iAx Manual

Instant Assessment and Personalised Feedback for Cannabis Use Disorder (iAx-C)

Matthew J. Gullo, Chloe Kidd, Gerald F.X. Feeney, and Jason P. Connor

NOTE: This is a PDF of version 1 of a live document. Find the most up-to-date copy here: gullo.com.au/iaxmanualcannabis

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Acknowledgements

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Introduction

Globally, cannabis is one of the most widely used substances, with an estimated 180.6 million (3.9%) cannabis users worldwide (United Nations, 2013). In Australia, 11.6% of the general population reported using cannabis in the previous year (AIHW, 2020). The prevalence of Cannabis Use Disorder (CUD) in Australia is approximately 5.4% (Mewton et al., 2013). Approximately 20% of patients accessing Australian alcohol and other drug treatment services in the past year sought treatment for cannabis as the primary substance of concern, following alcohol (36%) and amphetamines (28%; AIHW, 2020). Several efficacious psychosocial interventions are available for the treatment of CUD (e.g., motivational enhancement therapy, cognitive behavioural therapy, contingency management; Pamela & Bernard, 2018). Effective treatment combines standardised assessments of patient characteristics with evidence-based treatments tailored to optimise outcomes for patients possessing those same characteristics.

The use of standardised instruments in practice is supported by expert opinion, international and national practice guidelines, and the evidence-based practice policy of peak professional bodies (Connor et al. 2016; APA Presidential Task Force on Eviden...; Gullo et al. 2015; Institute of Medicine 2006). Despite the strong evidence base for the use of standardised assessment instruments, translation into clinical practice has been very challenging. Few practitioners use them despite most seeing value in it (Curry and Hanson 2010; Willis et al. 2009; Garland et al. 2003). Only one-third of practitioners report using standardised assessments when delivering treatment, and only 26% use them routinely to monitor treatment progress (Hatfield and Ogles 2004; Curry and Hanson 2010; Revill et al., in preparation). Time constraints and administrative burden are the primary barriers reported, particularly test scoring and interpretation (Curry and Hanson 2010; Willis et al. 2009; Hatfield and Ogles 2004). Over one-third of Australian alcohol and drug health practitioners would prefer to administer standardised assessments more often than they currently do (Revill et al., in preparation).

A randomised controlled trial found that the use of cannabis iAx significantly enhanced brief intervention outcomes compared to assessment-as-usual (Papinczak, Connor, Feeney, & Gullo, 2021). The instant assessment and personalised feedback system (“iAx”) was first developed to facilitate the use of theory-driven, standardised assessment in treatment for Alcohol Use
Disorder (Gullo et al., 2020).

The selection of assessments included in the base iAx system for CUD was theory-driven in order to assist practitioners with case formulation and treatment planning. Key factors from bioSocial Cognitive Theory (bSCT; Gullo et al. 2010) found to be predictive of motivation to seek treatment and treatment response were included, along with general markers of clinical interest (Papinczak …, & Gullo, 2017; 2019).

iAx removes the time barrier for scoring and interpretation. It allows standardised assessments to be administered with a tablet computer and responses instantly scored, benchmarked against clinical averages, and visualised using colourful graphs for immediate interpretation by the practitioner and discussion with the patient. The iAx is free, can be delivered through a tablet or desktop computer and runs on any operating system. Any standardised questionnaire or interview assessment can be loaded onto iAx to suit a wide variety of clinical applications.

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National Centre for Youth Substance Use Research
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Before You Begin

Installation

Before you begin using the iAx, you will need to ensure you have access to an internet connection and a G Suite Account (recently rebranded to Google Workspace). You can find more information about setting up a G Suite account at https://gsuite.google.com.au/intl/en_au/.

Once you have a G Suite account you can view the iAx here and follow the instructions to copy it to your account. When you do this, two Google Forms will automatically copied over with it: iAx Pre-treatment Assessment and iAx Progress Monitoring.

Privacy and Confidentiality

While the iAx is set up to be fully compliant with Australian Privacy Legislation and the Health Insurance Portability and Accountability Act (HIPAA), health data security is of utmost importance and is only as good as its weakest link (typically we, the users). To guarantee patient confidentiality at all times, the base iAx system is set up to not collect any identifying information such as patient name or contact details. The authors of this manual take no responsibility for any data breaches or violations of relevant privacy/confidentiality standards. If you have any concerns about your specific implementation of the iAx as part of your service, you are advised to consult the relevant authority on the matter.

It is recommended that a unique identification code is instead used for each patient. At the beginning of the iAx, a question has been included to record an identification code assigned to the patient. This code is necessary to access the patient’s data recorded and displayed in the iAx.

Copyright of Questionnaires

At the time of iAx release, all questionnaires included in the system were in the public domain and freely available for use with appropriate acknowledgement. References for these have been provided.
If you choose to add additional questionnaires, please ensure you have obtained the appropriate permissions to use them in such a fashion.
Overview of iAx

The iAx has been constructed to allow a once-off and/or progress monitoring of patients who are attending treatment for cannabis-related difficulties. The iAx removes the time barrier for scoring and interpretation. It allows standardised assessments to be administered electronically and responses instantly scored, benchmarked against clinical averages, and visualised using colourful graphs for immediate interpretation by the practitioner and discussion with the patient. The included questionnaires are free to use, psychometrically validated, and will provide valuable information for case conceptualisation and treatment planning. Two versions of the iAx are available: iAx for Alcohol Use Disorder (Gullo et al., 2020) and this iAx for Cannabis Use Disorder (iAx-C).

Within G Suite, two Google Forms have been created to collect patient responses to the pre-treatment and progress monitoring assessments. No identifying data (e.g., name, contact details) is collected through these Forms to ensure patient confidentiality. An item at the beginning of each survey has been included to record a patient identification code to link to your records and to access the patient’s data.

The iAx is also easily modified and you may choose to add additional questionnaires to suit your needs. You may also choose to include a description or instructions for your patients at the beginning that are relevant to your practice, such as information and consent forms if you plan to use the data for research purposes. Instructions and examples of how to add new questions are included in this manual.

Currently, the responses recorded through these Forms will automatically populate in a Google Sheet titled “iAx (Responses)”. This Google Sheet includes formulae to automatically score the questionnaires. If you add additional questions or questionnaires that require scoring, you will need to update this sheet. Instructions and examples of how to do this are included in this manual.

Detailed information about the iAx Pre-Treatment and iAx Progress Monitoring are provided next.
iAx Pre-Treatment

The *iAx Pre-Treatment* has been designed to be completed by the patient during their first consultation. However, it may be completed at any stage, as required. The questionnaires included in the base *iAx Pre-Treatment* will take approximately 20-30 minutes to complete, are psychometrically validated, and provide valuable information for case conceptualisation.

The iAx Pre-Treatment provides a summary of patient responses on all questionnaires included with the iAx and includes measurement of severity of cannabis dependence, craving, cannabis refusal self-efficacy, outcome expectancies associated with cannabis use, alcohol use, psychological distress, and impulsivity (*reward sensitivity*/*drive* and *rash impulsivity*). See below for an example of the iAx Pre-Treatment. A description of each questionnaire can be found [here](#).

A Form, titled “iAx - Pre-Treatment Assessment”, has been created that contains the questionnaires in survey format. This survey is ready to be shared with the patient. Please see this [section](#) to learn how to share the iAx with your patients. See the image below for an example screenshot of this form in survey format (i.e., what the patient will see).
Once the patient has completed the iAx pre-treatment Form, their responses will automatically populate in a Google Sheet titled “iAx (Responses)”. This sheet has been designed to score each questionnaire and display these scores as graphs, comparing patient scores to population norms.

The iAx (Responses) spreadsheet contains several tabs relevant to the iAx Pre-Treatment: “iAx Summary Sheet”, “Pre-Treatment-Auto-Scoring”, and “Pre-Treatment Responses - Raw Data”. These tabs are described in more detail in the following section.
**Pre-Treatment Responses - Raw Data tab**

- This tab includes the patients’ raw data from the iAx Pre-Treatment collected through the Google Form.
- Variable names have been included in Row 1 for easy reference. It is recommended that if you add new questions to this iAx, you also add in the relevant variable names to keep this row consistent.
- It is important that you DO NOT DELETE OR ALTER any patient data in this tab as this is the only original record of their responses.
- New questionnaires added will appear at the right end of the spreadsheet (i.e., far right side).

**Pre-Treatment - Auto-Scoring tab**

This Sheet tab is where the patients’ responses for each questionnaire in the iAx Pre-Treatment are recoded (for responses originally recorded as text), reversed (for items that are reverse scored), and then scored. A description of the formulae used to perform these actions is provided below. If you decide to include additional questionnaires in the iAx, you may use these examples as a template for scoring them.

In Row 1, Column A (see image below), this formula: =ARRAYFORMULA('Responses - Raw Data'!A1:A) was used to bring through the information recorded in the -Raw Data sheet for the corresponding column. This formula was then copied across (updating the relevant column letter), finishing at Column FH to bring through the remaining data.
Recoding Responses

Within the questionnaires included, the only questionnaire that required recoding before it was scored was the Alcohol Use Disorder Identification Test (AUDIT) (responses recorded in Columns DH-DQ). The formulae for the recoding of each AUDIT question were entered in columns FK-FT. See image below for example of the formula used to recode Item 1. The patient’s response in this example was “Never” which has been recoded as “0” to align with the scoring instructions for the measure. When including new questionnaires that require recoding, you may alter the IF function to align with the response set.

```
=IF (C3 = "Never", 0, 
   IF (C3 = "Monthly or less", 1, 
   IF (C3 = "2 or 4 times a month", 2, 
   IF (C3 = "2 or 3 times a week", 3, 
   IF (C3 = "4 or more times a week", 4)))))
```

<table>
<thead>
<tr>
<th>EO</th>
<th>EP</th>
<th>RECODING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>AUDIT_1_RECoded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

**Note.** You will notice many cells are filled with the text “FALSE”. This is because the formula to recode these variables have been “copied into the cells below”. These cells will remain like this until patient data is received for the corresponding row. See image below for an example.
Reverse Scored Items

Questionnaires occasionally include items that need to be reverse-scored before summation. A brief description of these questionnaires included in the iAx and iAx-C and formulae are provided below.

- **Dysfunctional Impulsivity Inventory (DII)**
  - Four items require reverse scoring (Items 2, 9, 10, 11)
  - As responses are scored using True/False responses, the following formula was used `=IF(AND(DS3),FALSE,TRUE)` to reverse the responses on the above items. The formulae for the reverse scoring of these items were entered into columns GB-GE. See image below for example of the formula used to reverse score Item 2. The patient’s response in this example was “True” which has been recoded as “False” to align with the scoring instructions for the measure.

![Example of reverse scoring formula](image)

**Note.** You will notice many cells in this section are filled with the text “#N/A” or “#VALUE!”. This is because the formula to reverse-score these variables have been “copied into the cells below”. These cells will remain like this until patient data is received for the corresponding row. See image below for example.
Scoring Questionnaires

This tab also includes the final scoring of the questionnaires (see columns GG-GT). Some questionnaires include subscale scores and total scores. For questionnaires with responses recorded as numbers, this formula was used to calculate the total score:

\[ \text{=SUM(CH3,CM3,DF3)} \]

- For questionnaires with responses recorded as text that do not require recoding (i.e., True/False, Yes/No), this formula was used to calculate the total score:

\[ \text{=COUNTIF(EY3:FH3, "Yes")} \]

Note. This formula will count how many responses are recorded as “YES”. For True/False answers that require summing the “True” responses, replace “YES” with “True”
**iAx Pre-Treatment tab**

This tab provides a summary of the patient’s scores on each questionnaire. Patient scores are presented as graphs and compared to population norms.

To view a patient’s scores, you will need to enter the patient’s unique identification code into the C4 cell (see example below). Entering this data will automatically populate the rest of this sheet.

Underneath the patient identification code, the patient’s total scores on the Depression, Anxiety, Stress subscales are presented, alongside the corresponding clinical range (colour coded by severity). As the iAx administers the DASS21, the patient’s scores in these subscales are multiplied by 2 to allow appropriate comparison to DASS42 norms, as per instructions for scoring the measure.
Below this, six graphs are presented that display the patient’s total score or percentile rank compared to population norms on each questionnaire. Interpretation guidelines and information on norms are provided in the description of the questionnaires. These graphs will resemble the image below.

Below these graphs, tables have been included that present the patient’s scores on each questionnaire, as well as comparison norms, z-scores, and percentile ranks. These data are used to populate the graphs.

If you click in a spreadsheet cell that features the patient’s total score on a questionnaire, you will notice a formula has been used to draw the relevant information through from a corresponding column in the “Pre-Treatment - Auto-Scoring” tab. This formula has been constructed to search this specific tab using the patient identification code you entered in cell C4, drawing that patient’s score from column 194 (i.e., the column relevant for the AUDIT total score). If you would like to add additional questionnaires to the iAx to display in this summary sheet, you will need to use a similar formula by editing the column number (i.e., update ‘194’).
For the **AUDIT**, cut off values for harmful/hazardous use and “likely alcohol dependence” have been included next to the patient’s total score. For the SDS-C, a cut off value for “likely cannabis dependence” has also been included. These values are also represented in the associated graphs.

In these tables, norms (i.e., Means/Standard Deviations) for each questionnaire are also displayed. These norms have been sourced from peer-reviewed journal articles and typically represent Australian adults seeking treatment for cannabis use disorder. Additional information about the norms are provided in the questionnaire descriptions and by hovering your cursor over the yellow triangle in the associated cell.

The patient’s z-score and percentile rank are created based on these norms, to aid interpretation of the scores. Clicking on a cell provides the formulae used to calculate these figures, which you may want to use when adding additional questionnaires and/or population norms.
\[ \frac{(D92 - 9.57)}{2.84} \]

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
</tbody>
</table>

### Severity of Dependence Scale - Cannabis

<table>
<thead>
<tr>
<th>Likely Cannabis Dependence</th>
<th>Treatment Seeker Sample Norms, M (SD)</th>
<th>Patient's SDS Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>9.57 (2.84)</td>
<td>15</td>
</tr>
</tbody>
</table>

### Percentile Ranks

<table>
<thead>
<tr>
<th>Likely Cannabis Dependence</th>
<th>Patient's Percentile Rank Compared to Norms</th>
<th>Patient's Z-Score Compared to Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.04%</td>
<td>97.21%</td>
<td>1.91</td>
</tr>
</tbody>
</table>
The *iAx Progress Monitoring* is designed to track treatment-related changes in patient scores on a subset of questionnaires administered at pre-treatment. These questionnaires will take approximately 20 minutes to complete and can be administered as required.

A Google Form, titled *iAx - Progress Monitoring*, has been created that contains these questionnaires in survey format. Although not necessary, to get the most informative data the patient should have already completed the *iAx Pre-Treatment Form* at an earlier time. See the image below for an example screenshot of this form in survey format (i.e., what the patient will see).

Once the patient has completed the iAx - Progress Monitoring Form, their responses will automatically populate in the Google Sheet titled *iAx (Responses)*. Please see this section to learn the sharing options available.
The iAx (Responses) spreadsheet contains several tabs relevant to the iAx Progress Monitoring: “iAx Progress Monitoring”, “Progress Monitoring-Auto-Scoring”, and “Progress Monitoring Responses - Raw Data”. These tabs are described in more detail in the following section.

**Progress Monitoring Responses - Raw Data tab**

- This tab includes the patient’s raw data collected through the Google Form.
- Variable names have been included in Row 1 for easy reference. It is recommended that when you add new questions, you also add in the relevant variable names to keep this row consistent.
- It is important that you DO NOT DELETE OR ALTER any patient data in this tab as this is the only original record of their responses.

**Progress Monitoring - Auto-Scoring tab**

This tab will recode (for responses originally recorded as text), reverse (for items that are reverse coded), and then score the patient’s responses for each questionnaire. Please see the iAx Pre-Treatment section of this manual for detailed information on how responses are recoded, reversed, and scored.

**iAx Progress Monitoring tab**

This tab displays changes in the patient’s scores on a subset of questionnaires across four different timepoints; pre-treatment and three additional timepoints of your choice. The questionnaires displayed include the AUDIT, DASS, ACE-C, CEQ, and CRSEQ. These questionnaires provide measurement of severity of alcohol dependence, psychological distress, craving, outcome expectancies associated with cannabis use, and cannabis refusal self-efficacy respectively.

To view the patient’s scores, you will need to enter the patient’s identification code into the C4 cell and three dates that correspond to the sessions you would like to compare.
Note. You do not need to include all three dates for this to work. The format of these dates must match how they were entered by the patient (i.e., “dd/mm/yyyy”). Entering this data will automatically populate the rest of this sheet. If you have entered this information and the sheet is not populating, you may need to check the date settings on Google Sheets. See here for a troubleshooting guide.

Once this information has been entered, five graphs will display changes in the patient’s total scores across the chosen timepoints. An example of these graphs is provided below.

Underneath these graphs, tables display the patient’s scores on each questionnaire across the selected timepoints. When clicking on these scores, you will note formulae have been included to draw the relevant information from the ‘Progress Monitoring - Auto-Scoring’ Sheet tab based on the patient’s identification code (Entered in C4) and the date of session (Entered in cells C5-C7) at the top of the ‘iAx Progress Monitoring’ Sheet tab. If you decide to include new questionnaires or need to add additional session dates beyond those that are already included, you can edit these formulae.
<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AUDIT Total Score</strong></td>
<td>15</td>
<td>17</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DASS Depression Total Score</strong></td>
<td>42</td>
<td>12</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td><strong>DASS Anxiety Total Score</strong></td>
<td>42</td>
<td>14</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>DASS Stress Total Score</strong></td>
<td>42</td>
<td>14</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACE-C Total Score</strong></td>
<td>110</td>
<td>88</td>
<td>58</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRSEQ Social Facilitation</strong></td>
<td>36</td>
<td>13</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td><strong>CRSEQ Emotional Relief</strong></td>
<td>18</td>
<td>27</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td><strong>CRSEQ Opportunistic</strong></td>
<td>30</td>
<td>23</td>
<td>16</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CEQ Positive</strong></td>
<td>90</td>
<td>72</td>
<td>53</td>
<td>35</td>
</tr>
<tr>
<td><strong>CEQ Negative</strong></td>
<td>135</td>
<td>108</td>
<td>81</td>
<td>58</td>
</tr>
</tbody>
</table>
How Do Patients Complete the iAx?

When the iAx is ready to be administered to patients, there are a number of sharing options to choose from. To access these options, select the Send button in the top right corner of the relevant Google Form.

Email

This option allows you to send a link to the survey via email. For best results, we recommend you do not click “Include Form in Email”. Note. The email will be sent from the Gmail account you have set up in G Suite.

Web Address

The second option allows you to copy a web address link that you can then share with your patients (e.g., via email) or embed in a webpage. For example, you can set up an internal website for your clinic as part of your G Suite account that is only accessible from certain logged-in devices (e.g., clinic tablet computers). Such devices can be set up in a “kiosk” mode to restrict access to the iAx Forms (e.g., Kiosk Browser).

Embed Html

This option provides the html code to embed a link to the Form on a webpage.

IMPORTANT: You will need to provide the patient with their unique patient identification code or enter it for them. This code is entered at the beginning of the assessment so that responses can be accessed later.
How to View Patient Results

iAx Pre-Treatment

1. Open the *iAx - (Responses)* Google Sheet
2. At the bottom left of this sheet, click the tab titled *iAx Pre-Treatment*
3. At the top of this sheet, enter the patient’s identification code into the C4 cell.

![iAx Pre-Treatment Summary Sheet](image)

iAx Progress Monitoring

1. Open the *iAx - (Responses)* Google Sheet
2. At the bottom left of this sheet, click the tab titled *iAx Progress Monitoring*
3. At the top of this sheet, enter the patient’s identification code into the C4 cell.
4. Underneath this cell, enter three dates that correspond to the dates the patient completed the assessments. You do not need to enter the date the Pre-Treatment questionnaires were completed, this information will automatically populate when you enter the patient’s code.

![iAx Progress Monitoring](image)
In this base version of iAx, no identifying information is collected. Instead, unique identification codes are used to link together assessments provided by the same patient. This identification code can be assigned by the practitioner and kept with the patient’s clinic file or chart. Of course, the iAx can be modified to collect and process identifying information in a way that complies with Australian Privacy Legislation and the Health Insurance Portability and Accountability Act (HIPAA).

**Note.** You will need to provide the patient with their unique patient identification code so that they can enter this code at the beginning of the Form. Alternatively, you or your reception staff can enter this code before handing over the tablet computer.

If a patient re-engages with treatment after an extended absence and you wish to administer another iAx Pre-Treatment assessment, you will need to use a new code. **Using the same code for multiple iAx Pre-Treatment assessments will result in an error.**
Alcohol Use Disorder Identification Test (AUDIT)

The AUDIT (Saunders et al., 1993) was developed by a World Health Organisation (WHO) collaborative project to provide a brief screening instrument to identify hazardous and harmful alcohol consumption, abuse and dependence. The instrument covers three aspects of alcohol misuse: consumption, dependence and related-problems.

The AUDIT has excellent psychometric properties within a wide range of populations and clinical settings (see Reinert & Allen, 2007).

**Scoring and Interpretation:**

Items 1-8 are scored on a 0 - 4 scale and Items 9-10 are scored as 0, 2, or 4. Responses are summed to provide a total score ranging from 0 to 40.

Higher scores are indicative of more severe alcohol use problems. A total score of 8 or more suggests harmful or hazardous drinking and a cutoff score of 13+ for women and 15+ for men is indicative of “likely alcohol dependence” (WHO, 2019).

A graph in the iAx Summary Sheet displays the patient’s total score on the AUDIT. A key has been included in this graph to provide indicators of cutoff values for harmful/hazardous use (represented as a score of 8 or higher) and “likely alcohol dependence” (represented as a score of 13 for males and 15 for females; WHO, 2019). A graph displaying AUDIT total scores across timepoints is also included in the iAx Progress Monitoring.

**Key References:**

[28]


Severity of Dependence Scale - Cannabis

The Severity of Dependence Scale (SDS) contains 5 items that assess psychological components of dependence. It was originally developed by Gossop et al. (1995) and has since been adapted to assess dependence for many different drugs of abuse (e.g., amphetamines, cannabis, cocaine).

**Scoring and Interpretation:**

Each item is scored on a 4-point Likert scale from 0 (*never/almost never*) to 3 (*always/nearly always*). Responses are summed to create a total score. The total score ranges from 0 to 15 with higher scores indicative of more severe dependence. A total score of 3+ is indicative of likely cannabis dependence (Swift et al., 1998).

A graph displaying the patient’s percentile score on the SDS-C compared to Australian patient norms is included in the iAx Summary Sheet. For reference, the Red Circle represents the cutoff score for likely dependence.

The patient’s percentile rank is calculated by comparing their total score to an Australian outpatient sample reported in Papinczak et al., 2017. This normative sample included 195 cannabis users attending a Brisbane metropolitan hospital outpatient drug and alcohol service for treatment.

Please see demographics and scores in the table below for more information.

<table>
<thead>
<tr>
<th>$N$</th>
<th>Age in years, $M$</th>
<th>Male %</th>
<th>Total, $M$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td>30.03</td>
<td>74</td>
<td>9.57 (2.84)</td>
</tr>
</tbody>
</table>
Key References:


Cannabis Craving Experience Questionnaire

An adaptation of the 11-item Alcohol Craving Experience Questionnaire (May et al., 2014; Statham et al., 2011) is included to assess the intensity and intrusiveness of past-week cannabis cravings.

Scoring and Interpretation:

Each item is scored along an 11-point Likert scale from 0 (Not at All) to 10 (Constantly). Responses to each item are summed to provide a total score ranging from 0 to 110, with higher total scores represent stronger cannabis cravings.

A graph displaying the patient’s percentile scores on these subscales is included in the iAx Summary Sheet.

The patient’s percentile rank is calculated by comparing their total score to an Australian outpatient sample (unpublished data). This normative sample included 216 cannabis users attending a Brisbane metropolitan hospital outpatient drug and alcohol service.

Please see demographics and scores in the table below for more information.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>216</td>
<td>22.87 (21.93)</td>
</tr>
</tbody>
</table>

Key References:


The Cannabis Expectancies Questionnaire (CEQ) is a 45-item self-report questionnaire that assesses outcome expectations associated with cannabis use (Conner et al., 2011). This measure has two subscales: Positive (positive expectations associated with cannabis use) and Negative Expectancies (negative expectations associated with cannabis use).

**Scoring and Interpretation:**

Patients rate each item along a 5-point Likert scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) in accordance to how much each statement applies to them. Responses are summed to provide a total score for each subscale. Higher negative expectancy scores predict greater motivation for change and better treatment response (Gullo et al., 2017; Papinczak et al., 2017). However, high negative expectancies that co-occur with high positive expectancies may indicate ambivalence. Highlighting these negative beliefs may generate dissonance to aid motivation for change.

A graph displaying the patient’s percentile scores on these subscales is included in the iAx Summary Sheet. The patient’s percentile rank is calculated by comparing their total score to an Australian outpatient sample reported in Papinczak et al., 2017. This normative sample included 195 cannabis users attending a Brisbane metropolitan hospital outpatient drug and alcohol service for treatment.

Please see demographics and scores in the table below for more information.

<table>
<thead>
<tr>
<th>N</th>
<th>Age in years, M</th>
<th>Male %</th>
<th>Positive, M (SD)</th>
<th>Negative, M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td>30.03</td>
<td>74</td>
<td>52.24 (12.20)</td>
<td>81.10 (19.88)</td>
</tr>
</tbody>
</table>
**Key References:**


Cannabis Refusal Self-Efficacy Questionnaire

The 28-item Cannabis Refusal Self-Efficacy Questionnaire (CRSEQ) measures confidence in one’s ability to resist cannabis across a variety of contexts. Previous research has found that greater refusal self-efficacy is associated with lower levels of cannabis use, less cannabis-related problems, and better treatment outcomes (e.g., Davis et al., 2014; Gullo, Matveeva, Feeney, Young & Connor, 2016; Young, Gullo, Feeney & Connor, 2012). Only 14 items of the original 28 items are scored to provide the most precise measurement of refusal self-efficacy (Young et al., 2012).

This measure contains three subscales:

- **Emotional Relief** - Represents a patient’s confidence in their ability to refuse cannabis when experiencing negative emotional states (e.g., ‘When I feel upset’)
- **Social Facilitation** - Represents a patient’s confidence in their ability to refuse cannabis in social situations (e.g., ‘When I am going to meet or am meeting people for the first time’)
- **Opportunistic** - Represents a patient’s confidence in their ability to refuse cannabis when the opportunity to use cannabis presents itself (e.g., ‘When someone offers me a smoke’)

**Scoring and Interpretation:**

Each item is scored along a 6-point Likert scale from 1 (*I am very sure I could NOT resist using cannabis*) to 6 (*I am very sure I could resist using cannabis*). Responses for items within each subscale are summed, with higher total scores representing greater confidence to remain abstinent. Lower Emotional Relief refusal self-efficacy predicts greater willingness to enter treatment (i.e., need support), but also predicts poorer treatment outcomes (Gullo et al., 2016; Papinczak et al., 2017). Increasing refusal self-efficacy is an important treatment goal.

A graph displaying the patient’s percentile scores on these subscales is included in the
iAx Summary Sheet. The patient’s percentile rank is calculated by comparing their total score to an Australian outpatient sample reported in Papinczak et al. (2017). This normative sample included 195 cannabis users attending a Brisbane metropolitan hospital outpatient drug and alcohol service for treatment.

Please see demographics and scores in the table below for more information.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>195</td>
<td>30.03</td>
<td>74</td>
<td>13.86 (4.08)</td>
<td>19.55 (8.90)</td>
<td>17.24 (8.74)</td>
</tr>
</tbody>
</table>

**Key References:**


Sensitivity to Reward Scale - Short Form (SRS)

The SRS (Cooper & Gomez, 2008) is a 10-item short-form scale taken from the Sensitivity to Reward scale from the Sensitivity to Punishment and Sensitivity to Reward Questionnaire (SPSRQ; Torrubia et al., 2001). The SRS measures individual differences in the (biologically-based) predisposition to seek out rewarding stimuli and pursue situations with high reward potential, a major dimension of personality (Gray & McNaughton, 2000). Reward sensitivity/drive is associated with positive cannabis expectancies, stronger cravings, and stronger physiological responses to alcohol and conditioning to alcohol cues (Brunelle et al., 2004; Franken, 2002; Glaütier et al., 2000; Gullo et al., 2010; Gullo et al., 2011; Kambouropoulos & Staiger, 2001).

**Scoring and Interpretation:**

Items are scored dichotomously (No = 0, Yes = 1) and responses are summed to provide an overall total score. Higher total scores represent greater reward sensitivity/drive.

Dysfunctional Impulsivity Inventory (DII)

The DII (Dickman, 1990) is a 12-item measure of rash impulsivity. Rash impulsivity refers to the predisposition to engage in behaviours without consideration of the consequences and to persist in previously reinforced behaviour despite it no longer resulting in reward (Dawe et al., 2004). Rash impulsivity is positively associated with severity of cannabis dependence and reduced cannabis refusal self-efficacy (Papinczak ... & Gullo, 2018; 2019).

**Scoring and Interpretation:**

Items are scored dichotomously (False = 0, True = 1). Items 2, 9, 10, and 11 are reverse scored, and responses are summed to provide an overall total score. Higher total scores represent greater rash impulsivity.

Both rash impulsivity and reward sensitivity/drive are facets of impulsivity.
(Dawe et al., 2004). A single graph displaying the patient’s percentile scores on each questionnaire is included in the iAx Pre-Treatment.

Rash impulsivity and reward sensitivity norms for cannabis users referred to treatment are provided by Painczak et al. (2019). This normative sample included 273 cannabis users referred to treatment attending a Brisbane metropolitan hospital outpatient drug and alcohol service. Please see demographics and normed scores in the table below for more information.

<table>
<thead>
<tr>
<th></th>
<th>Age in years, M (SD)</th>
<th>Male, n (%)</th>
<th>DII, M (SD)</th>
<th>SRS, M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>273</td>
<td>26.31 (9.39)</td>
<td>213 (78)</td>
<td>4.42 (3.49)</td>
<td>4.05 (2.52)</td>
</tr>
</tbody>
</table>

**Key References:**


Depression Anxiety Stress Scale (DASS)

The DASS is a 21 or 42-item self-report instrument designed to screen for three negative emotional states of depression, anxiety and stress. This is not a diagnostic tool.

**Scoring and Interpretation:**

21 items are scored along a 4-point Likert style response set from 0 *(Did not apply to me at all)* to 3 *(Applied to me very much or most of the time)*. Responses for items within each subscale are summed to create total scores (ranging from 0 to 21 each).

1. Depression: Items 3 5 10 13 16 17 21
2. Anxiety: Items 2 4 7 9 15 19 20
3. Stress: Items 1 6 8 11 12 14 18

Subscale total scores are multiplied by 2 to allow comparison to DASS-42 Norms. These scores are populated in the iAx Pre-Treatment/Progress Monitoring tab. Corresponding clinical ranges will automatically populate in the cell next to these scores. These have been colour-coded by severity. These clinical range categories are provided in the image below.

<table>
<thead>
<tr>
<th>Normal</th>
<th>Depression (D)</th>
<th>Anxiety (A)</th>
<th>Stress (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>0 – 9</td>
<td>0 – 7</td>
<td>0 – 14</td>
</tr>
<tr>
<td>Moderate</td>
<td>10 – 13</td>
<td>8 – 9</td>
<td>15 – 18</td>
</tr>
<tr>
<td>Severe</td>
<td>14 – 20</td>
<td>10 – 14</td>
<td>19 – 25</td>
</tr>
<tr>
<td>Extremely Severe</td>
<td>21 – 27</td>
<td>15 – 19</td>
<td>26 – 33</td>
</tr>
<tr>
<td></td>
<td>28+</td>
<td>20+</td>
<td>34+</td>
</tr>
</tbody>
</table>

**Key References:**


http://www2.psy.unsw.edu.au/dass/
Making Changes to the iAx

The iAx can be customised to meet the needs of your practice and your patients. You may wish to include a new questionnaire or update the normative sample with data from your own service. This can be done by following the instructions below.

Adding New Questionnaires

1. Open the Google Form titled iAx - Pre-Treatment Assessment.

   Note. If you want to include the questionnaire for progress monitoring as well, you will need to repeat these steps in the Google Form titled iAx - Progress Monitoring.

2. Scroll down in the Form to where you would like to add a new question. Select the + symbol in the vertical box on the right side of the screen. This will create a new box (see image below) and you can use this to create a new question. In the drop-down menu in the top right corner, you can choose from many different question options.

Important: Before typing in the question or answers, you need to decide how you want the data to be collected. How you specify the answer format at this stage will determine how the data is recorded in the Sheet. Having patients answer questions using numbers (i.e., Likert and Scale responses) will make it easier to score. Having patients answer questions by selecting worded responses (e.g., “Never” “Always”) will require recoding in the Google Sheet before it can be scored. See “Recoding Responses”.

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3. Once the new questions have been created in the Google Form, they will automatically populate in the iAx *(Responses)* raw data tab in the last column.

4. To recode and score the questions, open the *Pre-Treatment - Auto-Scoring* Sheet tab. Locate the last empty column at the end of the raw data (i.e., before recoding and scoring) and insert the required number of blank columns per new question added. This can be done by right clicking on the empty column and clicking “Insert 1 right”.

5. Once you have added in the blank columns, click the blue square in the top cell of the last populated cell and drag across the blank columns. This will automatically populate those empty columns with the new questionnaire data.

6. Now the questionnaire has populated in this tab, you may need to recode (for responses originally recorded as text) and reverse score (for items that are reverse coded) the responses.

7. After completing any required recoding and/or reverse scoring of responses, you can now score the new questions.
Tips and Tricks for Creating Questions

When creating new questions, Google Forms has a few extra functions that may be useful.

1. Compulsory versus Optional Questions

If you would like to make answering a question compulsory or optional, toggle the switch next to “Required” (see red arrow below). Toggled to “on”, patients will not be able to complete the questionnaire without filling in this question.

2. Copying Previous Question

If you like the format of a previous question but do not want to create it again from scratch, you can copy it! Click the copy button (see red arrow below) and a new identical question will be created. Once the copy is created, you just edit the text for create the question.

3. Deleting a question

If you would like to delete a question, click the Bin icon (see red arrow below).
4. Previewing your survey before publication

Sometimes while you are creating your new survey, it is helpful to preview it. This will allow you to check the formatting and layout of the questionnaire. To do this, click the eye icon in the top right hand corner. This will open a new tab in your browser and show you a preview of your questionnaire. You can even complete the questionnaire yourself, if you wish.

5. Adding a New Section

For long surveys it can be helpful to add in section breaks, particularly between each questionnaire. Adding section breaks between questionnaires will present each questionnaire on its own page.

To add a section break, click on the last question for that section and select the icon that looks like two small boxes on the right hand side (see red arrow below).
6. Skipping Questions (Piping, Logic etc)

Sometimes you might want to skip a question or direct a patient to a different section in the assessment battery, based on their answer to a question.

Click the three dots in the bottom right hand corner.

Select “Go to section based on answer”
Next to the answers, select *Continue to next section* and select the appropriate section. You will need to ensure the questions are separated by section breaks.
Adding New Norms to Benchmark Patient Data Against

The iAx includes clinical norms to benchmark patient responses to aid interpretation. These norms (i.e., Means/Standard Deviations) are reported in this manual as well as in the iAx summary sheets.

Over time, you may wish to update these norms (e.g., update to those reported in recently published studies or based on previous patients who have attended your service). To do this, you can either replace the norms included in the tables at the bottom of the iAx - Pre-Treatment Sheet tab (see arrow below) or add them in a new row.

Once you have included these norms, calculate the patient’s z-score using this formula

\[ \frac{\text{Patient’s score} - \text{Normative Mean}}{\text{Normative SD}} \]

In this example, the patient’s z-score for Social Pressure subscale of the DRSEQ was calculated using \( \frac{(C89-9.53)}{4.25} \)

Following this, the patient’s percentile rank is calculated using this Function

\[ =\text{NORMSDIST}(C93) \]

Once the patient’s z-scores and percentile ranks have been calculated for the new norms, you have the information required to create a graph.
Troubleshooting Guide

Do you provide the patient identification codes?

No. You can create and assign your own patient identification codes. It is important to record this information on the patient file.

My patient is returning to treatment after an extended break and will complete the iAx Pre-treatment questionnaires again. Should I use the same identification code?

No. Using the same code will create an error. You will need to assign a new patient identification code.

A patient used the wrong identification code / made an error when entering their responses, how do I fix this?

You can easily edit the raw data in the iAx (Responses) Google Sheet. However, as this is the only record of patient responses, we do not recommend making changes unless the patient has incorrectly entered information.

To make a change, open the Raw Data sheet tab for the relevant assessment, find the associated patient row and make the necessary edits. If changing responses to questionnaires, ensure the response is recorded exactly as it is collected otherwise it will not score properly.

I’ve entered the dates in the iAx Progress Monitoring Sheet but it is not bringing the results through?

First, check the date you have entered matches exactly what the patient entered (i.e., DD/MM/YYYY). You can check this by viewing the patient’s raw data in the Progress Monitoring Responses - Raw Data.

If you have entered the correct date, double-check the date settings in Google Sheets. Do this by clicking File then Spreadsheet Settings. Ensure the Locale is set to Australia.

I think I have found an error within the iAx documents.

Please contact Assoc. Prof Matthew Gullo via email (m.gullo@uq.edu.au) to advise of the error.
The iAx is not automatically scoring anymore? What happened?

Occasionally, it can take a minute for the scores to populate after a new Form has been completed. You can try refreshing the browser tab containing the iAx (Responses) Google Sheet. If the Sheet is still not scoring properly, you may need to ‘click and drag down’ the formulas in the relevant columns.

1. Do this by opening the relevant Auto-Scoring tab, scroll across to the Recode section.
2. In the first column, scroll down to the last cell with data.
3. Click the cell and highlight across the remaining columns to the end of the Scoring section.
4. Once the row has been highlighted, click the blue square in the last cell and drag the highlighted rows down. You can drag down to as many rows as required.
5. You will notice the cells will be filled with zeros and FALSE values. These cells will populate with new patient data as it comes through.
Helpful Links

How to use Google Forms:

https://support.google.com/docs/answer/6281888?hl=en&ref_topic=6063584

How to edit Google Forms:

https://support.google.com/docs/answer/2839737?hl=en

How to Change the Colour or Theme of Google Forms:

https://support.google.com/docs/answer/145737?hl=en&ref_topic=6063584