We would love to hear you idea"*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

                                 (ii) 'A Bit (insert person's response)' 'or'

                                 (iii) 'A Lot (insert person's response)'



---

**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Do people want to hear your ideas?'

**Yes / No**

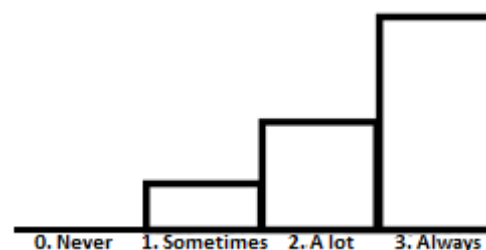
If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

    (i) 'Sometimes' 'or'

    (ii) 'A lot' 'or'

    (iii) 'Always'



## RESPECT TWO





## **AUTONOMY ONE:**

**Participant Number.....**

### **Narrative:**

When shopping with your friends. You see something you like and say you might buy it. Your friend says:

**Criticism:** *"You can never make your mind up"*

**Praise:** *"You're good at making your own mind up"*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that?' .....

b) 'What does that make you think?' .....

    'When your friend says' .....

(Criticism): *"You can never make your mind up"*

(Praise): *"You're good at making your own mind up"*

Or 'You said you would feel..... (Insert stated emotion)'

    'When your friend says' .....

(Criticism): *"You can never make your mind up"*

(Praise): *"You're good at making your own mind up"*

    'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when your pal says':

(Criticism): *"You can never make your mind up"*

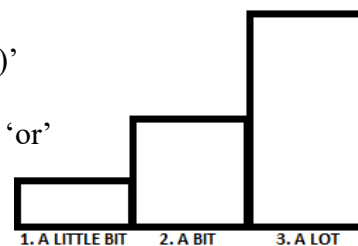
(Praise): *"You're good at making your own mind up"*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Do you normally make your own mind up?'

**Yes / No**

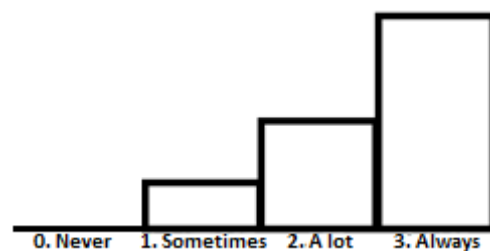
If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



## AUTONOMY ONE



## **AUTONOMY TWO:**

**Participant Number.....**

### **Narrative:**

You are at a café with your tutors (staff /carers). The waiter comes to take your order. Your tutor (staff/carer) says:

**Criticism:** *"You can never decide what you want"*

**Praise:** *"You're good at deciding what you want"*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that? .....

b) 'What does that make you think?' .....

'When your tutor (staff/carer) says' .....

(Criticism): *"You can never decide what you want"*

(Praise): *"You're good at deciding what you want"*

Or 'You said you would feel..... (Insert stated emotion)'

'When your tutor (staff/carer) says' .....

(Criticism): *"You can never decide what you want"*

(Praise): *"You're good at deciding what you want"*

'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when tutor (staff/carer) says':

(Criticism): *"You can never decide what you want"*

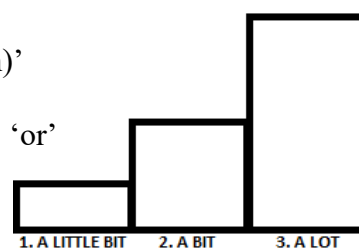
(Praise): *"You're good at deciding what you want"*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



---

**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Do you normally decide what you want?'

**Yes / No**

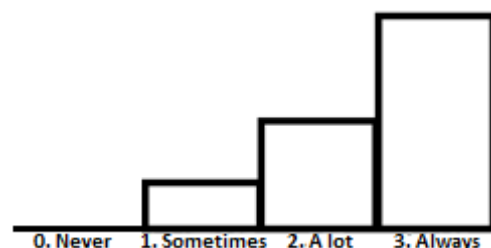
If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

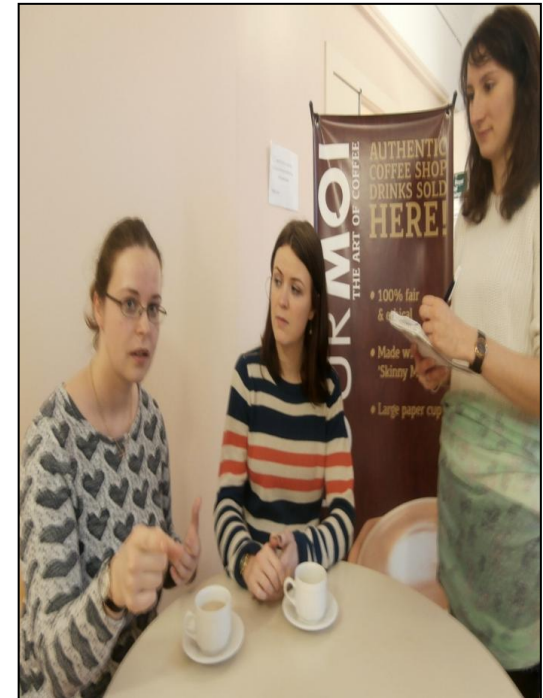
(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



## AUTONOMY TWO



## **POWER ONE:**

**Participant Number.....**

### **Narrative:**

You're having dinner with friends. Everyone has finished. You ask people to help tidy up. A friend says:

**Criticism:** *"They won't be happy to do what you say"*

**Praise:** *"They'll be happy to do what you say"*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that?' .....

b) 'What does that make you think?' .....

    'When your friend says' .....

(Criticism): *"They won't be happy to do what you say"*

(Praise): *"They'll be happy to do what you say"*

Or 'You said you would feel..... (Insert stated emotion)'

    'When your friend says' .....

(Criticism): *"They won't be happy to do what you say"*

(Praise): *"They'll be happy to do what you say"*

    'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when your pal says':

(Criticism): *"They won't be happy to do what you say"*

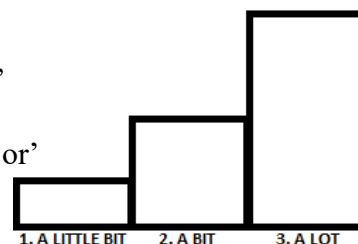
(Praise): *"They'll be happy to do what you say"*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



---

**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Do you think people will do what you say?'

**Yes / No**

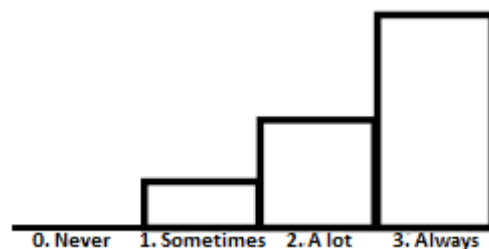
If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



**POWER ONE:**





## **POWER TWO:**

Participant Number.....

### **Narrative:**

You are going on an outing with your tutors (staff /carers). People are running late.  
You tell them to hurry up. You tutor (staff/carer) say to you:

**Criticism:** *"They won't listen to you"*

**Praise:** *"They'll listen to you"*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that?' .....

b) 'What does that make you think?' .....

'When your tutor (staff/carer) says' .....

(Criticism): *"They won't listen to you"*

(Praise): *"They'll listen to you"*

Or 'You said you would feel..... (Insert stated emotion)'

'When your tutor (staff/carer) says' .....

(Criticism): *"They won't listen to you"*

(Praise): *"They'll listen to you"*

'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when your tutor (staff/carer) says':

(Criticism): *"They won't listen to you"*

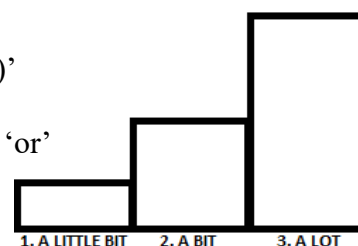
(Praise): *"They'll listen to you"*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



---

**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Do you think people will listen to you?' **Yes / No**

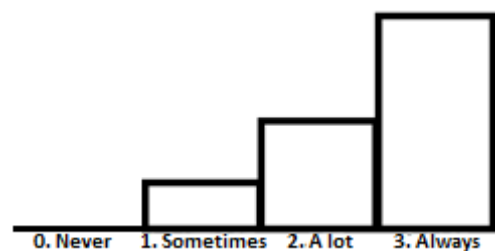
If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

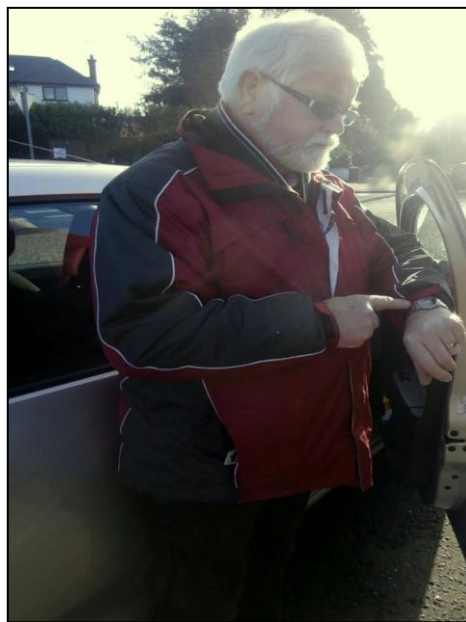
(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



## POWER TWO





## COMPASSIONATE ONE

Participant Number.....

### **Narrative:**

You're at a party. At the end you are asked to tidy up. You try your best. Before leaving your friend says::

**Criticism:** *"You're not normally as helpful"*

**Praise:** *"You're always really helpful"*

---

**(1) Thought response** will be ascertained by asking open-ended questions:

a) 'What do you make of that? .....

b) 'What does that make you think?' .....

'When your friend says' .....

(Criticism): *"You're not normally as helpful"*

(Praise): *"You're always really helpful"*

Or 'You said you would feel..... (Insert stated emotion)'

'When your friend says' .....

(Criticism): *"You're not normally as helpful"*

(Praise): *"You're always really helpful"*

'What would be going through your mind?'

---

**(2) Emotional response** will be ascertained by asking an open-ended and a closed question:

a) 'How do you feel when the person says':

(Criticism): *"You're not normally as helpful"*

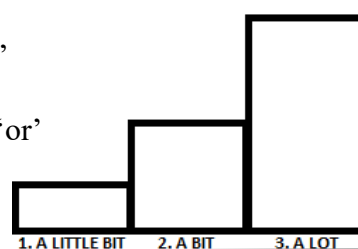
(Praise): *"You're always really thoughtful"*

Or 'You said you would feel.... (Insert previously stated emotion)'

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Are you a helpful person?'

**Yes / No**

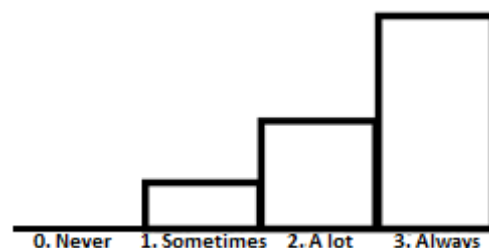
If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



**COMPASSIONATE ONE :**



**Participant Number.....**

The person sitting beside you at college is upset. You speak with them. Afterwards you hear your tutors (staff/carers) say:

**Praise:** “(Participant’s name) is a really kind person”

a) ‘What do you make of that?’ .....

"When your tutors (staff/carers) say":.....

(Praise): “(Participant’s name) is a really kind person”

‘When your tutors (staff/carers) say’ .....

(Praise): “(Participant’s name) is a really kind person”

‘What would be going through your mind?’

a) 'How do you feel when your tutors (staff/carers) say':

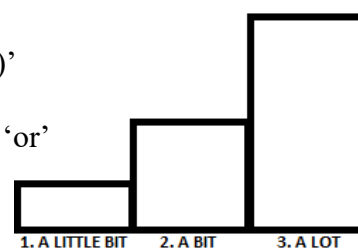
(Praise): “(Participant’s name) is a really kind person”

*Or 'You said you would feel.... (Insert previously stated emotion)'*

b) 'Would you feel?': (i) 'A Little Bit (insert person's response)' 'or'

(ii) 'A Bit (insert person's response)' 'or'

(iii) 'A Lot (insert person's response)'



**(3) Belief responses** will be ascertained by asking an open ended and closed question assessing an individual's self-views regarding the above theme:

a) 'Are you a kind person?'      **Yes / No**

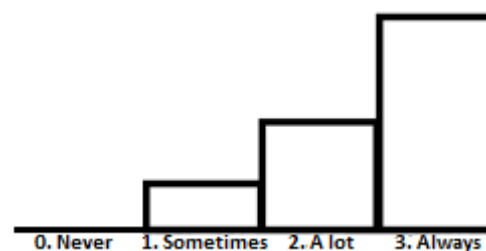
If 'Yes' continue to b) if 'No' circle '(0) Never'

b) 'How often would you say that?':

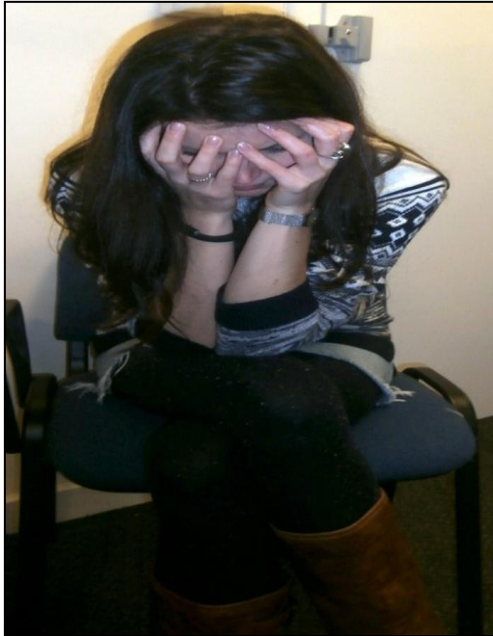
(i) 'Sometimes' 'or'

(ii) 'A lot' 'or'

(iii) 'Always'



**COMPASSIONATE TWO:**



## **Appendix I: Participant Consent Form**

## PARTICIPANT CONSENT FORM



### Research study:

“Criticism & Praise: The cognitive emotional responses of adults with an intellectual disability who display aggression.”

























### People Involved:

Mr Andrew Savage (Trainee Clinical Psychologist)

Professor Andrew Jahoda (Consultant Clinical Psychologist).

Institute of Health & Wellbeing, Gartnavel Royal Hospital, Administration Building,  
1055 Great Western Road, G12 0XH, Glasgow

Please read the below statements and circle  if they are True or False

		TRUE	FALSE
	I HAVE READ AND UNDERSTOOD THE INFORMATION BOOKLET.		
	I HAVE ASKED ALL THE QUESTIONS I WANT TO ABOUT THE STUDY. MY QUESTIONS HAVE BEEN ANSWERED.		
	I KNOW THAT IT IS OK TO SAY ‘NO’ TO TAKING PART. I KNOW I DO NOT HAVE TO SAY WHY.		
	I KNOW I CAN CHANGE MY MIND AND SAY ‘NO’ LATER ON.		
	I KNOW THAT A REPORT WILL BE WRITTEN ABOUT THE THINGS I HAVE SAID. I KNOW THE REPORT WILL NOT INCLUDE MY NAME OR PERSONAL DETAILS.		
	I AGREE THAT MR. SAVAGE MAY TALK WITH MY CARER OR FAMILY TO GET SOME INFORMATION ABOUT ME.		
	I AGREE TO MEETINGS BEING RECORDED ON AN AUDIO DEVICE.		
	I AGREE TO TAKE PART IN THE RESEARCH STUDY.		

Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Date: \_\_\_\_\_ Recruitment Site \_\_\_\_\_

Researcher: Andrew Savage Signature: \_\_\_\_\_

Copy to Researcher and Volunteer

## **Appendix J: Ethical Approval Letter**



31 October 2014

Professor Andrew Jahoda  
Institute of Health & Wellbeing  
Gartnavel Royal Hospital  
Administration Building  
1055 Great Western Road  
Glasgow G12 0XH

Dear Professor Jahoda «Principal\_Investigator»

**MVLS College Ethics Committee**

***Project Title:* How do adults with intellectual disabilities and anger problems respond to criticism and praise?**

***Project No:* 200140013**

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Project end date: 1st August 2015.
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.

Yours sincerely

Professor William Martin  
College Ethics Officer

Approval200140013.docx

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Professor of Cardiovascular Pharmacology

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