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Attachment, Psychological Health and Interpersonal Functioning: A Comparison of Clinical and Non-clinical Groups of People with Intellectual Disability

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## **Abstract**

### *Purpose*

Insecure and unresolved attachment have been linked to poorer psychological health and interpersonal functioning for people with ID, but research in this area is limited, especially for adults. Studies using the Adult Attachment Projective (AAP) have been restricted to clinical samples, where insecure and unresolved attachment are typically more prevalent. We compare clinical and non-clinical groups of adults with ID on the AAP, plus measures of psychological health and interpersonal functioning, to investigate whether group differences found in the typically developing population are also present for adults with ID.

### *Design/methodology/approach*

A cross-sectional, between-group design was employed. Adults with ID (clinical group  $n = 11$ , non-clinical group  $n = 13$ ) completed measures of attachment, psychological distress/positive well-being, and interpersonal functioning. Attachment classifications were compared in the clinical vs non-clinical groups. Measures of psychological distress, positive well-being and interpersonal functioning were compared between those with insecure-organised vs unresolved classifications.

### *Findings*

No participants were classified as secure, and there were high rates of unresolved attachment. There were no differences between clinical and non-clinical groups with regards to the distribution of insecure-organised (i.e. dismissing or preoccupied) versus unresolved classifications. There were no differences between groups with regards to psychological distress, positive well-being or interpersonal functioning. We consider limitations in the method of group differentiation, and suggest further research to better understand the development of internal working models of attachment in this population.

### *Originality*

This study is one of only three to examine attachment state of mind in adults with ID using the AAP, and the first to examine differences between clinical and non-clinical groups.

### **Keywords**

Attachment, psychological health, interpersonal functioning, Intellectual Disability

## Introduction

People with intellectual disabilities (PWID) are well documented as being at risk of poorer mental health, with multiple underlying factors proposed including communication and cognitive skills, trauma, maltreatment and social stress (Pinals *et al.*, 2022). Insecure attachment has also been linked to outcomes for this group. Schuengel *et al.* (2006) proposed that PWID experienced ‘chronic dysregulated affective arousal’, which made them more vulnerable to stress, and less equipped with resources to manage this. Using evidence of increased attachment insecurity in PWID, they proposed that this group was much less likely to experience attachment figures as an effective ‘safe haven’ at times of stress, compounding their difficulties managing their emotional state and increasing the risk of psychological distress.

The evidence linking intellectual disabilities (ID) to insecure attachment is derived largely from children. Rutgers *et al.* (2004) conducted a meta-analysis of attachment studies in children with autism, finding that attachment insecurity was more likely in children who had a greater degree of intellectual disabilities in addition to their autism. Van IJzendoorn *et al.* (2007) supported this, finding that children with ‘mental retardation’ (or intellectual disabilities) were more likely to be classified as insecure or disorganized on the Strange Situation. Of note, parental sensitivity for children with ID was no different to controls, although children with ID showed less involvement in interactions with their parents. Schuengel *et al.* (2013) also reported a higher incidence of insecure attachment relative to secure for individuals with ID based on observable attachment behaviours. More recently, Vanwallegham *et al.* (2021) compared children with ID to both chronological age and developmental age control groups using a story completion task which coded narrative responses to a doll play scenario, taking attachment measurement beyond

observable behaviour to the level of mental representation (i.e. how the child thinks and feels about attachment). Vanwellegham *et al.* (2021) highlighted that their measure was designed for younger children than those in their sample, and stated that further work was required to test its validity with children with ID. Nevertheless, they found increased vulnerability to insecure and disorganized attachment in children with ID, consistent with others in the field.

Possible mechanisms for these findings have been proposed, such as the effect of the developmental differences that may complicate the development of synchronous interactions with caregivers in infancy (supported by Van IJzendoorn *et al.*'s 2007 findings of reduced involvement in interactions despite parental sensitivity), or the unresolved feelings parents may have about their child's ID, ultimately affecting their caregiving (Schuengel *et al.*, 2006; Fletcher and Gallichan, 2016). This population is also at greater risk of exposure to abuse and trauma (Spencer *et al.*, 2005; McDonnell *et al.*, 2019; Fang *et al.*, 2022), factors that are well understood to be linked to insecure and disorganised patterns of attachment in the typically developing population (Lyons-Ruth and Jacobwitz, 2016).

Adults with ID have attracted less focus than children in the attachment literature. Hamadi and Fletcher's (2021) review found increased risk of insecure and disorganized attachment across eight studies of PWID across the lifespan, three of which focused exclusively on adults. Mullen (2018) pointed to a scarcity of empirical research in this area, and only found five papers that attempted to measure attachment. In the general adult population, measurement of attachment is focused at the level of mental representations, or internal working models, which are considered to operate automatically, and less open to conscious control (see Bretherton and Munholland, 2018). Measuring internal working models is distinct from other forms of attachment assessment, such as attachment 'style' self-report

questionnaires from the social psychology field that require conscious responses (e.g. Bartholomew and Horowitz, 1991, Brennen *et al.*, 1998). Such measures have been demonstrated to assess different constructs to assessments from the developmental tradition of attachment measurement such as the Adult Attachment Interview (see Roisman *et al.*, 2007, and Crowell, Fraley and Roisman, 2018). Mullen's (2018) review only found one paper (Gallichan and George, 2014) that used a measure of internal working models; the Adult Attachment Projective or AAP (George and West, 2012). Measurement issues have therefore limited the extent to which we have been able to advance our understanding of the proposed links between development, attachment, trauma and psychological health for adults with ID.

Gallichan and George (2014, 2018) demonstrated that the use of the AAP was feasible with PWID, and that it was possible to code and classify AAP transcripts of PWID with 80% inter-rater reliability and good face validity in a small clinical sample drawn from those receiving services from a Community Learning Disabilities Team. Across both their studies no PWID were classified as secure, and there were high rates of unresolved classifications. The authors suggested that further work was needed to establish the validity of the AAP for PWID. Gallichan and George (2016) also explored the unresolved classifications in this sample in relation to attachment trauma, noting that the clinical nature of the sample may have biased the findings, making it unclear whether their results were specific to PWID, or a reflection of the clinical population.

Clinical samples are well documented as being associated with greater rates of attachment insecurity. Bakermans-Kranenberg and Van IJzendoorn's (2009) meta-analysis showed a strong association between psychiatric diagnoses and non-secure or unresolved attachment classifications in adults. Chase Stovall-McClough and Dozier (2016) also showed links between non-secure attachment classifications and various mental health conditions such as depression, anxiety, dissociative

disorders, eating disorders, schizophrenia and borderline personality disorder.

Given the described state of the relevant literature, the aims of this study were two-fold; i) to explore whether the high rates of insecure and disorganised AAP classifications for PWID reported in Gallichan and George (2018) were an artifact of the clinical nature of their sample by trialling a comparison of clinical and non-clinical groups of PWID. Adults with ID do not always receive psychiatric diagnoses due to variations in practice and diagnostic overshadowing (the assumption that the difficulties or behaviours of a person with ID are part of their disability) (Ali and Hassiostis, 2008), so rather than categorise groups according to diagnostic labels, we compared people with ID who had received psychological input from a Community Learning Disabilities Team with those who had not been referred for such input, and were drawn instead from advocacy groups. We hypothesised that there would be higher rates of insecure and unresolved attachment in the clinical group relative to non-clinical controls.

Secondly, we aimed to provide initial exploration of Schuengel *et al.*'s (2006) proposed links between attachment, psychological health and interpersonal functioning for PWID. It was hypothesised that measuring these facets alongside attachment would provide further exploration of the validity of the AAP for PWID, with the prediction that psychological health and interpersonal functioning would be poorer for those with insecure or disorganised attachment classifications.

## **Method**

### *Participants*

A total of 25 people with ID participated in this study. One participant did not complete the AAP leaving 24 participants (11 women) aged between 21 and 66 years of age ( $M = 42.5$  years). A



clinical group ( $n = 11$ ) was derived by inviting individuals who had been referred for psychological therapy to NHS services for PWID across an area in the North West of England. This criteria was broad, so as to maximise recruitment potential. Reasons for accessing psychological therapy included anxiety, low mood and generalised difficulties managing emotional states. A non-clinical group ( $n = 13$ ) was derived by recruiting individuals who were members of advocacy groups for PWID in the same region, and who had not previously accessed psychological therapy from NHS services (individuals recruited from this group were explicitly asked if they had received psychological therapy at the recruitment stage). Due to availability of participants, we were limited to opportunity sampling rather than a matched groups design. Demographic and characteristic data was taken in order to better understand the nature of these two groups, and provide clearer context to the interpretation of findings.

Individuals were invited to participate if they met the following inclusion criteria: assessed as able to access services for PWID; over the age of 18; ability to communicate verbally using the English language sufficiently to allow them to respond to the stimuli; ability to see the AAP stimuli; absence of neurodegenerative condition (e.g. dementia); capacity to provide informed consent for participation<sup>1</sup>. One participant from an advocacy group (and therefore originally in the non-clinical group) disclosed having accessed therapy after all measures had been administered. A decision was made to retain their data, and include them in the clinical group for the purpose of analysis. Further consideration of this issue is addressed in the discussion.

This study received clearance from a NHS Research Ethics Committee (REC reference 18/L0/1222, Protocol number UoL001356).

## *Measures & Materials*

### Demographic questionnaire

Demographics and characteristics of participants (e.g., age, gender, ethnicity, living

conditions) were collected via a questionnaire developed for the purposes of the study.

Questions were included to ascertain whether the participant had lived in a care setting as a child away from their family (e.g. residential or foster care), and which services they had accessed.

### The Adult Attachment Projective Picture System (AAP; George and West, 2012)

The AAP is a free response measure. Participants are shown a set of line drawings one at a time and asked to make up a story about the picture. Standardised probes are used as follows: “what’s happening in the picture”, “what happened before”, “what are the people thinking or feeling?”, “what might happen next”. Three ‘neutral’ scenes act as a warm-up to the task<sup>ii</sup>, followed by seven scenes depicting attachment based situations (e.g. solitude, separation, illness, death, threat). The attachment stimuli are administered in the following order: Window – a child looks out a window; Departure – an adult man and woman stand facing each other with suitcases positioned nearby; Bench – a youth sits alone on a bench; Bed – a child and woman sit at opposite ends of the child’s bed; Ambulance – a woman and a child watch as a stretcher is loaded into an ambulance; Cemetery – a man stands by a gravestone; Corner – a child stands askew in a corner, hands raised (see Figure 1, Bench for an example).

### INSERT FIGURE 1 ABOUT HERE

Story responses are audio recorded and transcribed verbatim. A trained, certified AAP judge codes the transcript according to a standardised manual, in order to classify the transcript into one of four attachment groups (secure, dismissing, preoccupied, or unresolved).

AAP transcripts are classified by evaluating the story content and narrative evidence. We provide a brief overview of these classifications here; see George and West (2012) for a more detailed explanation.

‘Secure’ individuals view attachment relationships as important, with caregivers as accessible and effective in comforting attachment distress. Characters are portrayed as able to think about their situation, with thoughtful activity often leading to constructive action (e.g. the girl in *Bench* thinks about her problem, this enables her to go home). Story characters are connected to others in meaningful relationships, and relationships are depicted as synchronous (e.g., the child cries and his mother comforts him).

‘Dismissing’ individuals turn attention away from intimacy and connection in attachment relationships. Emotional worry and pain are deflected, avoided, or “organized” in attempts to self-regulate and keep distress at bay. Care is often described in functional terms or following a social script (e.g., the child cries and his mother gives him soup). Characters typically respond to distress by engaging in constructive action that shifts attention away from their situation. Characters and situations are described in terms of status, achievements, or ‘proper’ behaviour (e.g., going to the grave on an anniversary). Characters may also undertake absorbing activities that “organized” negative affect (e.g. drinking a beer, watching TV, sleeping). The dismissing classification is insecure, but because the strategies for managing attachment related distress are functional and consistent, dangerous or frightening material can be contained or resolved and the classification is considered “organized”.

‘Preoccupied’ individuals demonstrate ambivalence, confusion, worry, frustration, or anger. Individuals cannot integrate positive and negative emotions and often ruminate on the negativity associated with attachment experiences. Characters and story themes are incomplete, vague, contradictory, and confusing. Thoughtful consideration of attachment situations is blurred by smoke screens of feigned happiness or confusion, and characters are rarely able to take constructive action to face problems. Although preoccupied individuals have an insecure attachment classification,

their strategies for managing attachment related distress are consistent enough to resolve danger and fear, so this classification is also considered ‘organised’.

‘Unresolved’ individuals are overwhelmed and flooded by attachment fears and feelings that relationships are threatening or helpless to provide protection. These classifications are derived by evaluating story content defined by attachment theory as dangerous and frightening (e.g. the girl on the bench feels helpless). Termed ‘segregated systems,’ these story elements mark emotional dysregulation associated with feeling isolated, vulnerable, and without care or protection from attachment figures or others. Unresolved individuals are unable to contain these fears; their story characters remain flooded or frozen with fear, and the stories do not reach a contained or functional solution for the character(s). Segregated systems markers can be differentiated between those that are normative (e.g. death in ‘Ambulance’) and traumatic markers denoting severe threat or risk (e.g. abuse, abandonment), or where the individual has become blocked from providing a response (termed “constriction”). ‘Unresolved’ classifications are also considered ‘disorganised’ in that individuals are not considered to be able to use a consistent strategy to keep distress at bay.

In addition to distinguishing between the four classification groups, it is also possible to distinguish between ‘secure’ and ‘insecure’ (i.e. dismissing, preoccupied or unresolved) states of mind, and between ‘organised’ (i.e. secure, dismissing or preoccupied) and ‘disorganised’ states of mind (i.e. unresolved classification).

#### Psychological Therapies Outcome Scale – Intellectual Disabilities, 2<sup>nd</sup> Edition (PTOS-ID II)

The PTOS-ID II (Vlissides *et al.*, 2017) measures psychological distress (anxiety, anger, depression) and positive well-being (inter-personal and psychological) in PWID. It consists of 29 items rated on a four-point Likert scale ranging from “*not at all*” to “*a lot*”.

Example items from the psychological distress index include “Have you felt like hitting someone?”, and “Have you felt sad?”. Example items from the positive well-being index include “Have you felt happy?” and “Have you felt people love or care about you?”. An average score per index is generated, with higher scores on the psychological distress index indicating greater psychological distress, and higher scores on the positive well-being index indicating greater positive well-being. On the psychological distress scale, the clinical cut off is 16 for males and 14 for females. There are no clinical cut-offs available for the positive wellbeing scale.

### The Inventory of Interpersonal Problems (IIP-32)

The IIP-32 is a measure of interpersonal difficulties. Originally developed and validated for use in the typically developing population (Horowitz *et al.*, 2000), it has been shown to maintain many of its psychometric properties when used with PWID (Kellett, Beail and Newman 2005). It consists of 32 items rated on a five-point Likert scale, and contains interpersonal skills that people either find “hard to do” (e.g., “understand another person’s point of view”) or “do too much” (e.g., “tell personal things to other people”). An average overall score (range 0 to 4) and eight sub-scale scores can be generated when used with the typically developing population. Higher average overall scores indicate greater interpersonal difficulties. Current evidence suggests that this scale maintains its psychometric properties and that the overall score is useable when used with PWID (Kellett, Beail and Newman, 2005).

### *Procedure*

Potential participants were provided with accessible information about the study. Those interested in participating gave consent for their details to be passed to the first author, who met with them to provide further information. In order to derive the non-clinical group,

individuals from advocacy groups were asked if they had ever received/were currently receiving psychological therapy, in which case they were excluded from the study. Eligible individuals were followed up after one week to establish whether they wished to consent to participate in the research.

Participants were assessed in a private room at the NHS service or advocacy group through which they were recruited. For a small number of participants these venues were not convenient, and they were assessed at home. Following completion of consent procedures, the research measures were administered in the order in which they are described above. This took an average of 60 minutes per participant.

Questionnaire data was scored by the first author. All AAP transcripts were coded and classified blind by a certified reliable AAP judge (the third author). Almost 60% (14/24) of AAP transcripts were also coded blind by a second certified AAP judge and master coder<sup>iii</sup>. The first and second AAP judges agreed blind on overall classifications for 12/14 (85.7%) of the cases that they both coded. The two cases where there was not initial agreement were resolved quickly by consensus to agree an overall classification. The first AAP judge sought consultation from a further AAP master coder<sup>iv</sup> on 6 of the remaining 10 AAP transcripts, which provided confirmation of coding and classification decisions.

### *Statistical Analysis*

Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 25. Variable distributions were screened using the Shapiro-Wilk test owing to the small sample size. Parametric tests were used when analysing normally distributed data, and non- parametric tests were used when data skewed from a normal distribution. Welch's t-test, Chi-Square tests and Mann-Whitney U tests were used to examine differences between groups. An alpha level of .05 was used to interpret the results.

## Results

### *Demographic Data*

Sample demographics and characteristics were compared between clinical and non-clinical groups (see Table 1), in order to understand any key differences between these groups prior to considering attachment status. Within the descriptive data, 6 individuals in the non-clinical group lived on their own, compared to none in the clinical group. Comparing groups according to whether they lived on their own or not (through collapsing the remaining categories), a significant difference was found [ $\chi^2(1, N = 24) = 6.77, p = .009$ ], with the non-clinical group more frequently living independently, compared to the clinical group. There was a significant difference between the clinical and non-clinical groups with regards to age [ $t(22) = -4.09, p < .001$ ], looked after child status [ $\chi^2(1, N = 24) = 4.11, p = .043$ ], and involvement with additional services [ $\chi^2(1, N = 24) = 5.37, p = .020$ ]. These differences were not accounted for in the data analyses which follow, owing to the small sample size increasing the likelihood of a weakened model if too many predictors were included.

INSERT TABLE I ABOUT HERE

### *AAP Classifications*

The distribution of attachment classification for each group is shown in Table II. Following convention in the field, each classification in the AAP is accompanied by its initial: F refers to the ‘free and autonomous’ integration of attachment related thoughts and feelings that characterises the secure classification; Ds refers to ‘dismissing’; E refers to the ‘emotional entanglement’ that characterises the preoccupied classification; U refers to ‘unresolved’ (see George and West, 2012).

INSERT TABLE II ABOUT HERE

None of the participants in either group was classified as secure. Due to low numbers of dismissing and preoccupied classifications the data was collapsed into classifications considered ‘insecure-organised’ (i.e. dismissing and preoccupied) versus ‘unresolved’ for further analysis. Table III shows the frequency of insecure-organised and unresolved attachment status categories across clinical and non-clinical groups. Chi-square analysis showed no significant difference in the frequency of organised versus unresolved categories between clinical and non-clinical groups [ $\chi^2 (1, N=24) = 0.34, p = .562$ ]. Further analyses collapsed the clinical and non-clinical groups and focused on the sample as a whole, distinguishing between organised and unresolved groups.

INSERT TABLE III ABOUT HERE

Data relating to all sample demographics and characteristics were checked for any significant differences between the insecure-organised and unresolved groups. There was a significant difference between the groups with regards to gender [ $\chi^2 (1, N = 24) = 8.39, p = .004$ ], with males being more likely to be classified as unresolved than females. As with the analysis between clinical and non-clinical groups, this was not accounted for in the following data analyses, owing to the small sample size and associated risks of a weakened model.

Table IV compares the insecure-organised and unresolved groups on the psychological distress and positive well-being indices of the PTOS-ID II, and interpersonal functioning as measured by the IIP-32. There were no differences in psychological distress between groups [ $t (18.87) = -0.88, p = .392$ ], and no significant differences in positive well-being between groups ( $U = 55.5, p = .600$ ). There were also no significant differences in the median interpersonal functioning



scores between the insecure-organised and unresolved groups ( $U = 53.0, p = .498$ ).

INSERT TABLE IV ABOUT HERE

Given the high number of unresolved cases in the sample we tallied the number of segregated systems markers in each AAP transcript, differentiating between those that were normative and those that were traumatic (Table V). Segregated systems markers as a whole were present in 22/24 transcripts, with traumatic markers being present in 18/24 transcripts. The mean number of traumatic segregated systems markers in these 18 transcripts was 7.25 with a range of 1-34. Descriptive statistics suggested little difference between groups in the mean values of total segregated systems markers, and traumatic segregated systems markers.

INSERT TABLE V ABOUT HERE

A small number of transcripts had particularly high (i.e. above 20) numbers of segregated systems markers (including traumatic markers). These transcripts were examined further. Cross referencing with the AAP manual showed that the storylines in these transcripts were similar to those seen in the transcripts of typically developing individuals who also show very high numbers of traumatic segregated systems markers. Example storylines included; abuse in stories other than Corner; being locked in the house in Window or Bench; violent deaths in Ambulance; being drunk or taking drugs; sexual assault in Bench; murder in Cemetery; violence in Corner. The only storyline that was markedly different from that seen in the typically developing population was a story about a character being abused for having a disability.

## **Discussion**

Our study aimed to further our understanding of internal working models of attachment in adults with ID using the AAP, with reference to differences between clinical and non-clinical groups, and links with psychological health and interpersonal functioning. We found

that AAP transcripts of PWID could be coded and classified according the standard AAP manual rules. A subsample were coded blind between two judges, with 80% agreement between raters, supporting Gallichan and George's (2018) suggestion that the AAP is a reliable measure of attachment state of mind in adults with ID.

We did not find any differences in AAP classifications between our clinical and non-clinical samples. None of our sample of PWID was classified as secure, and there was an overrepresentation of unresolved classifications, replicating Gallichan and George's (2014, 2018) findings. We also failed to find differences between groups on measures of psychological health and interpersonal functioning. This result held whether we compared between the clinical and non-clinical groups, or between the 'insecure-organised' and 'unresolved' attachment classifications.

The lack of differences between the clinical and non-clinical groups could have several explanations. Given that development of 'goal-corrected partnerships' in caregiving dyads emerge in line with language acquisition and theory of mind development (Fletcher and Gallichan, 2016) it is possible that developmental delays impact upon the successful creation and maintenance of such partnerships when a child has ID. Both Rutgers *et al.* (2004) and Van Ijzendoorn *et al.* (2007) suggested a similar explanation for their findings.. These influences may impact on the likelihood of developing secure attachment relationships for PWID, meaning that incidence of insecure attachment in adulthood, even in non-clinical groups, is higher than that seen in the typically developing population. This explanation would imply that earlier findings from Gallichan and George (2018) were not due to the use of a clinical sample, but due to the nature of the population itself; having ID may represent a general risk factor for developing insecure and even disorganised/unresolved attachment. Another possible explanation lies in the method for differentiating between groups. The intention was to differentiate between PWID who had experienced clinically significant levels of distress (as evidenced by a referral for psychological intervention), and those who had not. It is possible

that this was an arbitrary method of differentiation. The clinical group were significantly younger than the non-clinical group, suggesting that cohort effects may have influenced the chance of being placed in the clinical group. As recently as thirty years ago, PWID were thought not to experience psychological distress (Matson *et al.*, 2012), and there remains a perception that cognitive abilities prevent PWID from being able to engage in psychotherapy (Westerhof, Beernink and Sools., 2016). Moreover, PWID tend not to self-refer (Hassiotis *et al.*, 2014) and only tend to be referred to services when the system surrounding them believes that this would be of value. Narratives regarding established behaviours or ways of relating may impact on the likelihood of a person with ID being referred for psychological intervention. We hypothesise that these factors may have reduced the likelihood that older individuals were referred for psychological input, making group divisions more arbitrary and based on cohort effects and systemic attitudes to psychological health in PWID, rather than severity of psychological distress. Future studies could consider differentiating groups in terms of severity of symptoms of distress, rather than referred status.

The clinical group were also significantly more likely to have been in the care of the local authority as a child, possibly making it more likely that such individuals would be viewed as in need of psychological support and therefore referred to services. Furthermore, the non-clinical group were significantly more likely to live alone. PWID are often referred by their immediate support staff, who may be able to notice distress more readily, so living alone may have reduced the likelihood of the non-clinical group being referred for psychological help. This implies that individuals in this group may have been just as distressed, but that living alone made this less likely to be noticed, and therefore less likely to lead to a referral.

The high rates of unresolved attachment, and the presence of traumatic markers in the majority of transcripts support the possibility that the non-clinical group experienced just as much distress as the clinical group. It is possible that our results sadly reflect the high rates of abuse and trauma experienced by PWID (Spencer *et al.*, 2005; McDonnell, *et al.*, 2019; Fang *et*

*al.*, 2022), and that there is a degree of arbitrariness in terms of who receives psychological help. This would need to be explored further with larger samples, and using different methods of differentiating between clinical and non-clinical groups.

We must also consider the possibility that the AAP limits the ability of individuals to demonstrate secure attachment, or even that it is measuring something other than attachment state of mind in this population. This argument is less convincing when we consider that, although the AAP transcripts of PWID tend to be shorter or sparser than typically developing individuals, all of the AAP transcripts could be coded according to the AAP manual, with very similar content and process markers. Moreover, the storylines of transcripts with high numbers of segregated systems markers (including traumatic markers) were strikingly similar to the storylines seen in typically developing individuals who also record high segregated systems markers. The one exception was a storyline about being bullied for having a disability. This may well have reflected lived experience for this individual, especially given the high rates of abuse and victimization experienced by PWID (Wiseman and Watson, 2021). Whilst it remains challenging to demonstrate validity for the AAP in this population, the evidence across all the AAP data for PWID has shown links between AAP analysis and clinical material (Gallichan and George, 2016; Gallichan and George, 2018; Gallichan *et al.*, 2023).

A further factor in the lack of group differences may have been sample size, which likely left our study underpowered in its ability to differentiate between groups. If we also consider that it may be less common for individuals with ID to have secure internal working models of attachment, the small sample size may have also greatly reduced the likelihood of finding individuals with ID who were classified as secure.

### *Conclusions*

This study adds to the emerging work on attachment in PWID, providing further support for the use of the AAP as a reliable measure of internal working models in this population. Our attempt to differentiate groups did not yield significant differences, possibly

due to sample size and flaws in our method of group classification. We suggest that the decision to refer a person with ID to psychological services may well be arbitrary and linked to issues, such as exposure to people who could make referrals, and beliefs that the system around a person holds about the suitability of psychological therapy for PWID. Future studies should consider differentiating based on other measures, such as clinical symptom severity. Our findings may also be a product of an inherently higher risk for PWID of developing insecure and unresolved internal working models of attachment, regardless of clinical status. We hypothesise that a multi-layered process may underlie the development of attachment for PWID, whereby developmental delays in infancy can disadvantage the development of socio-emotional reciprocity, and interact with a greater risk of adverse experiences such as abuse and trauma. This requires further study with larger samples, and possibly multi-generational assessment.

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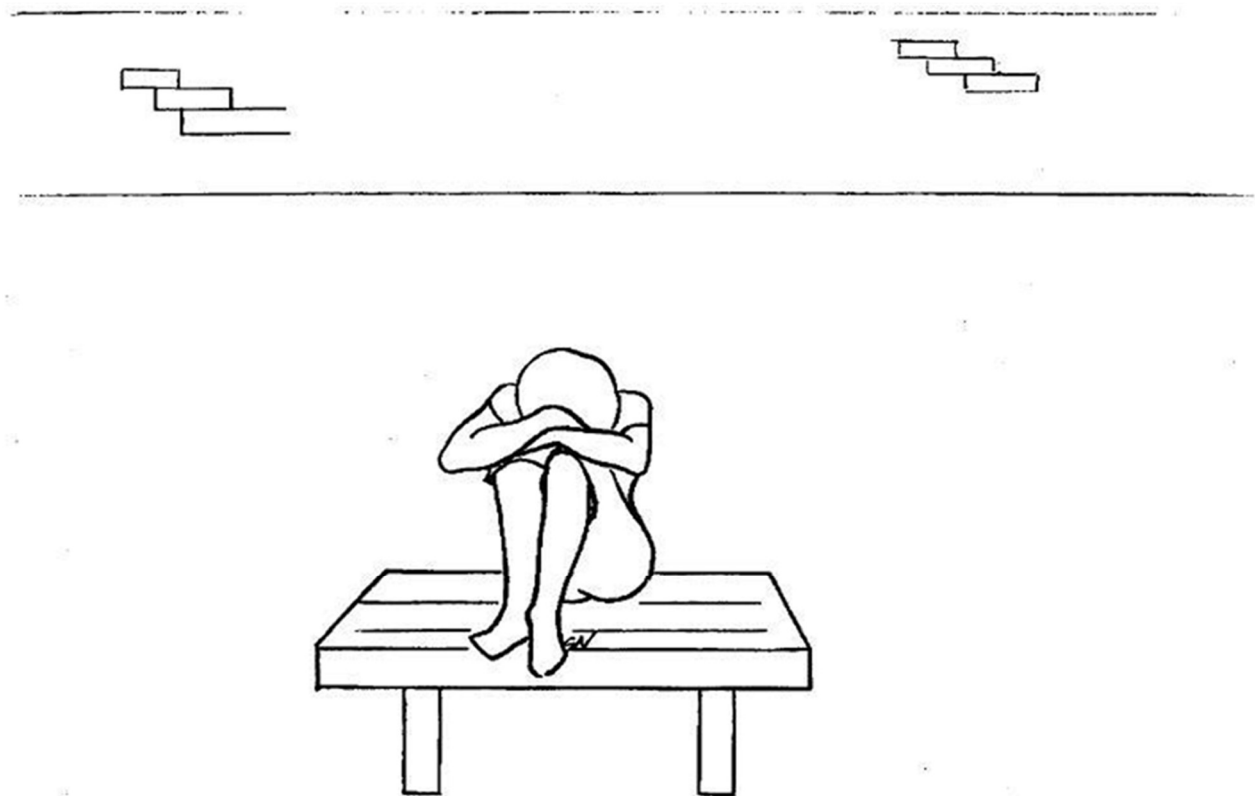
<sup>i</sup> Capacity to consent was assessed in accordance with the Mental Capacity Act (2005). If any individual raised concerns about a participant's capacity to consent their data was excluded from the study.

<sup>ii</sup> Typically, AAP administration used one neutral warm up picture. Neutral scenes were expanded to three for PWID. See Gallichan and George (2014) for a description of this procedure.

<sup>iii</sup> Our thanks go to Professor Carol George from Mills College, CA, USA.

<sup>iv</sup> Our thanks go to Dr Melissa Lehmann

Figure 1. AAP Picture Stimulus *Bench*



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Table I. Demographic data

	<b>Clinical (<i>n</i> = 11)</b>	<b>Non-clinical (<i>n</i> = 13)</b>	<b>Total (<i>n</i> = 24)</b>
<i>Gender (number, %)</i>			
Male	5 (45.5)	8 (61.5)	13 (54.2)
Female	6 (54.5)	5 (38.5)	11 (45.8)
<i>Age (M, SD) in years</i>	32.2 (10.0)	51.2 (12.3)	42.5 (14.7)
<i>Ethnicity/Race (number, %)</i>			
White	11 (100)	12 (92.3)	23 (95.8)
Black	0 (0)	1 (7.7)	1 (4.2)
<i>Living (number, %)</i>			
On own	0 (0)	6 (46.2)	6 (25.0)
With family	3 (27.3)	5 (38.5)	8 (33.3)
Residential care	1 (9.1)	0 (0)	1 (4.2)
Supported housing alone	3 (27.3)	1 (7.7)	4 (16.7)
Supported housing with others	3 (27.3)	0 (0)	3 (12.5)
Shared Lives (with another family)	1 (9.1)	1 (7.7)	2 (8.3)
<i>Medical conditions (number, %)</i>			
Yes	10 (90.9)	9 (69.2)	19 (79.2)
No	1 (9.1)	4 (30.8)	5 (20.8)
<i>Looked after child (number, %)</i>			
Yes	6 (54.5)	2 (15.4)	8 (33.3)
No	5 (45.5)	11 (84.6)	16 (66.7)
<i>Involvement with services other than that from which they were recruited (number, %)</i>			
Yes	10 (90.9)	6 (46.2)	16 (66.7)
No	1 (9.1)	7 (53.8)	8 (33.3)

Table II. Distribution of attachment classifications across the clinical and non-clinical group.

	Clinical (n=11)	Non-clinical (n=13)	Total (n=24)
Secure (F)	0	0	0
Dismissing (Ds)	0	1	1
Preoccupied (E)	3	4	7
Unresolved (U)	8	8	16

Table III. Organised/Unresolved Attachment Status Categories as Measured by the AAP

	<b>Clinical (n = 11)</b>	<b>Non-clinical (n = 13)</b>	<b>Total (n=24)</b>
<i>Organised</i>	3	5	8
<i>Unresolved</i>	8	8	16

Table IV. Psychological distress, positive well-being and interpersonal functioning between groups as measured by the PTOS-ID II and II

	<b>Organised (n = 8)</b>	<b>Unresolved (n = 16)</b>
<i>PTOS-ID II Psychological distress score (M, SD)</i>	0.9 (0.6)	1.1 (0.8)
<i>PTOS-ID II Positive well-being score (Mdn, Range)</i>	2.6 (1.5)	2.5 (2.0)
<i>IIP-32 Interpersonal functioning score (Mdn, Range)</i>	1.0 (1.8)	0.8 (3.2)

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Table V. Mean SS and SStr markers in AAP transcripts between groups

	Total Segregated systems markers	Segregated Systems Trauma markers
Clinical	8.3	6.9
Non-Clinical	8.7	7.5