



AKADÉMIAI KIADÓ

# Clinical consensus statements on change techniques for gambling treatment: A Delphi study with clinicians

Journal of Behavioral Addictions

14 (2025) 1, 430–444

DOI:

10.1556/2006.2025.00004

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Received: August 28, 2024 • Revised manuscript received: January 2, 2025 • Accepted: January 9, 2025  
Published online: February 14, 2025

## FULL-LENGTH REPORT



### ABSTRACT

**Background and aims:** The active ingredients of psychological gambling treatments remain unclear, with research identifying effective change techniques only emerging. This study aimed to identify clinical consensus statements on effective change techniques for gambling treatment according to Australian and New Zealand gambling clinicians. Identification of promising change techniques can inform the development of optimised interventions. **Methods:** A panel of 68 clinicians participated in a two-round Modified Delphi study. Panellists rated the effectiveness of 19 change techniques for reducing gambling severity, expenditure and frequency. Consensus criteria for effectiveness and ineffectiveness were defined *a priori*. Panellists were also asked to provide culturally relevant considerations and adaptations when using change techniques with culturally diverse, linguistically diverse and Indigenous populations. Responses were analysed through a thematic analysis. **Results:** Clinical consensus was reached on the effectiveness of 10 change techniques: *relapse prevention, goal setting, motivational enhancement, information provision, cognitive restructuring, financial regulation, information gathering, plan social support, problem solving, and decisional balance*. There was no consensus that any technique was ineffective, however *social comparison* received the lowest ratings. Panellists also identified four key themes of considerations when working with culturally diverse, linguistically diverse and Indigenous populations. **Discussion and Conclusions:** This is the first Delphi study to explore clinician perspectives on change technique effectiveness. Ten change techniques were identified as likely to be effective. Findings can inform the selection of promising change techniques for inclusion in gambling treatment programs and expedite optimised intervention development by focussing research efforts on change techniques most likely to be effective.

### KEYWORDS

gambling disorder, behaviour change technique, clinical consensus statements, Delphi, clinician, treatment

## INTRODUCTION

Umbrella and systematic review evidence suggests cognitive-behaviour therapy (CBT) and Motivational Interviewing (MI) are effective gambling interventions (Cowlshaw et al., 2012; Di Nicola et al., 2020; Eriksen et al., 2023; Pfund et al., 2023; Yakovenko, Quigley, Hemmelgarn, Hodgins, & Ronksley, 2015), with emerging evidence for third-wave interventions, including mindfulness-based interventions (de Lisle, Dowling, & Allen, 2012; Maynard, Wilson, Labuzinski, & Whiting, 2015; Sancho et al., 2018). However, there is limited research exploring the active ingredients of these multi-component interventions. Such research is important as two interventions may be classified into the same broad therapeutic approach

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(e.g., MI) but be comprised of different components, thereby making it difficult to identify which components contribute to intervention effectiveness (Rodda, Merkouris, et al., 2018). This issue is compounded by inconsistent naming practices, whereby components are classified differently across studies (Abraham & Michie, 2008).

Accordingly, the health literature has focused on the development of classification taxonomies to define and categorise *change techniques* (hereafter referred to as *techniques*), which are component parts of interventions designed to result in behaviour change (Abraham & Michie, 2008; Michie et al., 2013a). Taxonomies designed for application across different fields (cross-domain taxonomies) (Michie et al., 2013a) offer a uniform language that facilitates the exchange of information regarding the effectiveness of techniques across diverse domains. In contrast, taxonomies have also been developed for specific health domains (Michie et al., 2012; Sheeran et al., 2019). These domain-specific taxonomies can be informed by both top-down approaches, which draw on existing taxonomies, and bottom-up approaches, which are derived from the evidence base in a particular field to ensure their relevance to the specified health domain. Within the health literature, such classification taxonomies have been employed to identify effective techniques, often via meta-regressions (Michie, Abraham, Whittington, McAteer, & Gupta, 2009; Michie et al., 2012) and formal consensus studies, including Delphi studies (Garnett, Crane, West, Brown, & Michie, 2015; O'Neill et al., 2018; Taylor et al., 2020; Vestjens, Kempen, Crutzen, Kok, & Zijlstra, 2015).

Within the field of addiction, taxonomies have been developed in relation to smoking cessation (Michie, Hyder, Walia, & West, 2011), alcohol reduction (Michie et al., 2012), and internet, pornography and gaming addiction (Rodda, Booth, Vacaru, Knaebe, & Hodgins, 2018). To date, the only bespoke taxonomy developed for gambling interventions is the Gambling Intervention System of CharacTerization (GIST-1) (Rodda, Merkouris, et al., 2018). Alongside indexing 18 techniques employed in psychological interventions for gambling treatment and identifying theories associated with each technique (see Table 1), the GIST-1 indexes components relating to participant and study characteristics; delivery and conduct of the intervention characteristics; and evaluation characteristics (Rodda, Merkouris, et al., 2018). The development of the GIST-1 was informed by pre-existing taxonomies but was primarily data-driven. This process involved identifying components from a random selection of gambling intervention descriptions sourced through a comprehensive literature search. The taxonomy was refined, tested, and piloted through an iterative process, with labels and descriptions of components expanded and adjusted as needed (see Rodda, Merkouris, et al., 2018). Whilst the GIST-1 allows gambling intervention content to be described, categorised, and counted, it has not yet been used to identify techniques that are likely to be effective for gambling treatment.

Two systematic reviews (Humphreys, Evans, Makin, Cooke, & Jones, 2021; St Quinton, Morris, Pickering, & Smith, 2022) have, however, attempted to identify effective techniques for gambling treatments using the *Behaviour Change Technique Taxonomy Version 1* (BCTTv1), a 93-item cross-domain taxonomy (Michie et al., 2013a). Humphreys et al. (2021) examined 16 high quality studies of effective web-based interventions for alcohol consumption, binge eating, and gambling, and identified the five most used techniques: *feedback on behavior*, *self-monitoring of behavior*, *self-monitoring of outcome(s) of behavior*, *instruction on how to perform a behavior*, *social comparison*. Although the techniques in the BCTTv1 and the GIST-1 do not map on to each other in a one-to-one manner, the BCTTv1 techniques *feedback on behavior*, *self-monitoring of behavior*, *self-monitoring of outcome(s) of behavior* are most similar to the GIST-1 techniques of *feedback on assessment* and *self-monitoring*, whilst the BCTTv1 technique *social comparison* is equivalent to the GIST-1 technique *social comparison*. The BCTTv1 technique *instruction on how to perform a behavior* is described as “advise or agree on how to perform the behavior” (Michie et al., 2013b, p. 6), which could sit across several GIST-1 techniques including *social skills training* and *behaviour substitution*. One notable limitation of these findings is that only three included studies of effective interventions deemed high-quality related to gambling, limiting generalisability to gambling interventions.

In a systematic review of 16 randomised controlled trials (RCTs) for adolescent gambling, St Quinton et al. (2022) attempted to identify *promising* techniques, defined as those present in at least 25% of interventions and at least two effective interventions. They identified four promising techniques: *information about antecedents*, *behavioral experiments*, *information about social and environmental consequences*, and *information about emotional consequences*. They described *behavioral experiments* as those in which simulations were conducted, demonstrating concepts such as randomness or monetary loss over time. In the GIST-1, this would be coded as *cognitive restructuring*, because it involves challenging thoughts and beliefs through Socratic questioning and behavioural experiments. The remaining three identified techniques map on to *information provision* in the GIST-1.

Although these reviews provide valuable data relating to potentially effective techniques, they are specific in scope, focusing either only on web-based interventions across a range of health behaviours (Humphreys et al., 2021) or interventions for adolescent gambling (St Quinton et al., 2022). They are also limited by their criteria for effectiveness, reliance on accurate reporting in studies, and use of cross-domain taxonomies. Evaluating effectiveness by basing it on the frequency with which techniques are used in intervention studies makes it difficult to distinguish between the individual effects of one technique over other commonly occurring techniques. This approach may also overlook potentially effective techniques underrepresented in intervention studies. For example, St Quinton et al. (2022)



Table 1. A list of GIST-1 change techniques and their associated theories, along with brief definitions of the techniques provided to panellists in this study

Change technique	Associated theory	Definition
Behaviour substitution	RPT, TTM, and CBT	Behaviour substitution involves prompting the substitution of gambling behaviour with one or more non-problematic behaviours (e.g., pleasant activities, hobbies, social activities, and physical exercise).
Cognitive restructuring	CBT	Cognitive restructuring involves identifying maladaptive or inaccurate thoughts and beliefs related to gambling (e.g. misunderstanding of randomness), challenging the validity of those thoughts and beliefs, and identifying a more balanced alternative thought or belief.
Exposure	CC and OC	Exposure involves repeated systematic, gradual and controlled confrontation with gambling situations (e.g. gambling venues) and cues (e.g. watching a video of someone gambling).
Imaginal desensitisation	CC and OC	Imaginal desensitisation involves progressive application of relaxation approaches when intentionally exposed to a gambling related stimuli, image, or visualisation.
Problem solving	SRT and IMB	Problem solving involves prompting an individual to identify their gambling-related problems, generating various solutions to these problems, and evaluating and choosing a solution to implement (e.g. if gambling occurs due to high anxiety levels, problem solving may be used to help the individual identify other alternative ways of managing).
Relapse prevention	RPT	Relapse prevention involves providing information about relapse (e.g. on the difference between a lapse and relapse), and supporting the development of a relapse prevention plan (e.g. identifying triggers, high-risk situations, and coping strategies).
Self-monitoring	CTL and SRT	Self-monitoring involves establishing a method for the individual to record their own thoughts, feelings or behaviours over a specific time-period (e.g. on a record sheet or in a diary).
Stimulus control	TTM and SRT	Stimulus control involves encouraging action to modify the environment to reduce access to gambling (e.g. restricting access to money or venues), or avoid situations that may trigger gambling cravings (e.g. avoiding specific people or places).
Decisional balance	TRA, TPB, TTM, SCT, IMB, and HBM	Decisional balancing involves weighing up the pros and cons of behaviour change (e.g. weighing up the benefits of gambling with the benefits of not gambling, or the costs of gambling with the costs of not gambling). It also includes imagining positive outcomes of change, or identifying how gambling fits with life goals and values.
Goal setting	TRA, TPB, SCT, and IMB	Goal setting involves setting goals or agreeing on goals within treatment. For example, setting a goal to limit, reduce or quit one or more gambling behaviours, or deciding on the amount of money that can be spent on gambling. Goal setting does not include goals set prior to the start of treatment (e.g. quit and abstain).
Feedback on assessment	CTL, HBM, and SDT	Feedback on assessment involves providing the individual with a summary of the data that is collected about them on assessment measures. For example, providing them with information about how they scored on a problem gambling measure (e.g., gambling severity score) and the cut-off scores for this measure.
Information gathering	IMB	Information gathering involves asking strategic questions about the nature of the problem (sometimes referred to as Socratic Questioning). This may take place in an assessment session.
Information provision	IMB, TTM, and SCT	Information provision includes providing information about problem gambling. This might include information about negative consequences and potential harms and risk factors of problem gambling, or information about the psychology of addiction and how gambling works (e.g. odds, randomness, and chance).
Motivational enhancement	IMB, TTM, SDT, and HBM	Motivational enhancement involves exploring the individual's awareness of their problem, exploring their ambivalence, capability and commitment to change, and increasing change talk.
Plan social support	SST, TTM, and SDT	Planning social support involves prompting an individual to make use of their support network. For example, it may include encouraging the individual to seek practical or emotional support from another person (such as family or

(continued)



Table 1. Continued

Change technique	Associated theory	Definition
Social comparison	TRA, TPB, and IMB	friends or from online groups or forums), encouraging them to disclose gambling problem or goals for change with others, or encouraging them to socialise with others who are non-gamblers. Social comparison involves a planned comparison of an individual's gambling behaviours (e.g. frequency, expenditure, and time spent gambling) with those of another social group (e.g. a population of a specific age range, gender, or geographic location).
Financial regulation	SRT	Financial regulation involves providing the individual with information, instruction, guidance or support with reorganising finances, budgeting, or banking systems.
Social skills training	IMB	Social skills training involves working on inter-personal communication skills such as verbal communication and assertiveness, or other context specific inter-personal skills, such as refusal skills in situations where gambling is encouraged.
Mindfulness (This technique is not in the original GIST-1 but was included as an additional technique in this study for panellists to rate)	–	Mindfulness involves encouraging an individual to pay attention or concentrate with purpose in each moment, without judgment, and to draw awareness to thoughts and feelings without trying to change them.

Note. RPT: relapse prevention theory; TTM: transtheoretical model; CBT: cognitive behavioural therapy; CC: classical conditioning; OC: operant conditioning; SRT: self-regulation theory; IMB: information-motivation-behavioural skills model; CTL: control theory; TRA: theory of reasoned action; TPB: theory of planned behaviour; SCT: social cognitive theory; HBM: health belief model; SDT: self-determination theory; SST: social support theory.

reported that 81% of the techniques in the BCTTv1 were absent in the effective interventions delivered in the studies included in their review.

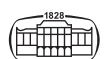
Empirical studies in which experts rate effectiveness of techniques can address these limitations and clarify which techniques are likely to be effective for gambling treatment. Such studies can be conducted with various experts, including clinicians, researchers, and service users. The range of expertise from these stakeholders can contribute valuable insights into the development, implementation, alignment and applicability of interventions in real-world settings. Specifically, clinicians who treat gambling problems (*'gambling clinicians'*), possess unique clinical expertise which can bridge the gap between research and clinical practice. This nexus between research and practice is reflected in the virtuous cycle in which evidence-based practice (which involves the integration of the best available research, clinical expertise and patient characteristics) (American Psychiatric Association, 2006) informs practice-based evidence (which is derived from real-world clinical settings and clinicians), which in turn informs evidence-based practice (Cook & Cook, 2016).

To date, only one study (Månsson, Samuelsson, Berman, & Nilsson, 2022) has attempted to identify clinician perspectives relating to effective techniques for gambling treatment. This study examined the importance of including various techniques in gambling treatment, as rated by 188 gambling counsellors in Sweden. The findings revealed that the techniques of motivation, craving management and gambling cognitions were prioritised by these counsellors. Although this sample was representative of most practicing gambling counsellors in Sweden, it relied on a

cross-sectional survey that did not explicitly evaluate perceived technique effectiveness and on a sample that included many counsellors with limited clinical experience treating gambling problems.

Delphi studies, which involve iterative rounds of survey data collection from a panel of experts to achieve consensus, can redress these limitations (Jorm, 2015). Such study designs have several advantages over cross-sectional surveys because they facilitate iterative input, feedback and revision of responses by experts, thereby enabling the refinement of ideas over time, and allow for the identification of consensus statements about complex issues for which there is no established evidence base. Clinical consensus statements are a series of statements which reflect consensus expert opinion derived through explicit *a priori* methodology. They are extremely useful where empirical evidence is lacking and provide opportunities to improve clinical outcomes (Rosenfeld, Nnacheta, & Corrigan, 2015).

The Delphi method has been used to support the identification of promising techniques relevant to alcohol reduction (Garnett et al., 2015), smoking cessation (Fergie et al., 2019; Mersha et al., 2023), and waterpipe smoking cessation (O'Neill et al., 2018). To date, however, there are no Delphi studies designed to achieve consensus on perceived effectiveness of techniques in gambling treatments. The primary aim of the current study was therefore to use a Delphi methodology to identify clinical consensus statements on effective techniques for gambling treatment according to Australian and New Zealand gambling clinicians. Free therapeutic support is offered in both Australia and New Zealand for individuals experiencing gambling harm. Some states and territories in Australia also have



dedicated multicultural and Aboriginal gambling services, whilst in New Zealand there are dedicated Māori, Pacific and Asian gambling services. Given that cultural variables can influence harmful gambling development, maintenance, treatment and recovery (Dickins & Thomas, 2016; Oei, Raylu, & Loo, 2019; Raylu & Oei, 2004), a secondary aim was to explore clinician perspectives on the considerations or adaptations required to using particular techniques with people from culturally diverse, linguistically diverse or Indigenous populations.

## METHODS

### Study design

A two-round Modified Delphi study to identify clinical consensus on effective psychological interventions and techniques for gambling treatment was conducted.

The current paper focuses on the data collected in relation to effective techniques, with data collected on effective psychological interventions presented elsewhere (Guyett, Merkouris, Keshani, Rodda, & Dowling, 2025 [in preparation]). This work was conducted as part of two doctoral theses by IK and AG with a supervisory team (SM, SR, ND). Consensus criteria, rules for carrying forward items, and the number of rounds in the Delphi study were specified *a priori*, consistent with recommended quality criteria for Delphi studies (Diamond et al., 2014). The study was *a priori* designed to be two rounds, consistent with other Delphi studies investigating promising intervention components for various health concerns (Mersha et al., 2023; Taylor et al., 2020; Vestjens et al., 2015; Walsh, Timmons, Byrne, Browne, & Mc Sharry, 2020). This study has been reported in line with the ACCORD (ACcurate CONsensus Reporting Document) guidelines for consensus methods in biomedicine. This Delphi study was not prospectively registered.

### Participants

Panellists were clinicians with current or former experience in treating gambling problems residing in Australia or New Zealand. Ninety-one panellists commenced the Round One (R1) survey, with 84 commencing and 78 completing the section of the survey examining their perceptions of technique effectiveness. Of these 78 panellists, 68 (87.18%) completed this section in the Round Two (R2) survey. Larger panels, such as this, reduce the influence of individual responses and are thought to increase reliability and stability of group judgement (Jorm, 2015; Murphy et al., 1998). None of the members of the research team participated in this Delphi study.

Descriptive statistics of panellists in each round are displayed in Table 2. In both rounds, the mean age was 47 years, approximately two-thirds were female and most resided in Australia. Approximately three-quarters of panellists had more than five years of experience working clinically and over half had more than five years of experience working clinically with people with gambling problems. Most had a

Table 2. Demographic and clinical characteristics of panellists across Delphi rounds

Panellist Characteristic	Round One (n = 78)		Round Two (n = 68)	
	N	%	N	%
<b>Age (Mean, SD)</b>	47.36 (12.87)		47.22 (13.00)	
<b>Sex (female)</b>	54	69.23	46	67.65
<b>Country of residence</b>				
Australia	65	83.33	58	85.29
ACT	2	2.56	2	2.94
NSW	18	23.08	14	20.59
NT	1	1.28	1	1.47
QLD	14	17.95	13	19.12
SA	10	12.82	9	13.24
VIC	20	25.64	19	27.94
New Zealand	13	16.67	10	14.71
<b>Clinical experience</b>				
0-4 years	20	25.64	18	26.47
5-9 years	13	16.67	12	17.65
10+ years	45	57.69	38	55.88
<b>Gambling clinical experience</b>				
0-4 years	34	43.59	29	42.65
5-9 years	13	16.67	13	19.12
10+ years	31	39.74	26	38.24
<b>Highest level of education</b>				
Certificate/diploma	1	1.28	1	1.47
Undergraduate degree	18	23.08	12	17.65
Postgraduate degree	59	75.64	55	80.88
<b>Discipline qualification<sup>a</sup></b>				
Psychologist	29	37.18	27	39.71
Counsellor	19	24.36	15	22.06
Social worker	16	20.51	14	20.59
AOD worker	3	3.85	2	2.94
Psychotherapist	3	3.85	3	4.41
Psychiatrist	2	2.56	2	2.94
Nurse	1	1.28	1	1.47
Other	4	5.13	3	4.41
<b>Main role in sector</b>				
Clinician/counsellor	64	82.05	56	82.35
Team leader	5	6.41	5	7.35
Case worker	5	6.41	5	7.35
Manager	4	5.12	2	2.94
<b>Current employment status (full-time)</b>	47	60.26	41	60.29
<b>Current organisation type<sup>b</sup></b>				
Face-to-face treatment	68	87.18	60	88.24
Online/telehealth treatment	35	44.87	30	44.12
Government/university	10	12.82	9	13.24
Health promotion	8	10.26	7	10.29
Brief treatment (e.g., helpline)	6	7.69	4	5.88
Other	3	3.85	1	1.47
<b>Past service type<sup>b</sup></b>				
Face-to-face	76	97.44	66	97.06
Telephone	50	64.10	41	60.29
Online/telehealth	36	46.15	31	45.59

<sup>a</sup> one missing data point.

<sup>b</sup> Multiple responses allowed.



postgraduate degree and worked full-time. Panellists were from a range of disciplines, with psychologists, counsellors, and social workers being most common. Most reported their main role in the sector as clinicians or counsellors, and currently or formerly worked in face-to-face treatment.

## Measures

**Demographic and clinical characteristics.** In R1, panellists were asked to provide an email address, demographic and clinical characteristic information (see Table 2).

**Technique effectiveness.** The technique section of the survey in R1 presented 19 techniques (18 from the GIST-1). *Mindfulness* was added due to emerging evidence for the effectiveness of mindfulness-based interventions for gambling (de Lisle et al., 2012; Maynard et al., 2015; Sancho et al., 2018) and the lack of representation of third-wave interventions in the gambling literature (de Lisle et al., 2012; Rodda, Merkouris, et al., 2018). Panellists were asked to rate how effective they believed each technique was in bringing about clinically helpful change on a 9-point scale from (1) *not effective at all* to (9) *very effective*. They were provided with a definition of *clinically helpful change*: “reductions in gambling severity, expenditure and frequency”, and were asked to base responses on their knowledge of the research literature and relevant theory, as well as their clinical experience. Panellists could view brief definitions of techniques by hovering their cursor over each technique label (see Table 1 for a list of definitions provided to participants). In R2, panellists were presented with the techniques for which consensus was not reached and asked to re-rate these on the same 9-point scale.

Consensus criteria were defined *a priori* (Diamond et al., 2014). A technique was deemed *consensus effective* when at least 70% of panellists rated it between 7 and 9 and fewer than 15% rated it between 1 and 3. A technique was deemed *consensus ineffective* when at least 70% of panellists rated it between 1 and 3 and fewer than 15% rated it between 7 and 9. *No consensus* was reached for any technique falling between these categories. These criteria are similar to those employed in previous Delphi studies (Millar et al., 2017; Taylor et al., 2020). To minimise participant burden, only techniques in the *no consensus* category after R1 were carried forward for re-rating in R2. Techniques still rated as *no consensus* after R2 remained classified as such, however, ratings that changed after R2 were re-classified as either *consensus effective* or *consensus ineffective*.

## Cultural considerations or adaptations for technique use.

Participants were also asked the following open-ended item in R2: “Are there any considerations or adaptations to using particular change techniques with people from culturally diverse, linguistically diverse or Indigenous populations?”.

## Procedure

Recruitment occurred between June 22 to August 14 2022 for R1 and November 17 to December 18 2022 for R2.

Invitations were emailed to the research team’s professional networks and gambling treatment services in Australia and New Zealand. Recruitment to the current study involved snowball sampling, whereby email recipients were asked to forward the invitation to other eligible clinicians. A short study description and link to the R1 survey on the Qualtrics platform were included in the invitation. Only panellists who fully completed the technique effectiveness section in R1 (78 panellists) were invited to complete this section in R2 with a personalised Qualtrics link. In the R2 email invitation, panellists were sent a personalised feedback report, which detailed their individual R1 item responses, contrasted with the distribution of panellist ratings for those items. R2 panellists were asked to refer to their feedback report and re-rate techniques for which consensus was not reached. Up to three reminder emails were sent to non and partial responders prior to the close of each round. R1 and R2 were linked using panellist email addresses. Panellists were reimbursed with an AUD\$100 shopping voucher (or equivalent) for taking part in both rounds of the survey. Study methodology included panellist anonymity, whereby panellists were unable to identify other panellists who completed the surveys.

## Statistical analysis

The mean, standard deviation (SD), and percentage of panellist ratings for the effectiveness of each technique were calculated after R1 to determine whether techniques were *consensus effective*, *consensus ineffective* or whether there was *no consensus* reached according to the *a priori* consensus criteria described above. Descriptive statistics were calculated in the same way for panellist ratings after R2.

Exploratory one-way ANOVAs using IBM SPSS Statistics (Version 30) were conducted to investigate whether panellists’ clinical experience (0–4 years, 5–9 years, 10+ years) and clinical gambling experience (0–4 years, 5–9 years, 10+ years) were associated with ratings for each technique. In instances where the Levene’s test of homogeneity of variances was violated, Welch’s ANOVA was used as an alternative. When significant results were found, relevant post hoc tests (Tukey’s HSD) were performed to identify specific group differences.

Thematic Analysis (Braun & Clarke, 2006) was used to analyse responses to the R2 open-text cultural consideration and adaptation item. Themes were generated through an inductive bottom-up approach, capturing semantic content and latent meanings. Generating themes involved the first author (IK) reading and rereading responses to gain familiarity with them, coding the data, generating initial themes, reviewing and refining themes, and renaming the themes. The initial and refined themes were discussed with other authors (SR and ND) and Nvivo 14 (Lumivero, 2023) was used in the coding process. A reflexivity statement was written by the first author and can be found in the supplementary material (Supplementary Material 1).

## Ethics

**Ethical considerations.** The study procedures were carried out in accordance with the Declaration of Helsinki. Ethics



approval was obtained from Deakin University's Human Research Ethics Committee (Approval Number: HEAG-H 11\_2021). All subjects were informed about the study and all provided informed consent.

## RESULTS

### Clinical consensus for effective techniques

At the end of R1, 10 techniques were rated *consensus effective*, with the remaining nine techniques rated as *no consensus* (see Table 3). The nine *no consensus* techniques were carried forward for re-rating in R2. Although there were changes in ratings given by individual panellists in R2, no re-rated technique met *consensus effective* or *consensus ineffective* criteria, remaining classified as *no consensus* after R2.

Consensus was reached on the effectiveness of 10 techniques: *relapse prevention*; *motivational enhancement*; *goal setting*; *information provision*; *cognitive restructuring*; *information gathering*; *financial regulation*; *plan social support*; *problem solving*; *decisional balance*. Amongst these, four were rated between 7 and 9 by over 80% of panellists. *Relapse prevention* had the largest proportion of panellists rating it between

7 and 9 (87.18%), followed by *motivational enhancement*, *goal setting*, and *information provision* (80.77%). In contrast, *decisional balance* and *problem solving* had the smallest proportion of panellists rating them between 7 and 9 (70.51%).

*Self-monitoring* was close to reaching consensus in R1, with 66.67% of panellists rating it between 7 and 9, but this dropped to 60.29% in R2. *Stimulus control* was close to reaching consensus in R2, with 66.18% of panellists rating it between 7 and 9. Amongst the items re-rated in R2, *mindfulness* had the highest mean (6.90), although only 38.24% of panellists rated it between 7 and 9.

Whilst no consensus was reached on the ineffectiveness of any technique, 46.15% of panellists rated *social comparison* between 1 and 3 in R1, and 44.12% rated it between 1 and 3 in R2. A full list of clinical consensus statements on perceived technique effectiveness can be found in the supplementary material (*Supplementary Material 2 - Table S1*). Statements on techniques for which no consensus was reached is presented in *Supplementary Material 2 - Table S2*.

Exploratory one-way ANOVAs revealed no significant associations between years of clinical experience or years of clinical gambling experience and panellist ratings for any of the techniques, except one finding that approached

Table 3. Panellist ratings for techniques across both rounds of the Delphi study

Technique	Rank <sup>a</sup>	N	Mean rating (SD)	% of panellists rating		
				1-3	4-6	7-9
Relapse prevention*	1	78	7.81 (1.44)	2.56	10.26	87.18
Motivational enhancement*	2	78	7.71 (1.53)	2.56	16.67	80.77
Goal setting*	3	78	7.58 (1.38)	1.28	17.95	80.77
Information provision*	4	78	7.53 (1.80)	5.13	14.10	80.77
Cognitive restructuring*	5	78	7.40 (1.67)	3.85	16.67	79.49
Information gathering*	6	78	7.36 (1.85)	5.13	17.95	76.92
Financial regulation*	7	78	7.29 (1.58)	2.56	20.51	76.92
Plan social support*	8	78	7.27 (1.65)	3.85	21.79	74.36
Problem solving*	9	78	7.14 (1.69)	2.56	26.92	70.51
Decisional balance*	10	78	6.99 (1.80)	5.13	24.36	70.51
Mindfulness	R1: 12 R2: 11	R1: 78 R2: 68	6.79 (2.00) 6.90 (1.80)	8.97 11.76	28.21 50.00	62.82 38.24
Stimulus control	R1: 13 R2: 12	R1: 78 R2: 68	6.46 (2.24) 6.51 (1.68)	12.82 8.82	25.64 25.00	61.54 66.18
Self-monitoring	R1: 11 R2: 13	R1: 78 R2: 68	7.00 (1.48) 6.37 (1.55)	2.56 5.88	30.77 33.82	66.67 60.29
Feedback on assessment	R1: 16 R2: 14	R1: 78 R2: 68	5.59 (2.21) 5.68 (1.80)	19.23 10.29	42.31 51.47	38.46 38.24
Behaviour substitution	R1: 14 R2: 15	R1: 78 R2: 68	6.23 (2.02) 5.94 (1.81)	14.00 11.76	38.46 50.00	47.44 38.24
Exposure	R1: 18 R2: 16	R1: 78 R2: 68	5.19 (2.51) 5.62 (2.30)	30.77 17.65	35.90 47.06	33.33 35.29
Social skills training	R1: 15 R2: 17	R1: 78 R2: 68	6.00 (2.21) 5.43 (1.87)	19.23 14.71	32.05 52.94	48.72 32.35
Imaginal desensitisation	R1: 17 R2: 18	R1: 78 R2: 68	5.32 (1.97) 5.29 (1.84)	20.51 16.18	52.56 57.35	26.92 26.47
Social comparison	R1: 19 R2: 19	R1: 78 R2: 68	3.63 (2.02) 3.82 (1.93)	46.15 44.12	46.15 47.06	7.69 8.82

\* Starred items met "consensus effective" criteria and were not included in the second round. Items were deemed "consensus effective" if at least 70% of panellists rated its effectiveness between 7 and 9, and less than 15% of panellists rated it between 1 and 3.

<sup>a</sup> Techniques are ranked in order of their mean ratings. *Consensus effective* techniques are ranked above *non-consensus effective* techniques. R1 = Round One; R2 = Round Two.



significance. Clinical gambling experience was marginally associated with R2 ratings for the technique *exposure*,  $F(2,65) = 5.74$ ,  $p = 0.05$ . Post-hoc comparisons revealed that panellists with 5–9 years of clinical gambling experience ( $M = 3.85$ ,  $SD = 2.00$ ) rated *exposure* as significantly less effective than those who had 0–4 years of experience ( $M = 5.79$ ,  $SD = 2.43$ ),  $p = 0.02$ , and those with 10+ years of experience ( $M = 6.31$ ,  $SD = 1.93$ ),  $p > 0.01$ . However, there was no significant difference between the 0–4 years and 10+ years groups ( $p = 0.66$ ).

### Participant considerations and adaptations when using techniques with people from culturally diverse, linguistically diverse, or Indigenous populations

Four themes were generated from survey responses. Each theme is comprised of several subthemes which are displayed in Table 4 below.

1. *Techniques likely need to be adapted by clinicians*: Clinicians broadly agreed techniques likely needed to be adapted for people from culturally diverse, linguistically diverse, or Indigenous populations. They disagreed, however, on how this should be done. Some clinicians suggested adaptations should be based on cultural background, others emphasised the individuality of each client regardless of background, and others stressed the importance of both considerations. Some clinicians also identified the therapeutic relationship as the cornerstone from which to make adaptations.
2. *Consider how techniques are translated and explained so they are culturally relevant and understandable*: Clinicians recommended using a client's first language where possible and helpful, including in relation to the provision of materials and resources in their first language. They also emphasised the importance of ensuring explanations were culturally relevant.
3. *Community, family, and their beliefs can mediate technique effectiveness*: Inclusion of family and community in treatment was identified as particularly useful. Conversely, stigma, shame, and normality of gambling in social circles were highlighted as barriers.
4. *Certain techniques may be particularly effective for some cultural groups, but important pre-requisites to technique use must be considered*: Some techniques, such as *mindfulness* and *social skills training*, were identified as especially useful to consider when working with culturally diverse, linguistically diverse, or Indigenous populations. Clinicians noted that important prerequisites or barriers, such as trauma, social support, and financial literacy may need to be addressed prior to technique use.

## DISCUSSION

### Clinical consensus for effective techniques

This is the first Delphi study to identify clinical consensus statements on perceived effectiveness of techniques for

gambling treatment. Consensus was reached by Australian and New Zealand gambling clinicians on the effectiveness of 10 of 19 GIST-1 techniques, many of which align with previous research evidence. Clinical consensus was reached on the effectiveness of *relapse prevention*, which was rated as being effective by the greatest proportion of panellists. Empirical studies indicate that although relapse rates are high during recovery from gambling problems, those who receive *relapse prevention* generally demonstrate significant improvements in gambling outcomes (Hodgins, Currie, el-Guebaly, & Diskin, 2007; Hodgins & el-Guebaly, 2004). Consensus was also reached on the effectiveness of *motivational enhancement*, consistent with findings suggesting MI is effective for reducing gambling behaviour, although not necessarily other outcomes associated with gambling harms (Cowlshaw et al., 2012; Diskin & Hodgins, 2009; Yakovenko et al., 2015). *Motivation* was also rated the most prioritised technique by Swedish gambling counsellors (Månsson et al., 2022). Månsson et al. (2022) hypothesised that addressing motivation might be a pre-requisite for the effectiveness of other interventions. This reasoning may extend to other techniques which met consensus criteria on effectiveness in the current study. For example, *information gathering* may be a prerequisite for clinicians to make informed decisions regarding the best course of treatment for clients.

Consensus on effectiveness was also reached for *cognitive restructuring*, a technique which has support in the gambling literature. Cognitive correction techniques, alongside relapse prevention, have been found to be effective in individual and group gambling treatments (Ladouceur et al., 2001, 2003). Moreover, in a systematic review, St Quinton et al. (2022) identified *behavioral experiments*, a strategy subsumed in the *cognitive restructuring* technique in the GIST-1 (Rodda, Merkouris, et al., 2018), as a promising component for adolescent gambling treatment. Additionally, Swedish gambling counsellors rated *gambling cognitions* as the second most important technique in gambling treatments (Månsson et al., 2022).

*Information provision* and *problem solving* were other techniques for which consensus on effectiveness was reached. These techniques also have some support in the literature. In the available reviews, a range of educational strategies were frequently present in effective adolescent gambling interventions (St Quinton et al., 2022) whilst *problem solving* was amongst the most commonly present techniques in high-quality, though not necessarily effective, web-based interventions for alcohol use, binge eating and gambling problems (Humphreys et al., 2021).

Although consensus was not reached on the effectiveness of every technique rated by clinicians in this study, other techniques potentially worth further investigation include *self-monitoring*, which was close to reaching consensus in R1. Although *self-monitoring* is an underrepresented technique in gambling treatment outcome studies (Rodda, Merkouris, et al., 2018) and was rated among the least helpful strategies by people who gamble (Rodda, Bagot, et al., 2018), it has been implicated as an effective technique



Table 4. Table of themes and subthemes of clinician recommendations for considerations and adaptations when using change techniques with people from culturally diverse, linguistically diverse, or Indigenous populations

Theme 1: <i>Techniques likely need to be adapted by clinicians</i>	
<b>Subthemes</b>	<b>Indicative extracts</b>
<b>Clinicians need to make adaptations based on a client's cultural background</b>	"Ensuring all these techniques have a specific focus/consideration of a client's cultural background..." (60, Female, Australia)
Extracts in this subtheme suggest that adaptations should be made based on a client's cultural background. They emphasise that clinicians should learn about the norms, expectations and attitudes in different cultures and ensure to practice in a sensitive and competent way. They suggest that making appropriate adaptations might require clinicians to learn about culturally specific conceptions of health.	"Not one size fits all and the worker needs to find the best fit for the tangata [person]. By getting to know their ways and culture and thinking..." (61, Female, New Zealand)
<b>Clinicians need to make adaptations based on the individual client</b>	"None of these [techniques] are particularly culturally appropriate... That would be Te Whare Tapa Whā <sup>a</sup> as an example for Māori." (47, Female, New Zealand)
Extracts in this subtheme emphasise each client as being an individual. They state that adaptations should be considered for every individual, and this should be done independently of whether they are a member of a culturally, linguistically diverse, or Indigenous population. They suggest that part of a clinician's role relates to adapting to individual client differences.	"Part of being [a] skilled clinician is adapting techniques to different people, not just different populations". (43, Female, Australia) "A therapist always needs to endeavour to understand meanings clients hold, regardless of cultural background." (54, Female, Australia)
<b>Clinicians need to make adaptations taking into account both the cultural background of an individual client, and also the uniqueness and individuality of the client distinct from their cultural background</b>	"As with any person, [the clinician] would need to consider this on a case-by-case basis. That said, it's important that this information is made relevant and hold the broader socio-political experience in mind. Influence of colonialism, differing views of gambling and help seeking. Change techniques likely to need to understand not only the individual but the experience of population and community. How shame, stigma, marginalisation have impacted experience." (49, Female, Australia)
As in the first subtheme, extracts in this subtheme suggest there is a clear onus for clinicians to actively find out about and gain an appreciation of the possible sociocultural context of a client's background. However, extracts allude to a tension between making potentially helpful assumptions about a client and what could be useful for them, and striving to recognise a client as an individual, potentially distinct from preferences clinicians might normally attribute to someone from their cultural background. On one hand, there is a recognition that adapting practice based on cultural background can be beneficial, and clinicians should strive to do this where helpful. Yet at the same time, there is also a caution that clinicians should never consider themselves experts of what works best for someone based on their cultural background nor be too prescriptive in how they view a client as a result of assumptions they make about them based on their background.	"People from individual cultures are the experts in their own cultures. We need to look at perceived stigmas etc. and find what works best for individuals within their culture. They may want to approach the issues from a totally different mainstream therapeutic perspective and stay away from their own cultural options. It is totally up to the client (with the guidance of the therapist) as to how they feel and what may be effective for them." (60, Male, Australia)
<b>The therapeutic relationship is a prerequisite of technique use</b>	"Building a relationship with the client is paramount prior to applying any intervention." (76, Male, Australia)
Extracts in this subtheme highlight the importance of the clinician-client relationship and the importance of investing in this relationship. They indicate that clinicians should aim to create a safe space through this relationship, with an emphasis on client-centredness and collaboration, and that this relationship may be a prerequisite to applying and adapting techniques.	"It's important to remain client centred when delivering any therapy, so considering the client's diversities and working collaboratively with the client to make the therapy work best for the client is important." (32, Female, Australia)
<b>Theme 2: Consider how techniques are translated and explained so they are culturally relevant and understandable</b>	
<b>Subthemes</b>	<b>Indicative extracts</b>
<b>Therapy and resources should be tailored to a client's first language where appropriate</b>	"Information on the change techniques used would need to be explained or available in the relevant language of the client in question." (57, Male, Australia)
Extracts in this subtheme highlight the importance of taking into account a client's first language. They suggest materials should be made available in a client's first language where possible and where this is helpful. Where a language which is not the client's first language is used, this should be plain and straightforward language. They suggest that the use of interpreters should be taken into account in the pacing of sessions.	"It might be helpful to have mindfulness resources in other languages or ways to help clients to locate mindfulness resource in their languages." (52, Female, Australia)
	"You often have to work at a different pace - particularly if using an interpreter." (51, Female, Australia)

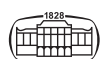
(continued)



Table 4. Continued

<p><b>Cultural considerations around use of metaphors/analogies</b> Extracts in this subtheme emphasise the importance of ensuring explanations are meaningful or relevant to the cultural group the person is a part of. This might involve using culturally relevant examples or analogies.</p>	<p>“Trying to tailor examples to the cultural group so they can relate and understand the concepts trying to be conveyed in meaningful ways.” (36, Female, Australia)</p> <p>“...Also important to be able to explain and provide information using analogies that people from different cultures or the client can relate with, considering their culture.” (29, Male, Australia)</p>
<p><b>Theme 3: Community, family, and their beliefs can mediate technique effectiveness</b></p>	
<p><b>Subthemes</b></p>	
<p><b>Family and community involvement as a facilitator</b></p>	
<p>Extracts in this subtheme discuss the possible benefits of the inclusion of community, family and elders in treatment. They suggest that techniques and interventions delivered in the community by community members may be preferred in some instances.</p>	<p><b>Indicative extracts</b></p> <p>“Focusing on connection with others and community.” (35, Female, Australia)</p> <p>“There will be considerations on all change techniques on people within indigenous populations, therapy to be done in a narrative setting with a community member/elder.” (30, Female, Australia)</p> <p>“Positive influences and encouragement from Gamblers Anonymous meetings and its members can be preferred for Indigenous clients over academically trained practitioners/therapists.” (44, Male, Australia)</p>
<p><b>Cultural and religious views of gambling, stigma and shame as possible barriers</b> Extracts in this subtheme highlight that stigma and shame associated with gambling in a person’s culture or religious group, or normality of gambling in a person’s social circle, can all be barriers to treatment. They highlight the need for clinicians to adapt their use of particular techniques to account for this.</p>	<p>“For example, for some cultures gambling is quite normal in their family so it’s important to bear this when it comes to stimulus control.” (29, Male, New Zealand)</p> <p>“Religion can influence a person’s motivation to change if they believe their god will create change. In some cultures, gambling is seen as sinful or very shameful, so seeking help or adhering to a treatment plan can be challenging.” (53, Female, Australia)</p> <p>“Stigma and shame may be particularly important issues with some culturally diverse groups, therefore, information gathering may take longer and need to be more delicate.” (49, Male, Australia)</p>
<p><b>Theme 4: Certain techniques may be particularly effective for some cultural groups, but important pre-requisites to technique use must be considered</b></p>	
<p><b>Subthemes</b></p>	
<p><b>Techniques well suited to work with culturally diverse, linguistically diverse, or Indigenous populations</b></p>	
<p>Most techniques were listed by at least one clinician as being useful for culturally diverse, linguistically diverse, or Indigenous clients. However, <i>mindfulness</i> and <i>social skills training</i> had the greatest representation, each being individually listed by four clinicians. <i>Behaviour substitution</i> was singled out by one clinician as a technique which could be effectively integrated with activities which are culturally relevant to clients. <i>Problem solving</i>, <i>social skills training</i>, <i>mindfulness</i> and <i>cognitive restructuring</i> were identified by one clinician as being particularly useful for clients from Asian backgrounds.</p>	<p><b>Indicative extracts</b></p> <p>“Behaviour substitution particularly can be focused on cultural norms and activities in order to enhance not only a different behaviour but also to build a sense of purpose and self-esteem.” (29, Male, New Zealand)</p> <p>“Mindfulness is universally useful for people from diverse populations if taught in an appropriate way that they can utilise.” (33, Female, Australia)</p> <p>“Social skills training would be more helpful for people coming from a culture of gambling where it is ingrained in their social circles.” (27, Female, Australia)</p> <p>“Problem solving, social skills training, mindfulness, cognitive restructuring are more suitable for Asian clients.” (55, Female, Australia)</p>
<p><b>Pre-requisites and considerations when using change techniques</b> Clinicians highlighted that prior to the application of certain techniques, certain considerations which could act as barriers to technique-use must first be taken into account. These considerations may include verbal and financial literacy, trauma, colonial trauma, stress and social supports. Clinicians suggested these may need to be addressed before certain techniques are used.</p>	<p>“Some members of this cohort may not possess financial literacy within the Australian system, therefore education may be needed prior to embarking on any form of financial management, undertaken from a qualified Financial Counsellor.” (59, Female, Australia)</p> <p>“There can be a need to address colonial trauma before moving into behaviour substitution or goal setting strategies - if the persons immediate environment is full of stress, trauma, poverty etc., planned social support and supporting their basic needs will come first.” (55, Female, New Zealand)</p>

<sup>a</sup> Te Whare Tapa Whā is a Māori health model which highlights the four cornerstones (or sides) of Māori health: Taha tinana (physical health), Taha wairua (spiritual health), Taha whānau (family health), and Taha hinengaro (mental health).



for alcohol reduction (Michie et al., 2012), weight loss (Burke, Wang, & Sevick, 2011), healthy eating and physical activity (Michie et al., 2009). It is also present in effective web-based interventions targeting alcohol, binge eating and gambling (Humphreys et al., 2021). Similarly, *stimulus control* was close to reaching consensus in R2 of this study. Hodgins and el-Guebaly (2000) found *stimulus control* was the most frequently used strategy reported to initiate change by people who had current or recovered gambling problems. *Self-exclusion*, which is subsumed under *stimulus control* in the GIST-1, was also rated as the second most important technique by Swedish counsellors (Månsson et al., 2022). Finally, *mindfulness* was another technique for which consensus on effectiveness was not reached, however it had the highest mean of the items rated in R2. Given the emerging evidence for the effectiveness of mindfulness-based gambling interventions (de Lisle et al., 2012; Maynard et al., 2015; Sancho et al., 2018), *mindfulness* may also be a promising component for future investigation.

Whilst consensus was not reached on the ineffectiveness of any technique, *social comparison* received the lowest ratings by the greatest proportion of panellists. *Social comparison*, which is sometimes referred to as ‘*normative feedback*’, involves providing feedback to an individual about how their behaviour compares to others in a particular population group. There is evidence that this technique is effective in alcohol use interventions (Crane, Garnett, Michie, West, & Brown, 2018; Saxton, Rodda, Booth, Mercuris, & Dowling, 2021) and there is some evidence to suggest that *social comparison* or *normative feedback* might be effective for some populations in gambling prevention or treatment interventions (Humphreys et al., 2021; Marchica & Derevensky, 2016; Neighbors et al., 2015; Peter et al., 2019; Saxton et al., 2021). However, *social comparison* is one of the least frequently reported techniques used in gambling treatments (Rodda, Mercuris, et al., 2018). Moreover, one experimental study found that including *normative feedback* in addition to non-normative descriptive feedback actually reduced intervention efficacy (Cunningham, Hodgins, Toneatto, & Murphy, 2012). Research into possible concerns clinicians have around *social comparison* may explain potential gaps between research and practice and help guide future research in relation to this technique.

Clinical practice changes over time. Theoretically, greater clinical experience may allow for greater accumulation of knowledge and skills, but it may also lead to greater opportunities for *therapist drift* or act a barrier to adopting more effective practices (Ajmi & Aase, 2021; Gyani, Shafran, Myles, & Rose, 2014). In this study, there was some limited evidence that clinicians with 5–9 years of clinical gambling experience rated *exposure* as less effective than those with 0–4 years and 10+ years of experience. Some clinicians may hold skeptical views of treatments outside their experience, expertise and training (Dorey, Christensen, May, Hoon, & Dymond, 2022; Gyani et al., 2014). It is also possible that this finding might reflect the changing emphasis on the effectiveness of *exposure* by clinician training programs over the last decade. However, no other significant associations

were found between years of clinical experience and participant ratings of techniques. Similar future studies may wish to assess panellists’ prior knowledge of techniques and their preferred treatment orientations to provide additional context to participant ratings.

### Considerations and adaptations when using techniques with people from culturally and linguistically diverse or Indigenous populations

Service providers in this study identified four areas for consideration and potential adaptations when using techniques with culturally diverse, linguistically diverse, or Indigenous populations. Many of these areas are described in a review on the roles of culture in relation to harmful gambling (Oei et al., 2019), which emphasised their potential relevance to clinical practice. Similar to recommendations by clinicians in this study, Oei et al. (2019) highlight the onus on clinicians to educate themselves on client cultural backgrounds, as well as relevant cultural beliefs and practices relating to gambling and mental health, which may impact the development and maintenance of gambling problems. They emphasise adequate assessment and recognition of familial and community attitudes, influence and expectations, alongside environmental and social contexts, as important for understanding their potential impact on recovery. Adaptations to treatment, including the provision of resources in multiple languages, use of cultural metaphors and narratives, and the possible inclusion of family and community elders in treatment are suggested (Oei et al., 2019). Several panellists in the current study highlighted *mindfulness* as a technique which might be particularly promising for gambling treatment in culturally and linguistically diverse clients. This perspective is consistent with findings from a recent review which suggests that mindfulness-based approaches may show greater promise than traditional CBT approaches for the treatment of substance use disorders in people of colour and those from collectivist cultures (Dela Cruz, Johnstone, Kim, & Castle, 2023). In the present study, some clinicians emphasised the importance of adapting techniques to individual clients rather than solely focusing on cultural backgrounds. There is a concern that striving for cultural competence might inadvertently result in clinicians stereotyping clients by overlooking individual differences or other diversity characteristics (Herman et al., 2007; Sue, Zane, Nagayama Hall, & Berger, 2009). These findings therefore highlight a range of possible adaptations balanced against over-assuming or losing sight of the individual client.

### Strengths and limitations

There were numerous strengths of this study. A large panel of extremely experienced clinicians was recruited and between-round attrition was low. Consensus criteria were specified *a priori* and approximately half the techniques rated met consensus criteria for effectiveness, providing a good indication of techniques likely to be effective for gambling treatment in the absence of an adequate evidence



base. However, the current study faces limitations inherent to all Delphi studies, including the definition of consensus being somewhat arbitrary (Diamond et al., 2014; Hsu & Sandford, 2007; Jorm, 2015). Moreover, while individual between-round ratings of effectiveness changed in this study, no further items reached consensus in R2. This stability might be explained by the large Delphi panel recruited (Jorm, 2015) or reflect the homogeneity of clinicians who likely have similar professional training, experience and viewpoints. The restriction of the sample to Australian and New Zealand clinicians reduces the generalisability of the findings internationally. Future Delphi studies would benefit from recruiting a more diverse and internationally representative panel. Consensus is not a proxy for determining effectiveness, therefore experimental studies must also be conducted to corroborate findings.

### Clinical implications

The field of gambling treatment is in a nascent phase with regards to identifying the active ingredients of interventions. Delphi studies like this one are among several approaches previously used to identify likely effective intervention components for optimising interventions in other fields. These approaches include deconstruction trials, meta-regressions, probability models, focus groups and interviews with service users and providers, and uncontrolled pilot trials (see Levati et al., 2016). There is scope for conducting all these study designs to explore gambling treatments, which would expand our understanding of likely effective intervention components.

The Multiphase Optimisation Strategy (MOST) framework is a pragmatic intervention development framework that advocates for a three-phase iterative process to intervention development: preparation, optimisation and evaluation (Collins & Kugler, 2018). Given that techniques can interact additively, synergistically, or reductively when combined (Baker et al., 2016; Collins & Kugler, 2018), the MOST framework highlights the importance of employing optimisation trials, often in the form of factorial experiments. These trials aim to investigate the effectiveness of intervention components and their interactions before incorporating them in a unified intervention for evaluation in a full-scale RCT. This approach has been applied across various fields to experimentally evaluate the effectiveness of intervention components (Rulison, Milroy, & Wyrick, 2022; Schlam et al., 2016; Schroé et al., 2020). Moreover, findings from Delphi studies, along with other sources of evidence such as content analyses, systematic reviews and meta-analyses, have been employed to inform the selection of components for factorial trials (Crane et al., 2018). Findings from the current study can help contribute to the selection of components for optimisation trials such as these for gambling interventions.

### CONCLUSIONS

This is the first Delphi study to explore stakeholder perspectives on technique effectiveness for gambling treatment.

Ten clinical consensus statements on effective techniques were identified, with *relapse prevention*, *motivational enhancement* and *goal setting* rated as effective by the greatest proportion of panellists in this study. Panellists also identified four themes of important considerations when working with culturally diverse, linguistically diverse and Indigenous populations. The findings of this study represent an important step towards identifying intervention components most likely to be effective for gambling treatment.

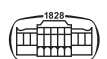
*Funding sources:* The authors received no financial support for the research, authorship, or publication of this article.

*Authors' contribution:* IK: conceptualization, data curation, formal analysis, investigation, methodology, project administration, visualization, writing - original draft, writing - review & editing. SM: Conceptualization, Investigation, Methodology, Visualization, Supervision, Writing - review & editing. AG: data curation, investigation, writing - review & editing. SR: conceptualization, methodology, supervision, writing - review & editing. ND: conceptualization, investigation, methodology, project administration, visualization, supervision, writing - review & editing.

All authors on this manuscript had full access to the data in this study and accept responsibility to submit this manuscript for publication. IK and ND have directly accessed and verified the underlying data reported in the manuscript.

*Conflict of interest:* The authors have no conflicts of interest to declare in relation to this article. The 3-year declaration of interest statement of this research team is as follows: In the last three years, ND, SM and SR have received research and consultancy funding from multiple sources, including via hypothecated taxes from gambling revenue. ND has received research funding from the Victorian Responsible Gambling Foundation, New South Wales Office of Responsible Gambling, Svenka Spel's Independent Research Council, Health Research Council of New Zealand, and New Zealand Ministry of Health. SM has received research funding from the Victorian Responsible Gambling Foundation, New South Wales Office of Responsible Gambling, Health Research Council of New Zealand and the New Zealand Ministry of Health. She has been the recipient of a New South Wales Office of Responsible Gambling Postdoctoral Research Fellowship. SR has received research funding from the Health Research Council of New Zealand, New Zealand Ministry of Health, Health New Zealand, Victorian Responsible Gambling Foundation and New South Wales Office of Responsible Gambling. IK and AG have not received research or consultancy funding. None of the authors have knowingly received research or consultancy funding from the gambling, tobacco, or alcohol industries or any industry-sponsored organisation.

*Acknowledgements:* The authors would like to thank all the clinicians who took part in this study for their time and expertise.



## SUPPLEMENTARY MATERIAL

Supplementary data to this article can be found online at <https://doi.org/10.1556/2006.2025.00004>.

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