Under the radar:
A rapid review of recent literature about youth problem gambling

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Ngā kaupapa matua | Key messages

This rapid review was commissioned to assist the New Zealand Drug Foundation (NZDF) to develop youth gambling resources and forms of support for Tūturu. The focus topic is "school-based approaches to youth gambling". The review explores the following six questions:

- What is problem gambling, how does it develop over a lifespan, and what do we know about problem gambling and Aotearoa New Zealand youth?
- What can we learn from school-based approaches to addressing youth gambling?
- What can we learn from curriculum approaches to youth gambling?
- What can we learn from Māori, Pacific, and Asian perspectives on (youth) gambling?
- How does problem gambling intersect with online gaming?
- What can we learn from literature about youth gambling risk and protective factors?

We mainly relied on systematic reviews in sourcing international literature. For Aotearoa New Zealand literature we focused on findings from the Youth2000 Health and Wellbeing survey series and studies about Māori, Pacific, and Asian communities.

Youth need skills to manage a world in which they are surrounded by gambling

Gambling surrounds youth and is government sanctioned. Gambling behaviour is rapidly changing with the advent of new technologies. The term "gamblification" has been coined to describe how gambling behaviours are increasingly being inserted into new contexts (e.g., online games).

Many youth gamble, and it can be both a negative and positive experience (e.g., gambling is often part of community fund raisers). One concern raised in the literature is that young people are increasing being exposed to gambling behaviours but may not have the critical thinking and social and emotional learning (SEL) skills they need to help them evaluate risks and make good decisions that maintain their wellbeing.

Gambling is an early "risky" behaviour and develops over the lifespan

Studies suggest that gambling is one of the first potentially risky activities that children engage in before use of alcohol and other drugs (AoD) or sexual activity. Early behaviours such as online forms of gambling can lead to later harms. Youth2000 findings show only a few students in Aotearoa New Zealand are problem gamblers; however, they are a vulnerable group.

Youth gambling is an equity issue

In Aotearoa New Zealand, gambling harm is inequitably concentrated in minority communities and is culturally situated. Youth2000 survey data suggest those most at risk include students from low decile and Māori, Pacific, and Asian communities, and students who are gender diverse. Youth from more deprived communities report more harms and

more worry about their gambling. Overall, youth tend not to seek help for problem gambling.

Youth gambling is an "under the radar" concern

Although gambling can be an early risky activity, and secondary schools are likely to have some students who are problem gamblers, this behaviour is not always "on the radar" for teachers, pastoral teams, parents and whānau, or peers, or clearly visible in screening tools. One reason is because risks from activities such as AoD use are more widely known. Another is that some forms of gambling (particularly online) can be hidden from view.

Studies suggest a need to raise awareness in schools and communities about the impact of youth gambling, and particularly, "under the radar" behaviours such as online gambling (e.g., betting for loot boxes and skins). There is also a need to normalise help seeking and inform communities about available support.

Youth gambling is an emerging research field; not much is known about protective factors

Research into youth gambling is an emerging field with a range of study design tensions and gaps. Thus, there is a need to carefully interpret findings. Most Aotearoa New Zealand problem gambling research and evaluation concentrates on adult populations; therefore, we looked to the international literature for findings about school-based initiatives. Many international school-based initiatives include multiple components. However, there was inconclusive evidence about which components are the most effective. Studies tend to focus on youth gambling risk factors, therefore there is a gap in knowledge about protective factors that could assist in informing the design of school-based approaches.

Innovative, multifaceted, and sustained approaches are needed in schools

Although there is much still to be learnt about problem gambling harm minimisation approaches in schools, researchers suggest there is a need to innovate based on what is currently known. They consider there is a need for schools to proactively offer multifaceted and tiered approaches that avoid the use of "fear tactics" and are holistic and address risk factors and build protective factors. Commonly suggested components include:

- a universal curriculum approach for all students that starts with younger children, and includes sustained learning (i.e., not one-off sessions)
- wellbeing screening of all students to enable early identification and intervention
- small-group peer support for students identified as needing extra support
- web-based and self-monitoring support
- specialist support for the most vulnerable students who are experiencing harm.

Culturally responsive approaches are key

Youth problem gamblers are not a homogeneous group. Motivations and cultural values towards gambling differ for groups. Research from Māori, Pacific, and Asian communities suggests a need for harm minimisation strategies that are relevant for Indigenous and minority communities and account for personal, cultural, and regional factors. Design features could include:

- reflecting a range of cultural and collective values
- a focus on critical thinking about benefits and harms (individual and collective)
- considering the different ways youth from a range of cultures and groups might gamble and ensure these are represented in information and resources

- considering how to draw on cultural strengths and include peers, families, communities, and social structures like marae and churches in school approaches.

There are opportunities in the curriculum space to build SEL and critical thinking skills

Internationally, many harm minimisation approaches have included a curriculum component. Early initiatives tended to focus on the mathematics concepts related to gambling and building health-related social and emotional competencies. More recent approaches include learning that is located within a wider range of areas including financial literacy, citizenship education, English, media studies, and social sciences. Building critical thinking is a core focus of these curriculum approaches. Other areas of focus include decision making, challenging misconceptions, and building generic social and emotional capabilities such as help seeking, coping, and dealing with peer pressure. A range of design features are identified to maximise the benefit of curriculum approaches.

The expertise of youth can be harnessed to design approaches

More recent literature suggests young people are key partners who have expertise that can be harnessed to design effective approaches. Ideas suggested in the literature included youth:

- designing key messages about gambling that resonate with their peers
- contributing to peer support groups or other approaches that strengthen social supports for vulnerable youth (this suggestion was particularly evident in the literature that referred to Māori, Pacific, and Asian communities)
- being involving in the design or review of learning experiences. Gambling can be a social behaviour, therefore involving students in the design of learning experiences could harness their knowledge of how their social world operates, particularly in the online space.

School approaches are only one part of a public health response

Findings suggest a range of opportunities for systems-based work such as contributing to a review of youth screening tools to ensure they include indicators of problem gambling.

School-based approaches are only one part of a coherent public health response to youth gambling. Researchers are clear that these approaches need to sit alongside regulations that restrict youth availability and access to gambling products and venues. A particular need was identified for regulation of online forms of gambling.

He kupu whakataki | Introduction

The purpose of this rapid review is to consider how recent literature relating to youth gambling could assist the New Zealand Drug Foundation (NZDF) in their development of problem gambling resources and processes to support schools as an aspect of Tūturu.

Tūturu is an initiative, underpinned by positive youth development principles, that supports secondary schools to develop a proactive hauora | wellbeing and harm minimisation approach to student use of alcohol and other drugs (AoD) and other potentially addictive behaviours such as gambling. Tūturu also has a systems focus that aims to foster connections within the health, education, and social sectors to promote alignments and good practice.

A rapid review is conducted within a short time frame with the aim of providing an overview of a concept. A rapid review does not aim to provide a complete summary of all the literature available related to the target area; instead, it focuses on key sources of literature, messages, and understandings (Efron & Ravid, 2019).

As well as considering international overviews about youth gambling, we specifically searched for Aotearoa New Zealand literature with a focus on Māori, Pacific, and Asian perspectives. See Appendix A for more information on the search strategies.

This rapid review includes six chapters that explore the following questions:

- Chapter 1: What is problem gambling, how does it develop over a lifespan, and what do we know about problem gambling and Aotearoa New Zealand youth?
- Chapter 2: What can we learn from school-based approaches to addressing youth gambling?
- Chapter 3: What can we learn from curriculum approaches to youth gambling?
- Chapter 4: What can we learn from Māori, Pacific, and Asian perspectives on (youth) gambling?
- Chapter 5: How does problem gambling intersect with online gaming?
- Chapter 6: What can we learn from literature about youth gambling risk and protective factors?

The body of each chapter summarises literature related to the focus question. Most chapters include or end with a section on key messages and possible learning for Tūturu. These learnings include general ideas about possible ways forward that stem from the literature. This section also includes possibilities for systems-focused work in terms of collaborations and advocacy. The ideas in these sections are intended as points for discussion rather than prescribed recommendations.

The final section summarises the findings from the six chapters to explore the question: Overall, what can Tūturu learn from the youth gambling literature?

Limitations of this rapid review

As this rapid review has a contained scope, we mainly relied on systematic reviews and meta-analyses in sourcing international literature. As youth gambling is a relatively new field, there were few seminal studies. One early evaluation was conducted on Stacked Deck, a USA school-based preventative approach to youth gambling (Williams et al., 2010). We have included this study as it appears to have assisted in shaping the field.

Much of the Aotearoa New Zealand literature was in the form of individual studies about aspects of gambling or gambling behaviours for different population groups. There was only a small amount of literature available for each of the groups that we focused on (Māori, Pacific, and Asian). Some of this literature was adult- rather than youth-focused.

We did not manage to source any Aotearoa New Zealand research or evaluation studies related to school-based gambling education. It appears there has been little work in this space in Aotearoa New Zealand. Therefore, we relied on the international literature. We have prioritised Australian literature and examples, given the similarities between our two countries.

Most of the international school-based literature discussed prevention and intervention programmes. Designing interventions is not an aim of Tūturu. However, much of this literature also emphasised harm reduction which does align with the kaupapa of Tūturu; therefore, we included this literature and considered it in relation to the aims of Tūturu.

1. An introduction to youth gambling

This introductory chapter sets the scene by exploring the question "What is problem gambling, how does it develop over a lifespan, and what do we know about problem gambling and Aotearoa New Zealand youth?"

What is youth gambling, and when is it an issue?

Macey and Hamari (2022) note that definitions of gambling vary, but mostly include three core concepts:

> *an initial stake (the 'consideration'), an event with an uncertain outcome (chance) and a potential reward (or 'prize'). (p. 4)*

A shorter definition is "paying money for a potential prize where the outcome is uncertain".

Obsessive or pathological gambling has been classified in the Diagnostic and Statistical Manual–Version 5 (DSM-5) within the substance-related disorders section (Giménez Lozano & Morales Rodríguez, 2022). This DSM-5 section also includes substances (alcohol and other drugs including caffeine, cannabis, inhalants, opioids, and tobacco).

The terms "pathological gambling" or "gambling disorder" are used for adults (Giménez Lozano & Morales Rodríguez, 2022; Oh et al., 2017). When talking about youth gambling harm, researchers tend to use the terms "problem gambling" (Giménez Lozano & Morales Rodríguez, 2022; Oh et al., 2017) or "unhealthy gambling" (Rossen et al., 2016). Oh et al. (2017) note that "problem gambling" refers to compulsive gambling that causes harm but does not meet adult diagnostic criteria.

In an Aotearoa New Zealand context, Rossen et al. (2016) defined youth gambling as youth having "bet precious things for money on an activity" (p. 98). Rossen et al. used Youth'07 data to develop a model to measure "problematic" or "unhealthy" gambling for youth that has since been used in subsequent data collection rounds. This model included data from seven indicator questions described below:

- Four reasons for gambling relating to escapism or loss of control:

  > *"I gamble to relax"; "I gamble to feel better about myself"; "I gamble to forget about things"; "I gamble because I can't stop". (p. 99)*

- Three responses that indicated higher levels of gambling engagement or expenditure:

> *… gambling 'several times a week' or 'most days'; spending $20 or more per week on gambling; and, spending one or more hours per day on gambling activities. (p. 99)*

Students were defined as exhibiting "unhealthy gambling" if they reported one or more of these indicators.

Elliot and Guyader's (2020) review suggests that teachers are aware that youth gamble but, unlike other "risky activities" such as use of AoD, gambling behaviours are less likely to be on schools' or teachers' radars as a serious issue. One reason is that the risks from other activities are more widely known. Researchers suggest there is a need to raise awareness in schools and communities about the impact of youth gambling as teachers, parents, and whānau, and youth may not recognise when youth gambling is becoming problematic. Overall, researchers consider youth gambling is a significant public health issue given the wide range of harms it is associated with (Dowling et al., 2017; Monreal-Bartolomé et al., 2023; Rossen et al., 2016; St-Pierre & Derevensky, 2016), and the prevalence of gambling in youth's lives.

> *Youth today will spend their entire lives in an environment where gambling is prolific, government supported, socially acceptable, and easily accessible in spite of some age restricted prohibitions. Although the incidence of severe gambling problems amongst young people remains relatively small, the devastating short-term and long-term consequences to the individual, their families, and friends are significant. (St-Pierre & Derevensky, 2016, p. 163)*

Gambling behaviours and harms develop over the life course

Rossen et al. (2016) summarised a range of studies which suggest that gambling is one of the first "risky activities" that children or adolescents engage in prior to activities such as experimenting with AoD or engaging in sexual behaviours. Analysing the literature from a range of longitudinal studies, Dowling et al. (2017) noted that earlier behaviours could impact on later choices.

> *… problem gambling in adolescents and young adults has been associated with a range of negative consequences across interpersonal, familial, economic, psychological, and legal domains ... Moreover, adult gambling problems can emerge from patterns developed in childhood and adolescence. (pp. 110–111)*

As well as considering how gambling behaviours develop over time, some literature explores different forms of harm that can occur through the life course. Rockloff et al.'s (2021) review for the New Zealand Ministry of Health summarises forms of lifespan related harm:

- legacy (consequences that exist after problem gambling behaviours have finished, but which disappear over time; one example could be harm to education and study)
- life course (consequences that do not disappear over time such as harm to emotional wellbeing or relationships such as through divorce)

- intergenerational (consequences that are passed on to children and the community and may impact on a range of areas, such as financial harm and poverty).

Overall, problem gambling is associated with a wide range of harms across domains such as wellbeing (emotional and mental health), physical health, family and relationships, culture, education, employment, finances, and legal/criminal (Dowling et al., 2017; Parham et al., 2019; Rockloff et al., 2021).

For youth, this suggests that approaches to gambling need to be cognisant of raising awareness about potential problem gambling pathways and/or consider ways of mitigating a range of potential harms; that is, not just the potential harm of current behaviour, but also lifelong impacts. For example, youth may be experiencing harm from intergenerational gambling behaviours in their family or community even if they are not directly involved themselves.

Aotearoa New Zealand youth and gambling

Aotearoa New Zealand data show that many secondary students engage in gambling behaviours but for most this is not harmful (Rossen et al., 2016). The Youth2000[1] series of surveys of Aotearoa New Zealand secondary school youth provided our main insight into the behaviours and views of Aotearoa New Zealand secondary students (Archer et al., 2021; Rossen et al., 2013, 2016). The Youth'07, Youth'12, and Youth19 Rangatahi Smart Survey all included questions about youth gambling as described earlier in this chapter.

Youth'12 data showed that around one-quarter (24.2%) of the student respondents had gambled in the last year; however, most did not report any unhealthy gambling indicators. Around 11% reported at least one indicator and around 5%, two or more indicators (that is, 89 students from a total of 8,500 who completed the survey). The most recent Youth19 data showed more than a third of students reported engaging in gambling behaviours such as betting on Instant Kiwi, Lotto, pub or club pokies, phone or internet gambling, or betting with friends and family (Archer et al., 2021). Archer et al. (2021) found that the number of students who gambled stayed relatively stable (with a slight decline) between 2012 and 2019.

Although gambling behaviours are common among young people, for most, these behaviours are not necessarily a problem. Overall, the Youth'12 and Youth19 data suggest only a small subset of Aotearoa New Zealand youth could be called problem gamblers (Archer et al., 2021; Rossen et al., 2016). However, Archer et al. (2021) summarised literature that found youth problem gambling can continue into adult life and is strongly related to: financial hardship; family, relationship, and mental health issues; and other risky behaviours. Archer et al. also

[1] https://www.fmhs.auckland.ac.nz/en/faculty/adolescent-health-research-group/youth2000-national-youth-health-survey-series.html

reported that studies show it can be hard for teenagers to access support for problem gambling.

Problem gambling is an equity issue for minority youth

Some groups of youth are more at risk from gambling harm than others. In Aotearoa New Zealand gambling harm is inequitably concentrated in minority communities, and is culturally situated (Rockloff et al., 2021). Youth2000 survey data suggest overall, those who were most at risk from the impacts of gambling included males, students from lower income and Māori, Pacific, and Asian communities, and students who are gender diverse (Archer et al., 2021; Rossen et al., 2016). Archer et al. (2021) found youth in higher decile schools engaged in more gambling behaviours but reported fewer harms. In contrast, youth in lower decile schools were more worried about their gambling.

> *In decile 1–3 schools, 20% of those who gamble worry about their gambling and 23% want to cut down. (p. 1)*

Youth problem gambling patterns also vary by country. As one example, Oh et al. (2017) reported that studies show lower youth problem gambling rates in European countries and higher rates in Asian countries.

Recent developments in youth gambling literature

Delfabbro and King (2023) provide an overview of the evolution of studies on youth gambling. The early studies in the 1990s primarily looked at youth gambling as a subset of adult commercial gambling activities, reflecting a world in which activities such as gambling and gaming were more clearly separated (Delfabbro & King, 2023).

In the early 2000s, school interventions such as Stacked Deck started to be developed and evaluated in the USA (Williams et al., 2010). We are now at a point where there are enough international youth-focused intervention and school-based prevention studies for systematic reviews to be conducted (Keen et al., 2017; Monreal-Bartolomé et al., 2023; St Quinton et al., 2022; Throuvala et al., 2019).

In Aotearoa New Zealand, most research and evaluation on problem gambling is concentrated on adult populations. We did not find any examples of local school-based approaches that had been evaluated.

Delfabbro and King (2023) noted that modern digital technology has decreased or removed the boundary between gambling and gaming activities. Now gambling is also present in common activities youth engaged in such as online gaming as well as more traditional activities such as buying lottery tickets. Youth who cannot legally gamble can now play online

video games that include features that look like common forms of gambling (e.g., slot machines) or which have imbedded aspects of gambling (see Chapter 5).

Reflecting these developments, there is a body of recent literature and systematic reviews that explore the intersection of online gaming and gambling (Giménez Lozano & Morales Rodríguez, 2022; Macey & Hamari, 2022; Macey et al., 2024; Montiel et al., 2021).

Key messages and learnings for Tūturu

Overall, the literature suggests that, although only a few youth in Aotearoa New Zealand are problem gamblers, they are a vulnerable group. Early engagement in gambling behaviours can be associated with a range of harms. For these reasons, youth problem gambling is increasingly being viewed as a key public health concern (Dowling et al., 2017; Rossen et al., 2016; St-Pierre & Derevensky, 2016). In general, there appears to be a need to raise awareness in the education sector and wider community about the impact of youth gambling and the need to offer support to youth so they have the skills and capabilities they need to avoid becoming a problem gambler and maintain their wellbeing.

2. School and educative prevention approaches

This chapter explores the question, "What can we learn from school-based approaches to addressing youth gambling?" The literature on school approaches covered universal preventative approaches (aimed at all students) as well as targeted prevention approaches (aimed at selected youth identified as vulnerable). These two areas are addressed in separate sections below. There is overlap between universal prevention and curriculum-based approaches as many universal approaches include curriculum components. Given the focus of Tūturu on curriculum resources, a more detailed analysis of curriculum components is contained in the next chapter.

Youth gambling is an emerging area with a low profile

In both the education and health space, harm minimisation approaches addressing youth gambling, and research on these approaches, are both relatively new fields. As noted earlier, youth gambling does not have the same public health profile as other areas such as AoD use. Combined with this lower profile, forms of gambling behaviour are rapidly changing with the advent of new technologies. For these reasons, many researchers conclude that not enough is known about best practice in the prevention of youth problem gambling (Monreal-Bartolomé et al., 2023; Oh et al., 2017; St Quinton et al., 2022; St-Pierre & Derevensky, 2016). These authors identified a wide range of study design tensions and methodological challenges in programme evaluations. These tensions need to be considered when attempting to draw conclusions from this literature about ways forward for Tūturu. Identified tensions and challenges include a need:

- for more standard definitions of youth problem gambling (Keen et al., 2017)
- for more evaluation as many approaches to youth gambling have not been fully evaluated (Ladouceur et al., 2013; Primi & Donati, 2022)
- for more standard measurement of behavioural outcomes (Keen et al., 2017; Ladouceur et al., 2013)
- for more implementation fidelity data (Ladouceur et al., 2013; Oh et al., 2017)
- for more follow-up or longitudinal studies of impact (Giménez Lozano & Morales Rodríguez, 2022; Keen et al., 2017; Ladouceur et al., 2013; Monreal-Bartolomé et al., 2023; Oh et al., 2017; St Quinton et al., 2022; St-Pierre & Derevensky, 2016)

- for approaches to rest on a clear theoretical framing or evidence base (Monreal-Bartolomé et al., 2023; Oh et al., 2017; Primi & Donati, 2022; St-Pierre & Derevensky, 2016) or theory of change (Keen et al., 2017)
- to take into account the limited generalisability of findings as gambling behaviours can be culturally specific (Monreal-Bartolomé et al., 2023)
- for multidimensional approaches that address the wide range of individual and social factors related to problem gambling (Monreal-Bartolomé et al., 2023; Oh et al., 2017; St-Pierre & Derevensky, 2016)
- to adapt prevention, intervention, and treatment approaches to align with what is known about adolescent development or positive youth development, given that approaches are often based on what works for adults (Oh et al., 2017; St-Pierre & Derevensky, 2016)
- for critical review of youth programmes as some are funded by the gambling industry which results in a conflict of interest and over-claiming about a programme's evidence base (Van Schalkwyk et al., 2022, 2024).

Learning from universal preventative approaches

School-based universal approaches are one aspect of a public health response to an issue. The main aim of universal school-based approaches is to increase knowledge and awareness about a health issue and related risk factors in an attempt to minimise later harms. Some universal approaches also focus on enhancing known protective factors. Six papers and reports reviewed literature mostly focused on school-based universal approaches:

- Monreal-Bartolomé et al.'s (2023) systematic review summarised the findings from 32 studies of preventative approaches, 75% of which targeted adolescents who were mostly located in schools. Most of the school-based approaches were universal.
- Keen et al.'s (2017) systematic review summarised the findings from 19 studies of preventative education approaches in primary and secondary schools.
- Giménez Lozano and Morales Rodríguez's (2022) systematic review summarised the findings from 15 school-based prevention initiatives that included a focus on online gambling.
- Oh et al. (2017) summarised the findings from 17 studies of preventative educational approaches that targeted adolescents. They focused their analysis on two areas:
    1) approaches that explicitly targeted risk factors
    2) approaches that explicitly aimed to foster protective factors.
- Ladouceur et al.'s (2013) review summarised the findings from 15 studies of gambling-specific workshops (mostly presented in schools to small groups of students) or gambling-related workshop prevention programmes (mostly delivered in schools to larger groups).
- Elliot and Guyader's (2020) literature review covered a wide range of areas related to whole-school approaches. One section summarised a number of workshop and curriculum approaches to gambling education. Findings from this review are included in Chapter 3.

In terms of the main focus of the reviewed programmes, the largest and most recent review by Monreal-Bartolomé et al. (2023) noted:

> *Most of the programs involved dynamic and interactive sessions … and were held in school hours and at the actual educational facility. Their main aims were to raise awareness in young people of the consequences that gambling can have, correct possible biases, develop different skills, and encourage critical thought and self-control. They typically made use of debates, presentations, testimonials, and video projections [including digital resources], among others. (p. 26)*

These six papers reviewed many of the same papers and programmes and therefore offered similar conclusions or recommendations which are briefly summarised below. These conclusions need to be treated cautiously given the substantial methodological challenges noted above. One key concern raised in the literature is that universal school-based interventions are successful in raising awareness, but do not necessarily lead to changes in behaviour (Keen et al., 2017; Ladouceur et al., 2013; Oh et al., 2017; St-Pierre & Derevensky, 2016).

Recommendations about programme features

- School-based universal approaches should be used at early ages to assist in mitigating harm from gambling (Keen et al., 2017; Monreal-Bartolomé et al., 2023; Oh et al., 2017). One reason for this is that studies show that gambling behaviours tend to start around age 9 or 10 (Monreal-Bartolomé et al., 2023).
- Include a focus on the cognitive aspects of problem gambling. Most approaches tended to focus on two main cognitive aspects:
  1) Mathematical concepts relating to problem gambling. Monreal-Bartolomé et al. (2023) concluded that stepped programmes should be developed that introduce young people to age-appropriate mathematical concepts. However, Oh et al.'s (2017) review found that there was little evidence that mathematical education by itself leads to changes in behaviour.
  2) Addressing erroneous or unrealistic beliefs about gambling that are commonly held by problem gamblers (e.g., a false illusion of control). A range of authors considered that addressing these is key given their connection to later problem gambling (Monreal-Bartolomé et al., 2023; Oh et al., 2017).
- Programmes that had a SEL focus and built protective factors such as problem-solving or coping skills were less common (Giménez Lozano and Morales Rodríguez, 2022; Keen et al., 2017). For example, Giménez Lozano and Morales Rodríguez (2022) reported that most of the preventive interventions they reviewed focused on cognitive factors and only a few included SEL skills training. The inclusion of a SEL focus was viewed as important by a number of writers (Giménez Lozano & Morales Rodríguez, 2022; Keen et al., 2017; Oh et al., 2017) (see Chapter 6 on risk and protective factors). Although Giménez Lozano and Morales Rodríguez (2022) consider there is not enough data on which combination of focuses is best, they argue that SEL is a key approach in addiction prevention and therefore needs to be included in approaches to gambling education.

- Focus on comprehensive programmes of longer duration (more than one or two sessions) or which include reinforcement sessions (Keen et al., 2017; Monreal-Bartolomé et al., 2023; Oh et al., 2017).
- Use varied teaching approaches that are relevant and engaging to youth such as use of video and online resources, and interactive activities (Keen et al., 2017; Monreal-Bartolomé et al., 2023; Oh et al., 2017), or approaches that use humour (Oh et al., 2017).
- Take into account the social aspects of gambling by involving peers and families (Elliot & Guyader, 2020; Monreal-Bartolomé et al., 2023; Oh et al., 2017). For example, a study reported on by Oh et al. highlighted the need to build youth's coping skills through strengthening social support systems.
- Programmes that were facilitated by "gambling experts" (e.g., researchers or addiction specialists) were more effective in reducing cognitive misconceptions. Thus, many researchers call for more teacher training on gambling-specific approaches given this finding, and the key role of teachers in students' lives (Giménez Lozano & Morales Rodríguez, 2022; Keen et al., 2017; Ladouceur et al., 2013; Monreal-Bartolomé et al., 2023).

Conclusions that were less common included a need for more focus on:

- emerging areas such as online gaming (Elliot & Guyader, 2020)
- web-based approaches (rather than teacher-mediated approaches) as they are viewed as relevant to youth, cost effective, tailorable to individuals, and "unbiased" (Keen et al., 2017; Oh et al., 2017).

The reviewers all concluded not enough is known about universal approaches that are effective in lessening youth problem gambling (Giménez Lozano & Morales Rodríguez, 2022; Monreal-Bartolomé et al., 2023; Oh et al., 2017; St Quinton et al., 2022; St-Pierre & Derevensky, 2016). As Keen et al. (2017) summarised: "promoting a negative viewpoint of gambling and its associated consequences are not enough to prevent problem gambling" (p. 321).

Most writers consider more work is needed to design evidence-based approaches. As one example, Oh et al. (2017) concluded that programmes need to take a more holistic and multifaceted approach and aim to address known risk factors *and* build protective factors. Programmes also need to carefully consider evidence related to delivery methods and effective implementation processes.

An Australian team (Keen et al., 2017, 2019) attempt to address the widely documented challenge in the health promotion and youth gambling literature; that changes in knowledge do not necessarily lead to changes in behaviour. Building on their earlier review, Keen et al. (2019) pulled together findings from psychological, public health, and pedagogical research in an attempt to explain why universal school-based problem gambling approaches show this pattern. They then used evidence from these fields to propose alternative approaches that might be more likely to result in behaviour change.

The range of reasons identified by Keen et al. (2017, 2019) as to why changes in knowledge may not be reflected in positive changes in youth problem gambling behaviour include:

- Universal approaches target all students, most of whom are *not* problem gamblers. Therefore, large shifts in the behaviours of the small number of problem gamblers are needed for a statistical impact to be noticed (Keen et al., 2017).
- Most school approaches include a focus on "risk awareness" about gambling harm. Keen et al. (2019) noted these approaches use "fear tactics" and tend to emphasise adult harms (divorce, job loss, etc.) which are not relevant to youth who therefore are not likely to engage.
- Most youth gambling approaches attempt to address gambling-related misconceptions as these are a known predictor of gambling harm. These misconceptions are based on complex mathematical concepts which can be difficult to teach, therefore teachers may only skim over them (Keen et al., 2019).
- Research has shown that gamblers have a rational understanding of these misconceptions when they are not gambling but, when they are invested in a game, they "switch" back to erroneous beliefs (Keen et al., 2019).

Keen et al. (2019) proposed a series of recommendations that aimed to address some of these issues through enhancing the design of mathematics education approaches to problem gambling. These recommendations are summarised in the next chapter on curriculum approaches.

Learnings from targeted prevention approaches

Targeted prevention involves programmes and approaches that are specifically aimed at individuals or groups who are known to be vulnerable due to their exposure to risk factors, or who are exhibiting problem gambling behaviours and related harms. In a school context, targeted prevention could be provided by school staff or health service providers such as addiction specialists or psychologists.

Some literature calls for better screening tools and targeting of support for youth (Rossen et al., 2016; St-Pierre & Derevensky, 2016). Rossen et al. (2016) cite research that found youth rarely seek formal help for gambling-related issues. For this reason, they consider there is a need for additional targeted assessment and support for vulnerable youth. This section summarises papers that attempt to address what form this support might take.

Novel approaches for supporting problem gamblers

As not enough was known about best practice in the prevention of youth problem gambling, St-Pierre and Derevensky (2016) reviewed the literature for emergent and novel approaches to intervention. From their review, they concluded that youth problem gamblers are not a homogeneous group, and studies show that the mix of factors that influence problem

gambling behaviours is complex and varies between individuals. For these reasons, they suggest tailoring targeted approaches to suit individuals. Promising approaches they highlighted include:

- motivational interviewing and cognitive-behavioural approaches (e.g., CBT)
- personalised feedback interventions (for example, identifying individuals' misconceptions and challenging these; e.g., beliefs that people in my life gamble more than I do and spend more money)
- web-based services such as interactive chat lines.

Behaviour change approaches and modes used for targeted interventions

In an effort to explore best practice, St Quinton et al. (2022) conducted a systematic review aimed at building knowledge about effective behaviour change techniques and modes of delivery used specifically for youth. St Quinton et al.'s review included 16 youth-focused interventions that were mostly provided by researchers or trained professionals such as therapists; a number were developed for high school students. The interventions appeared to be a mix of targeted and universal approaches. A total of 11 interventions had successfully reduced adolescent gambling behaviour. St Quinton et al.'s aim was to ascertain if there were any approaches that were more associated with reduced gambling than others. They found four specific behaviour change techniques and three delivery modes they labelled "promising"; that is, they appeared in at least 25% of all 16 interventions and at least two of the 11 successful interventions. However, given the wide variety of activities noted in these interventions and the broadness of their criteria, it seems unwise to draw firm conclusions from this study. What we can take from this systematic review is that it is possible to successfully reduce youth problem gambling using a variety of different approaches. This study supports St-Pierre and Derevensky's (2016) conclusion that the mix of factors that influence problem gambling suggests a more individually tailored approach to support for youth is needed.

What do young people say about youth gambling?

Only a small amount of literature included youth perspectives on problem gambling and support. One Australian study (Pitt et al., 2022) noted that public health literature advises that youth input is sought on health and wellbeing concerns; however, there is little evidence that youth consultation has occurred in relation to youth gambling. Pitt et al. asked 54 youth aged 11 to 17 for their views on strategies that could address the normalisation of gambling and assist in preventing gambling-related harm. The key strategies suggested by these youth were:

1) *Reducing the accessibility and availability of gambling products*
2) *Changing the nature of gambling products, and gambling infrastructure to help reduce the risks associated with gambling engagement*
3) *Untangling the relationship between gambling and sport*
4) *Restrictions on advertising*
5) *Counter-framing in commercial messages about gambling. (Pitt et al., 2022, p. 9)*

The youth suggested that public education including school-based approaches was needed. Pitt et al. found there to be considerable alignment between the strategies youth suggested and those endorsed by public health experts. They concluded that youth need to be partners in shaping approaches for their age group, such as the types of public health messages that are likely to resonate with their peers.

Two other studies that sought youth perspectives are included in Chapter 4. One focused on taiohi (teenage) Māori perspectives on gambling (Herd, 2018), and the other on the perspectives of Asian youth (and adults) (Tse et al., 2007).

Is a Whole School Approach needed for gambling?

Many of the programmes and initiatives included in systematic reviews had a prevention focus that was multi-component with efforts mostly aimed directly at students. A few included more components such as working with parents. Most did not appear to be designed or described as a Whole School Approach (WSA) that targeted different layers of school life. Elliot and Guyader (2020) suggest that the evidence that a WSA is effective in secondary schools is mixed. One reason for this is implementation challenges. Elliot and Guyader note WSA requires a substantial commitment by schools to fully implement and can have patchy or low implementation rates. As a result, they questioned whether a WSA is a good fit for gambling approaches:

> *A whole school approach may be most appropriate where the school climate and ethos are important in achieving the program's goals, as would be the case for bullying and also mental health. Gaming and gambling education are less likely to depend on school climate or ethos than are mental health education projects. (Elliot & Guyader, 2020, p. 84)*

To address their concerns about WSA, Elliot and Guyader (2020) discuss approaches that could be more easily implemented and are based on evidence. One example is a three-tier approach: Tier 1 is a universal prevention curriculum for all students which includes screening; Tier 2 is group sessions for students who need more support; and Tier 3 is a therapeutic approach aimed at higher-risk individuals.

School-based approaches are only one piece of a jigsaw

Many researchers are clear that school-based approaches are only one part of a coherent public health response to youth gambling (Monreal-Bartolomé et al., 2023; Richard & King, 2023; Rossen et al., 2016; St-Pierre & Derevensky, 2016). School and youth preventative approaches need to sit alongside regulations that restrict youth availability and access across all types of gambling products and venues (St-Pierre & Derevensky, 2016). In Aotearoa New Zealand, Rossen et al. (2016) found that minors reported having access to venues like TABs and casinos. As engaging in these forms of gambling is associated with higher risks of youth problem gambling, Rossen et al. concluded that urgent work is needed to ensure venues are "good hosts" and do not allow entry to minors. A need was also identified to regulate online forms of gambling including restricting advertising (Akçayır et al., 2023), including advertising embedded in video games. Youth are easily able to access these games and they are less regulated in comparison to more traditional forms of gambling (see Chapter 5).

Key messages and learnings for Tūturu

What can we learn from universal prevention approaches?

Youth problem gambling research is an emerging field with many methodological issues. Thus, we need to be cautious in generalising from the findings of reviews. Most researchers were in support of universal and preventative approaches. The universal approaches reviewed by researchers tended to include a range of behaviour change techniques and modes of delivery. However, there is not enough solid evidence to be sure about which focuses are more effective. Tūturu is not aiming to develop an intervention; however, there are things to be learnt from recent universal approaches. Principles we can draw from this literature include the need to focus on:

- ensuring initiatives and support are evidence-based
- building youth's knowledge and awareness about what problem gambling looks like, and harms relevant to their age group using relevant contexts and approaches
- approaches and messages that are relevant to youth such as reducing the focus on fear tactics and longer-term harms, and include harms related to their age group
- building youth's capabilities and skills through curriculum learning, particularly in areas such as critical thinking, and SEL such as decision making, problem solving, and help seeking
- addressing student misconceptions (e.g., through supporting youth to understand common misconceptions and the mathematics underpinning gambling)
- using engaging and interactive approaches that make use of technologies
- involving peers and whānau/families to address problem gambling and create wider support systems (given the social context of gambling behaviours)

- adapting to individuals' and each school's unique setting and community (as gambling motivations and behaviours differ by individual and community).

What can we learn from targeted support approaches?

Findings from this review suggest that youth problem gambling is not always on the radar for teachers, pastoral teams, parents and whānau, or peers. International studies show that youth tend not to seek help for problem gambling, and effective support may not be available. Therefore, they suggest better screening tools are needed to more proactively and effectively identify vulnerable youth who could be offered support (Rossen et al., 2016; St-Pierre & Derevensky, 2016).

The NZCER national survey of secondary school principals (Alansari et al., 2023) showed many schools use assessments such as HEeADSSS[2] to identify youth who could benefit from additional health and wellbeing support. In some versions of HEeADSSS, gaming is included as one of the "risk" behaviours in the activities section, but gambling is not. These findings suggest a need for awareness raising in schools and for parents and whānau and health service providers about gambling behaviours or symptoms (such as a lack of sleep for online gamers), and the interaction of gambling and gaming, in assessments for youth.

St-Pierre and Derevensky (2016) note that youth problem gamblers are not homogeneous and the mix of factors that influence problem gambling behaviours is complex. Therefore, they suggest individualised intervention is likely to be more effective which has implications for how support is offered in Aotearoa New Zealand. Many researchers suggested a need for peer group and individualised support for vulnerable youth which could include in-person as well as web-based or telephone services.

Systems-focused advocacy and regulation

The literature suggests the following questions about system-focused areas:

- Given that school-based approaches are only one aspect of a public health response to youth problem gambling, could NZDF play a role in raising awareness about youth problem gambling and the need for a multifaceted public health response that includes environmental regulation?
- Could NZDF play a role in working with school-based health services and HEeADSSS providers to ensure gambling- and gaming-related concerns are more visible in youth assessments?

[2] Working with Youth: HEEADSSS Assessment | Whāraurau (wharaurau.org.nz)

3. Curriculum approaches to youth gambling

Learning from curriculum approaches

Given the focus of Tūturu on curriculum resources, this chapter looks more closely at the curriculum aspect of school-based approaches. It explores the question, "What can we learn from curriculum approaches to youth gambling?" We reviewed the content of a few key problem gambling prevention approaches that included curriculum resources.

Curriculum approaches built on Stacked Deck

One early and well-known curriculum approach is Stacked Deck from the USA (Williams et al., 2010). At the time Stacked Deck was developed there was a continuum of school-based approaches available. At one end were activities such as videos, plays, and one-off sessions. At the other end was a range of more comprehensive multi-session approaches offered in countries such as the USA, Canada, and Australia. However, few had been comprehensively evaluated (Williams et al., 2010). Stacked Deck:

- was a series of five interactive lessons and one booster lesson that were integrated into career and life management or heath classes of students who were aged around 16
- offered lessons focused on the knowledge and skills needed to be a "smart gambler" including:
    - the history of gambling and current forms of gambling
    - concepts such as true odds and "house edge"
    - challenging gambling fallacies and misconceptions
    - signs, risk factors, and causes of problem gambling, and where to get help
    - skills and barriers relating to good decision making and problem solving (e.g., as gambling can be social in nature how do you resist peer pressure?).

Stacked Deck lessons were designed to be highly interactive, visual, and engaging. They had a "strong emphasis" (p. 113) on learning and applying skills (Williams et al., 2010). The programme targeted the peer environment in an effort to influence the acceptability of gambling in students' peer groupings. Therefore, the programme also had a focus on building skills in addressing peer pressure. The evaluation of Stacked Deck found:

> *Four months after receiving the program, students in the intervention group had significantly more negative attitudes toward gambling, improved knowledge about gambling and problem gambling, improved resistance to gambling fallacies, improved decision making and problem solving, decreased gambling frequency, and decreased rates of problem gambling. There was no change in involvement in high risk activities or money lost gambling. (Williams et al., 2010, p. 109)*

The Stacked Deck evaluation found variations in the quality of delivery of lessons with better results from later classes for which the programme deliverers were more confident and skilled (Williams et al., 2010). This suggests that teacher support is key. Some of the systematic reviews also stressed teachers needed training on gambling-related concepts so they could better recognise and teach about misconceptions or identify problem gambling in their students (Giménez Lozano & Morales Rodríguez, 2022; Monreal-Bartolomé et al., 2023).

The Stacked Deck programme and evaluation appeared to be seminal in influencing later approaches. However, as noted in the previous chapter, since the evaluation of Stacked Deck in 2010, more recent evidence has reported mixed findings about the impact of school-based approaches on youth problem gambling behaviours.

Early approaches focused on mathematics and health

Approaches that included curriculum resources varied in their focus. Building students' understanding of mathematics concepts related to gambling was commonly referred to in many studies. Some early approaches, like Stacked Deck, were located in health or vocational and social skills classes. Later approaches included a mathematics focus but also spanned a wider range of curriculum areas. One example reported on by Savard (2022) was mathematics learning that presented "gambling activities as sociocultural contexts" (p. 316). This approach had a focus on critical thinking and combined mathematical, financial literacy, and citizenship education. This focus has a strong alignment with the Aotearoa New Zealand curriculum which includes progressions in mathematics and statistics (Ministry of Education, 2023) as well as financial literacy (Ministry of Education, 2014). In Aotearoa New Zealand there are a number of financial literacy providers such as Sorted in Schools[3] which includes resources for English- and Māori-medium schools. In an Aotearoa New Zealand context, financial literacy can span more than one learning area such as mathematics and social science learning.

A few approaches spanned a range of curriculum areas. Perhaps the most similar to Tūturu is the recently developed Be Ahead of the Game[4] approach from Australia. Like Tūturu, this

[3] https://sortedinschools.org.nz/

[4] https://responsiblegambling.vic.gov.au/reducing-harm/schools/resources-teachers/

WSA is multi-component. Be Ahead of the Game is described as evidence-based but does not appear to have been evaluated yet.[5]

Be Ahead of the Game offers teachers a range of curriculum lessons including:

- mathematics and numeracy (financial literacy: exploring financial harm through budgeting, chance, odds, probability)
- health (building understandings about: gambling as a health and wellbeing issue, the difference between gaming and gambling, risks including from online gaming, help-seeking skills)
- literacy (persuasive writing, exploring influences that shape attitudes)
- media studies (analysing advertising)
- social sciences (exploring the role of regulation or the economic consequences of gambling).

Mathematics learning

Many papers talked about students exploring the mathematical concepts related to gambling. An Australian team (Keen et al., 2019) suggested gambling education may be best incorporated into mathematics learning; however, other initiatives employ a cross-curriculum approach. Keen et al. offer four key recommendations to improve the content of mathematical approaches to problem gambling:

1. **Shift the focus away from harm and towards increasing youth engagement**. Keen et al. (2019) consider the way adult-focused harms are presented to youth is an example of "fear tactics" which may not be relatable for youth or universal audiences. Instead, they suggested providing a developmental account of how gambling behaviours can emerge over time and the factors that influence them. Keen et al. considered this approach may be more relevant and engaging to youth and may better enable youth to identify themselves as someone who might need support.
2. **Apply a cognitive-developmental approach to gambling education**. This approach is about focusing on cognitive mechanisms rather than behavioural solutions. At the core of this approach is carefully planned learning activities that challenge and replace misconceptions (as these misconceptions are a predictor of problem gambling). Key misconceptions are:
    a. the gambler's fallacy (the belief that a win is more likely after a series of losses)
    b. the hot hand fallacy (the belief that a winning streak suggests further wins)
    c. the illusion of control (ideas such as a player has some control over outcomes, or their personal level of success is likely to be higher than others).
3. **Educate about gambling mathematics**. One approach to this includes exploring the mathematical foundations of commercial gambling products and related mathematics concepts such as randomness, probabilities, or negative returns.

[5] https://responsiblegambling.vic.gov.au/about-us/news-and-media/whole-of-school-approach-helps-young-people-stay-ahead-of-the-game/

4. **Leverage technology to teach complex concepts**. Keen et al. (2019) consider that youth need to be supported to develop more complex understandings of mathematical concepts as they may reject superficial explanations. Technology such as computer-generated visualisations or animations can be used to engage youth and assist them to envision gambling outcomes related to these concepts as they occur over time.

Keen et al.'s (2019) analysis of how youth might revert to gambling misconceptions when they are in the middle of a game also supports other findings which suggest that youth need more support to develop self-monitoring skills (Richard & King, 2023).

Drawing on theoretical approaches to design learning

Keen et al. (2019) and Lupu and Lupu (2013) propose that curriculum approaches to gambling education are designed using theoretical approaches that aim to change attitudes and beliefs. Keen et al. suggest a cognitive-developmental approach is a good fit with gambling education whereas Lupu and Lupa propose rational emotive education.

A paper by Lemarié and Chebat (2013) discusses advertising as one aspect of public health response to youth problem gambling. They state that prevention campaigns that rely on advertising are competing with the larger funds and volume of gambling advertising from corporations. Instead, they propose using a theoretical model (based on inoculation theory) that builds youth's critical thinking and resistance to gambling advertising rather than focusing on persuasion and awareness-raising about gambling risks and harms. This study provides an example of a potential focus for media studies or English curriculum resources that promote critical thinking about gambling advertising.

Key messages and learnings for Tūturu

What can we learn from curriculum approaches?

All curriculum approaches, and many of the school-based prevention approaches, have a harm minimisation focus. They aim to build knowledge and awareness about gambling harm whilst also fostering youth's skills and capabilities and, particularly, critical thinking and SEL. They often include a focus on key messages about good decision making such as "Be ahead of the game",[6] "Be a smart gambler", or make "Smart choices" (Parham et al., 2019).

[6] Resources for teachers (responsiblegambling.vic.gov.au)

Overall, curriculum and other school-based prevention approaches paid attention to content design, pedagogical approaches, and implementation factors. Factors to consider are summarised below.

Locate evidence-based content in the curriculum

- Build students' knowledge and understandings about problem gambling through curriculum content (e.g., explore mathematical and financial literacy concepts that are connected to problem gambling). Mathematics learning is the most often mentioned learning area, followed by health learning, but more recent curriculum content spans a range of learning areas.
- Build students' ability to engage in critical thinking about gambling, by addressing gambling misconceptions using a theory-based foundation that draws on cognitive-developmental approaches (Keen et al., 2019) or rational emotive education (Lupu & Lupu, 2013).
- Build students' ability to engage in critical thinking through an exploration of gambling advertising.
- Build students' SEL capabilities such as problem solving and good decision making (which is interrelated with critical thinking), self-management, and help-seeking skills, and/or building self-esteem. In Aotearoa New Zealand, the best fit for this focus is the Health and PE learning area.
- Given the social context of gambling, include a focus on peer strategies for avoiding peer pressure (i.e., resistance training). In Aotearoa New Zealand, the best fit for this focus is the Health and PE learning area.

Evidence-based design and implementation factors

- Use engaging and interactive learning activities.
- Offer a range of lessons or a comprehensive learning unit (rather than one-off approaches).
- Use visual technology such as simulations, or interactive software.
- Offer teacher training to support quality delivery.

Systems-focused advocacy and collaboration

The literature suggests the following system-focused areas could be explored by NZDF or Tūturu:

- Consider forming collaborations with groups already working in the curriculum space. One example is financial literacy providers such as Sorted in Schools.
- Avoid collaborating with gambling industry-funded initiatives (due to conflicts of interest).

4. Māori, Pacific, and Asian perspectives

This chapter explores the question "What can we learn from Māori, Pacific, and Asian perspectives on (youth) gambling?"

Some groups of students experience more gambling harm

Youth'12 data indicate that, in Aotearoa New Zealand, students from Māori, Pacific, and Asian communities, as well as those living in highly socioeconomically deprived communities, are disproportionately at risk from problem gambling (Rossen et al., 2016). Tse et al. (2012) undertook a qualitative study to explore the motivation underlying gambling for 131 people from four ethnic groups in Aotearoa New Zealand (Māori, Pacific, Asian, and Pākehā/NZ European). They found that different "personal, socioeconomic, environmental, and cultural factors" (p. 850) were identified for individuals and groups.

A systematic review by Akçayır et al. (2023) included data from Aotearoa New Zealand. One finding was, despite a long history of gambling-related problems being reported among Indigenous peoples, there had been an "inadequate" response with few culturally responsive harm minimisation strategies.

For these reasons, we have included a section on Māori, Pacific, and Asian perspectives on youth gambling to explore how cultural perspectives might shape gambling behaviours and forms of support for youth. There is only a small amount of Aotearoa New Zealand literature in this space, so we have also included some adult-focused and international literature, as well as some literature that is outside our target date range.

Māori perspectives

Māori are more likely to participate in gambling than non-Māori and are five times more likely to become problem gamblers in comparison to non-Māori (Levy, 2015). Māori have been reported to be at a higher risk of participating "in multiple forms of gambling" than non-Māori (Dyall et al., 2009, p. 7). Māori are also at a significantly higher risk of experiencing problems because of someone else's gambling (Levy, 2015). This section looks at key literature on taiohi (youth) Māori in relation to gambling, including perspectives on both the positive and negative outcomes of gambling.

Literature on Māori youth and problem gambling is scarce. The studies considered in this review mostly advocate for more research and support for taiohi Māori who are impacted by problem gambling (Abbott, 2001; Dyall, 2003; Dyall et al., 2009; Herd, 2018; Landon et al., 2010; Rossen et al., 2013). In a 2018 doctoral thesis, Herd spoke with taiohi Māori for their perspectives on gambling within their whānau, hapū, iwi, and hāpori (community). Herd identified three key themes within their kōrero (discussions):

- a sense of whānau and belonging
- gambling, it's a fact of life
- the impact of gambling on taiohi.

This section pulls from key literature on Māori youth and gambling and follows the above key themes from Herd's thesis to highlight taiohi Māori perspectives, and the implications of problem gambling for taiohi Māori. These key themes are evident throughout the studies on this kaupapa.

A sense of whānau and belonging

Taiohi Māori experience both positive and negative outcomes from gambling. A sense of belonging is important for one's identity and feeling included within their community (Herd, 2018). In Herd's study, some taiohi Māori reported participating in gambling or going to gambling venues to be with family members and some recalled witnessing whānau members gambling at family events.

Gambling for whānau Māori is not always seen as negative. Some studies discussed the positive framing of gambling as a way to fundraise for sports teams and to support community initiatives, such as marae up-keep (Herd, 2018). Participating in gambling can show one's support of local fundraising initiatives, such as for schools, family or sporting events, or marae renovations. Herd (2018) explains that Māori youth who were involved in fundraising activities had accepted this form of gambling as "a normal part of their family activity" and "good for the marae and their whānau" (p. 128). Raffles and informal number games were introduced by early European settlers, following horse betting and card games (Adams, 2004). These forms of gambling are normalised; however, studies show that gambling for fun may lead to problem gambling (Rossen et al., 2013).

Gambling, it's a fact of life

Gambling is considered a fact of life for many taiohi Māori (Herd, 2018). From speaking with taiohi Māori, Herd (2018) highlights phrases commonly heard within whānau that promote gambling, including "having a humble bet" and "tautoko the kaupapa" that promote gambling as positive for the community (p. 115).

The impacts of gambling on taiohi

From this literature, it is evident that gambling has negative impacts on taiohi Māori. In a report for the New Zealand Gaming Survey, Abbott and Volberg (1999) reported that whānau Māori were more likely to become problem gamblers than non-Māori (p. i). Herd (2018) suggests one reason for this is likely to be due to specific targeting of lower socioeconomic areas by gambling providers. Herd reports that the current studies on youth gambling "indicated that the young people most at-risk were Māori or Pacific Island adolescents who are living in areas of high deprivation" (p. 51). The taiohi interviewed by Herd (2018) were aware of this, sharing that gambling venues were very common in "struggling communities" (p. 123). This issue, along with increasingly easier access because of current legislation, are societal inequities that emphasise the need for more research and action in this area (Herd, 2018).

Dyall's 2003 study highlights how, in the early 1990s, the face of problem gambling in New Zealand began changing, from middle-aged males on a low-income or "status and track betters", to young New Zealanders ranging in age from around 18–29 (Dyall, 2003, p. 90, referring to Abbott and Volberg, 1991). Although the 1999 study by Abbott and Volberg suggests that youth aged between 15 and 24 years old were considered a low-risk group, Dyall (2003) reports that there is a high interest in gambling among high school students and problem gambling is an emerging public health issue for Māori.

The research on problem gambling and taiohi Māori highlights that gambling behaviours are intergenerational (Herd, 2018). This supports the notion that gambling is a way of life. However, Rossen et al. (2013) report that "gambling in adolescence may predict later gambling and health problems and for some will already be causing difficulties" (p. 2).

Thinking critically about the impacts of colonisation on gambling

> *The impacts of colonisation have led to major social disorganisation and irreparable harm to the health and wellbeing of Māori. While problem gambling harms the broader society, Māori and other ethnic minority groups experience this harm disproportionately. (Herd, 2018, p. 143)*

Prior to colonisation, gambling was not a way of life for Māori (Adams, 2004; Dyall, 2003; Herd, 2018). Alongside alcohol and tobacco, gambling was introduced by colonial invaders, and now all three significantly contribute to health problems for Māori (Dyall, 2003). For Māori, continuous colonial oppression, the dispossession of a way of life, and the introduction of harmful activities such as gambling, have largely impacted Māori health and wellbeing (Dyall, 2003). Herd (2018) writes that:

> *gambling adds to the misery of deprivation and the inter-generational impacts of colonialism. These difficulties are compounded by the imposition of capitalist values that drive the economy, and neo-liberal policies that typically under-fund programmes for sustainable taiohi development, so that they ultimately fail. (p. 177)*

These ongoing negative impacts of colonisation directly affect taiohi Māori, not only through gambling-related harm, but through internalised feelings of "whakamā" and a "deep sense of shame" when there is problem gambling within their whānau (Herd, 2018, p. 143). Herd (2018) highlights how prominent societal myths on gambling, again influenced by colonisation, tend to blame the victim of gambling, rather than understanding that this issue is one of the many impacts of colonisation. When it comes to understanding the effects of gambling on Māori, it is important to think critically about colonisation. If taiohi Māori are supported to think critically about the emergence of gambling in Aotearoa and its many implications on Māori, they will be better able to understand how gambling also contributes to Māori poverty and many other issues (Dyall, 2002, 2003). By looking at gambling with critical awareness, taiohi Māori can understand that gambling is not because of "poor lifestyle choices" of whānau members, or their inability to manage finances, but rather a product of colonisation (Herd, 2018, p. 143).

What can schools do?

Wider concerns about the impact of problem gambling on taiohi Māori are shared by taiohi Māori. Some expressed that they wanted to know how they could support their peers who appeared to be experiencing gambling-related harm (Herd, 2018). The literature argues for more research to be done on this kaupapa, and some studies suggest more support from schools for taiohi Māori who are at risk of being negatively impacted by problem gambling (Dyall, 2003). Dyall (2003) reports the emerging problem of taiohi having "little information and awareness of the risks associated with gambling" (p. 91).

Based on the findings of a 2007 report written by a group of Māori providers on the social and economic impacts of gambling on whānau, hapū, iwi, and Māori communities, Herd (2018) urges that education centres start educating on problem gambling, beginning in kōhanga reo and continuing through to kura kaupapa (Wātene et al., 2007). Furthermore, schools can provide a safe space for taiohi experiencing problem gambling or gambling-related harm. Some taiohi in Herd's (2018) study had sought help from schoolteachers indicating the role that teachers can play in supporting youth. Herd's research suggests that schools could assist in:

1) creating opportunities for taiohi Māori to think critically about the impacts of colonisation
2) raising awareness around gambling that is seen as positive, such as fundraisers for sports, schools, and marae
3) educating about the negative effects of problem gambling and on responsible gambling
4) supporting whānau, hapū, iwi, and community leaders to influence taiohi to be cautious around gambling.

The first suggestion is supported by the evidence reported here. Education on problem gambling and gambling-related harm in Aotearoa New Zealand, and an increased critical awareness on how gambling emerged as an impact of colonisation, appears to be a needed form of support for taiohi and whānau Māori. The second suggestion is not about discouraging taiohi to engage in fundraisers, but to inform students that it is a form of gambling and therefore could lead to wellbeing and economic implications. The third is suggested by Levy (2015) who expresses that responsible gambling is our right, and can enforce better health and wellbeing outcomes for Māori:

> *If obligations of the Treaty of Waitangi are met, it can be expected that Māori positively benefit from legalised gambling, and are actively involved in the planning and regulating of gambling within Aotearoa. It can also be expected that Māori are protected from gambling harms. (pp. 30–31)*

The last suggestion is supported by discussions with taiohi. Herd (2018) writes:

> *the theme that was strongly evident was that community leaders, whānau, schools, and community-based organisations have a role in preventing and reducing harm of problem gambling for taiohi Māori. (p. 124)*

Taiohi further affirmed that:

> *community leaders, family and sporting role models [had] a positive influence on their lifestyle choices and suggested that education and social marketing programmes feature these positive role models and messages. They also thought that former problem gamblers could play a role in helping others. (Herd, 2018, p. 128)*

Key messages and learnings for Tūturu from Māori-focused literature

- For taiohi Māori, gambling can create a sense of belonging within their communities; it is a fact of life for most whānau Māori; however, there are negative impacts on taiohi Māori.
- Taiohi Māori are concerned about the impacts of problem gambling on their people.
- There is a need for more research and action in regard to the impacts of problem gambling on taiohi Māori.
- Support for taiohi Māori in relation to problem gambling and gambling-related harm from schools is needed.

Pacific perspectives

Intentions behind gambling

A literature review by Clarke et al. (2007) found factors, such as social isolation and sociocultural ambivalence, were triggers for problematic gambling amongst diasporic groups such as Pacific peoples. In addition, for some Pacific peoples, migration to Aotearoa New

Zealand increases their exposure to financial wealth and ideas about placing monetary value on material things (Tse et al., 2012). This exposure to a new environment and culture can influence and change the perceptions of what is valued and prioritised for immigrants.

Gambling can be perceived as another source of income by some Pacific adults and youth (Bellringer et al., 2019; Fehoko et al., 2023). Guttenbeil-Po'uhila et al. (2004) found that, in their study, participants used gambling to financially support themselves when meeting cultural obligations and responsibilities. Gambling is sometimes also seen as a quick way to earn money to fulfil these obligations to their families and churches (Tse et al., 2012).

Socialisation of gambling

The Pacific Islands Families Study 2014 (Bellringer et al., 2017) found that, when Pacific youth were asked why they gambled for money, the reasons were: to win money; to have fun; for the challenge; and because they were bored. A more recent study echoed these same reasons and also included: participating because they were short of money and/or their friends gamble (Bellringer et al., 2019). One practitioner who worked in gambling harm and prevention shared that, when it came to advertising, young people were the target audience and this helped normalise gambling from a young age (Tse et al., 2012).

Both young people and adults recognise gambling as a social activity. Almost half of the Pacific youth who participated in the study by Bellringer et al. (2019) gambled with their families, and because youth gambling usually occurred with family or friends, there was "a level of social cohesiveness" to it (Bellringer et al., 2019, p. 39). Family and/or friends can affect gambling behaviour for young people through initiating and normalising it (Tse et al., 2012).

Strategies to build awareness and address gambling

In their study, Fehoko et al. (2022) found that most participants were unaware of gambling treatment providers and what Pacific gambling treatment providers could offer to their families and communities. To bridge this gap, some participants suggested having information on problem gambling translated into Tongan, as well as developing a partnership between the providers and the church (Fehoko et al., 2022). It is through the Easter weekend camps that the church addresses social and health issues such as alcohol consumption, drug use and abuse, and, more recently, gambling, to their congregations (Fehoko et al., 2022). This initiative from the churches is supported by the Tongan youth, as they want the church to continue sharing information around gambling harm prevention and reduction (Fehoko et al., 2022). In saying this, from the same study, Fehoko et al. (2022) acknowledge that the development of "Pacific for Pacific" services is not the only solution in providing support and care for Pacific communities:

> *One Tongan participant suggested, gambling treatment service providers, whether Pacific or non-Pacific, need to offer a holistic approach to supporting families as well. (p. 5).*

One of the key points from Youth'12 findings about youth gambling (Rossen et al., 2013) was that Pacific students were more likely to be worried about their own gambling than NZ European students. Young Pacific people are self-aware and understand what works well for themselves and their families. A suggestion from young Tongan participants in the study by Fehoko et al. (2022) was that awareness around gambling and gambling harm should be embedded in school curriculum. Workshops or training for youth, perhaps using focus groups, that can build on this self-awareness and help young people to draw connections between gaming and gambling harm was a tangible suggestion from the Pasifika Youth: Online Gaming and Gambling research (Taufa et al., 2021). This awareness-raising could continue outside of the school as well, as there is a need to have more critical talanoa with Pacific students and families around gaming and gambling, understanding the harmful effects of gaming, and how it can lead to gambling in the future (Fehoko et al., 2022; Taufa et al., 2021).

> *[W]e need our parents and grandparents here too, because they keep us accountable, and if they don't know that it's harmful to us, then the pattern will be harder to break … (Taufa et al., 2021, p. 57)*

Bellringer et al. (2017) highlighted that processes and resources supporting young Pacific people to develop resilience towards risky gambling should take into consideration that they need to foster "greater alignment with New Zealand culture whilst retaining high Pacific culture" (p. 68). This recommendation is already being practised by churches such as the ones in the study by Fehoko et al. (2022). The church is an important hub for many Pacific communities in Aotearoa New Zealand as it is an intersection of their cultural, religious, and social lives (Macpherson, 2011). Outside of the church, the participants suggested faikava[7] as an appropriate practice for Tongan males to discuss issues such as gambling and problem gambling behaviours (Fehoko et al., 2022). This would be a safe cultural space for critical talanoa around these issues with an older generation that could then be followed by intergenerational talanoa.

Key messages and learnings for Tūturu from Pacific-focused literature

- For some Pacific peoples, gambling is viewed as an option to finance cultural and personal obligations.
- Gambling is perceived as a social activity that allows for youth and adults to participate with their friends and families.
- Some Pacific peoples are unaware of the service providers that are available to them and/or may not recognise harmful gambling behaviour.
- Pacific youth and adults would like service providers to incorporate Pacific/holistic strategies that build awareness around gambling harm and prevention.
- Gambling harm and prevention needs to be discussed with Pacific youth, families, and communities, as it is an issue that requires collective effort and support.

[7] Faikava take place in homes and garages most weekends. This is where men, young and old, congregate to partake in the drink but more importantly to socialise and talk with each other. See https://www.mpp.govt.nz/assets/Resources/Yavu-A3.pdf

Asian perspectives

Factors driving Asian gambling in Aotearoa New Zealand

Gambling and problem gambling among Asians in Aotearoa New Zealand present multifaceted challenges influenced by cultural, social, and economic factors. Migration and settlement experience significantly impact gambling behaviours within these communities. The following section explores the underlying reasons behind Asian gambling in Aotearoa New Zealand, the barriers preventing Asians from seeking help, and possible intervention strategies.

Acculturation and settlement stress

Cultural and language differences, financial stress, and familial tensions were identified as significant contributors to acculturation and settlement stress. These stressors, in turn, are linked to Asian gambling in Aotearoa New Zealand (Sobrun-Maharaj et al., 2013; Wong & Tse, 2003).

Cultural and language barriers hinder social interaction and integration into mainstream Aotearoa New Zealand society for Asian immigrants and refugees. Consequently, they often seek companionship within their own ethnic communities. The casino is one favoured venue for socialisation due to its language-friendly environment and convenient facilities.

In addition, economic hardship drives many Asian immigrants and refugees to seek relief or quick monetary gains through gambling. As suggested by Chinese participants in a study by Tse et al. (2012), they began to gamble because of the chance to gain a “big return by a small investment” (p. 854). Tse et al. (2007) found that Asian students who struggled with gambling problems often gambled away their tuition fees and living expenses. Consequently, they resorted to borrowing money from various sources, resulting in accumulating debts for themselves and their families in both Aotearoa New Zealand and their country of origin.

Yu and Ma (2019) conducted a literature review on youth gambling in Hong Kong. Although their focus was not on Aotearoa New Zealand, their findings resonate with global evidence. Their review consistently identified factors associated with an elevated risk of gambling issues among youth. The factors include: gender (male); older age; low self-control; engagement in online gambling; cognitive biases; and family members’ gambling behaviours. These factors could be considered alongside the migrant status of Asian youth in Aotearoa New Zealand to enrich our understanding of the dynamics surrounding youth gambling in this context.

Social environment factors

The inability to fully integrate into the host culture can lead to feelings of isolation and a lack of access to support services for individuals struggling with gambling-related problems. As indicated by Sobrun-Maharaj et al. (2013) and Zhang et al. (2022), lack of social and family support, lack of acceptance by the host population, and lack of entertainment emerge as prominent issues contributing to gambling behaviours among Asians in Aotearoa New

Zealand. In addition, gambling posed challenges for international Chinese students in Aotearoa New Zealand, particularly those lacking positive role models. According to a participant in the study of Tse et al. (2012), "The parents of these children have always over-spoiled them or put too much pressure on these young generations who do not have good self-control" (p. 855).

It is also evident that Aotearoa New Zealand's legal gambling culture and the easy access to gambling venues encourage Asians to participate in gambling activities (Sobrun-Maharaj et al., 2013; Tse et al., 2012). The accessibility of high-risk gambling activities, combined with the perception of their legality implying harmlessness, creates confusion among Asian immigrants. Asians were found to be confused with the Government's approval of potentially harmful activities, assuming it would prioritise public wellbeing and "not expose them to danger" (Sobrun-Maharaj et al., 2013; p. 8). As echoed by Tse et al. (2007), gambling among Asian students can be attributed to feelings of boredom, loneliness, and perceiving life in Aotearoa New Zealand as overly relaxed, with one interviewee saying "They thought they could study less and enjoy the freedom of New Zealand's lifestyle by gambling" (p. 85).

In summary, Asians grappling with problem gambling often encounter a range of adverse outcomes, including social isolation, family discord, financial instability, and mental health challenges (Sobrun-Maharaj et al., 2013). These issues not only precede problem gambling but also result from its effects (Ho et al., 2022), which can lead to a cycle of negative impacts within Asian families.

Understanding barriers to assistance

While cultural, social, and economic factors contribute to the gambling issues within Asian communities, barriers to seeking help further exacerbate the problem (Ho et al., 2022).

As explained by Sobrun-Maharaj et al. (2013), within Asian communities, gambling-related stigma and the pressure to maintain family honour can deter individuals from seeking assistance as they fear judgment and social exclusion. Due to stigma and shame, Asians are often reluctant to seek help for their harmful gambling and mental health issues, which could delay treatment and allow problems to intensify (Ho et al., 2022). In addition, cultural beliefs regarding mental health and gambling as personal weaknesses rather than medical conditions may also discourage help-seeking behaviours. Asians may perceive support services as culturally inappropriate.

Moreover, a lack of community support and/or a lack of awareness and information about available support services may exacerbate feelings of isolation, making individuals hesitant to reach out for help or navigate the healthcare system, as they may feel alienated and alone in their struggles (Tse et al., 2007). Additionally, norms of self-reliance and familial obligations may create a sense of shame or failure in admitting struggles and seeking external support.

Strategies to combat problem gambling

Addressing problem gambling among Asians in Aotearoa New Zealand requires a comprehensive approach that considers individual, relational, and cultural factors.

Normalising help-seeking behaviours

Many Asians may avoid seeking help due to stigma and cultural barriers. To address this, efforts should focus on reducing stigma associated with problem gambling, changing perceptions of help-seeking, and providing culturally appropriate services. Support groups have proven effective in reducing shame and isolation among participants, while stress management and self-care techniques offer relapse prevention measures.

Schools can play a role in reducing stigma and promoting help-seeking among Asian students. Implementing educational approaches that raise awareness about problem gambling, its impacts, and available support services can help change perceptions of seeking help. Additionally, schools can establish support groups or peer support networks where students can share their experiences, receive encouragement, and find solidarity. As found by Ho et al. (2022), the Chinese and South Asian participants who joined the support groups for gambling addiction appreciated that "they were not alone on their recovery journey" (p. 5). By engaging with peers who shared similar experiences, participants experienced a sense of belonging, which helped alleviate feelings of shame and isolation commonly associated with discussing gambling issues.

Similarly, Tse et al. (2014) emphasised that employing a non-threatening and non-labelling approach is crucial. Their study described how Asian problem gambling services utilise "Gamble-free Day" as a health promotion initiative to raise awareness of gambling harm in Aotearoa New Zealand's Chinese and Korean communities. The campaign leveraged various activities such as a Chinese songwriting competition and discounted dining offers to establish a platform for Asian communities to openly discuss gambling-related disorders in a destigmatised manner.

Building trust

Asians may hesitate to trust health services with confidential information due to cultural differences. Educating Asian communities about the dangers of gambling and providing information on available services can also empower individuals to seek help.

Creating a supportive and inclusive environment where young people feel comfortable discussing their concerns is essential. At a school level, it is helpful to work on fostering trust among Asian students by providing confidential support services and resources tailored to their cultural needs. This could involve offering culturally sensitive counselling services, providing information on gambling-related issues in Asian languages, and establishing hotlines or helplines where students can seek assistance anonymously. Interviewees in the study of Tse et al. (2007) highlighted the benefits of having a telephone hotline to better address the needs of Asian individuals and bridge service gaps. Given the cultural tendency to not readily share problems, telephone counselling was deemed more accessible and

preferable over face-to-face sessions. The proposed gambling hotline could offer easier access to support in various Asian languages by incorporating a button redirecting callers to counsellors fluent in their native languages. Additionally, there is an opportunity for mainstream services to assist Asian individuals who prefer not to engage with professionals from similar cultural backgrounds.

Leveraging cultural strengths

Asian culture offers strengths that can be harnessed to combat problem gambling. Family connectedness, respect, spirituality, and the stigma associated with gambling can serve as protective factors. Additionally, having familial responsibilities can motivate individuals to address gambling issues and reduce the inclination to gamble excessively (Sobrun-Maharaj et al., 2013). Arguably, schools can leverage Asian cultural strengths to support Asian students in combating problem gambling. Encouraging open communication between students and their families about gambling-related issues and promoting the importance of familial support can be beneficial. Additionally, integrating cultural values like filial piety and responsibility into prevention and intervention efforts can motivate students to address gambling problems and seek help when needed. By exploring how some Chinese international students with gambling issues successfully modified their behaviour, Li (2007) identified that key factors contributing to this change include a strong sense of filial piety and recognition of the significance of family.

Yu and Ma (2019) highlight a scarcity of preventive programmes targeting young people in Hong Kong, despite around 40% of problem gamblers having initiated gambling during adolescence or young adulthood. Consistently, the lack of evidence in the Aotearoa New Zealand context underscores the urgent need for greater attention and efforts directed towards addressing youth gambling problems. Similar to the findings in Hong Kong, existing prevention and intervention initiatives have not undergone systematic evaluation in Aotearoa New Zealand, leaving the effectiveness of culturally- and evidence-based interventions for Asian problem gamblers unclear. Therefore, there is a pressing need for further research and development of targeted interventions to combat youth gambling issues.

Key messages and learnings for Tūturu from Asian-focused literature

Key messages include that:

- Cultural and language differences, settlement stress, and social isolation may impact gambling behaviours within Asian communities in Aotearoa New Zealand.
- Asian individuals facing gambling problems encounter barriers that hinder their willingness to seek professional help, such as gambling-related stigma, and a lack of community support and awareness about available support services.
- Addressing problem gambling among Asians in Aotearoa New Zealand requires a comprehensive approach that considers individual, relational, and cultural factors.
- Asian culture offers strengths that can be harnessed to combat problem gambling.

Youth gambling research suggests the following could support Asian students:

- Find ways to normalise help-seeking behaviours, provide support groups for students, teach self-care and stress management.
- Integrate cultural values like filial piety and responsibility into messaging and curriculum materials.
- Strengthen collaboration between families and schools to prevent and identify problem gambling.
- Offer language support.
- Use culturally appropriate social media to promote support and services.

5. Gaming, gambling, and gamblification

This chapter explores the question, "How does problem gambling intersect with online gaming?"

Gaming and gambling are converging

Macey and Hamari (2022) describe how everyday life is increasingly becoming "gamified". Fuelled by the growth of online digital games, different forms of games are now an economic and cultural force across sectors such as entertainment, sports, media, and business. At the same time, gambling has become more acceptable and normalised in Western societies.

Gambling is a game of chance and one aspect of gamification is "gamblification". The term "gamblification" was coined in the late 2000s to describe the phenomena of gambling behaviours being inserted into new contexts. One early example was "the colonisation of sports and sporting cultures by the gambling industry" (Macey & Hamari, 2022, p. 1). Macey and Hamari (2022) define "gamblification" as:

> *the (increased) presence of gambling (or gambling-related content) in nongambling contexts in order to realise desired outcomes. It incorporates two main aspects: affective (employing cultural values/signifiers of gambling); and effective (employing gambling games and activities). (p. 10)*

More recently Macey et al. (2024) provided a shorter definition of gamblification as "the use of gambling as a tool to influence consumer decision-making" (p. 1). Gamblification has been criticised for its lack of transparency and consumer safeguards; however, it is not inherently problematic or exploitative. Gamblification has been used to encourage prosocial behaviours in areas such as vaccination campaigns and recycling, or to encourage people to reach personal goals (Macey et al., 2024).

Online gaming is increasingly being gamblified

Online gaming is a popular youth and adult pastime. Online games are viewed as having considerable persuasive power and the ability to influence behaviour. Gaming and gambling are increasingly converging, resulting in the increasing gamblification of online games (Macey & Hamari, 2022; Macey et al., 2024). Common forms of gamblification of online games include:

Affective gamblification

- Online games that use common gambling interfaces and imagery (e.g., online games that can be played on cellphones that look like pokies or a slot machine screen).

Effective gamblification

- "Loot boxes" are rewards you get when you achieve a level of a game. You don't know what is in the box. Instead of winning a box, you can buy one, but you also don't know what is in it (the uncertainty of what you are purchasing is one aspect of gambling).
- "Virtual goods" are items or virtual currency (such as gems or tokens) that can be purchased or won within a video game. They either improve your ability to win a level (e.g., an addition to a gun) or change the aesthetic of aspects of the game (e.g., the look of a weapon). A "skin" is one example of a virtual good.
- "Skins" are items you can acquire to change the look of your avatar or weapons in a game. Skins can be bought or acquired in a loot box. Skin gambling is the use of skins as a virtual currency that can be wagered in an attempt to gain better skins or bet on the outcome of professional e-sports matches or other games.[8] There are websites that are attached to games that enable different forms of skin gambling. There is little regulation of these websites and youth do not have to use a credit card for access. Commentators note that they could be seen as an under-age or backdoor casino.[9] Elliot and Guyader (2020) describe loot boxes as "a form of entrapment" (p. 86).

Loot boxes and skins can be problematic for youth as they may end up spending significant amounts of money acquiring them. The games use mechanisms that encourage addiction such as randomised rewards, where wins are delivered intermittently, as an effective way to get someone to repeat a behaviour (e.g., you may keep betting on loot boxes until you get the item you want). Peer pressure can also be an issue as youth can get bullied for not having more than the default skin. Regulation of loot boxes varies. Some countries see loot boxes as a form of gambling and have banned or regulated them while other countries have not (Macey & Hamari, 2022; Montiel et al., 2021).

Four systematic reviews solely or partially considered online gambling for youth (Giménez Lozano & Morales Rodríguez, 2022; Montiel et al., 2021; Richard & King, 2023; Throuvala et al., 2019). Other papers commented on aspects of online gambling (Delfabbro & King, 2023; Savolainen et al., 2020, 2021). Youth-related concerns about the gamblification of online games include:

- Gamblification exposes young people, who are not able to legally gamble via mechanisms such as casinos, to gambling-like content and behaviours. Because of their age young people may be less likely to be aware of the risks involved in gambling (Delfabbro & King, 2023).
- As adolescents have increased access to online forms of gambling, which can be easily accessed on cellphones or online (Giménez Lozano & Morales Rodríguez, 2022), this

[8] Skin gambling - Wikipedia

[9] https://www.youtube.com/watch?v=eMmNy11Mn7g&t=218s

makes them more vulnerable to increased engagement with more forms of gambling and activities with gambling-like features (Delfabbro & King, 2023).
- Adolescents are still cognitively developing and are more vulnerable in terms of engaging in risky and sensation-seeking activities. This makes youth more vulnerable to harms related to online gaming (Oh et al., 2017).

Youth, schools, and online gambling

Delfabbro and King (2023) summarised a range of studies that show that gamers who buy loot boxes or spend more money on them "tend to score higher on measures of problem gambling" (p. 495). They note that some research suggests that early exposure to gamblified activities (such as loot boxes) can result in youth setting up patterns or behaviours that make them vulnerable to later commercial gambling. Thus, the use of loot boxes and skin gambling may be functioning as a "gateway" to more serious problem gambling behaviours and harms (Delfabbro & King, 2023). Delfabbro and King consider there is a need for more education about the convergence of gaming and online gambling.

Aotearoa New Zealand schools are concerned about the impact of students' online behaviour, however NZCER national survey data (Alansari et al., 2023) show that just under two-thirds of the secondary school principals who responded agreed they had school-wide plans for exploring the healthy use of digital devices and the impact of social media on wellbeing.

In a school context, Giménez Lozano and Morales Rodríguez (2022) note there is no common educational prevention framework that aims to minimise youth problem gambling. They see the prevention of gambling, including online gambling, as located within the wider umbrella of AoD addiction support with a common objective of avoiding or delaying behaviours given the developmental vulnerability of youth.

From a review on the emergence of problem gambling from childhood, which also focused on online forms of gambling, Richard and King (2023) offered a range of policy and practice recommendations mostly aimed at schools and the education sector. They suggest a comprehensive risk-reduction approach is needed that could include:

- early identification and intervention for youth with high intensity technology usage and emotional or cognitive vulnerabilities
- universal population-based initiatives that include engagement with educators, clinicians, parents, and youth about online gambling
- universal education for young people that focuses on effective communication about technology use; understanding the symptoms and warning signs of problem gambling; and strategies for self-monitoring, use of digital self-monitoring or wellbeing tools, and seeking help
- environmental regulation of aspects of video games that market to youth and aim to mitigate "gamblification" and the addictive aspects of video games.

Regulation is needed to protect youth from online gambling

The increase of gamblification of online games raises considerable ethical concerns, particularly for vulnerable populations such as young people and others who may be at risk (Macey & Hamari, 2022). Macey and Hamari note these concerns are compounded by the way gamblification may not be visible to users or may appear in new services or locations.

The need to protect youth through actions such as consistent regulation and restriction of advertising across these new forms of online gamblification is mentioned by a range of authors (Akçayır et al., 2023; Delfabbro & King, 2023; Macey et al., 2024). Delfabbro and King (2023) note that the rapid pace of change and the convergence of gaming and gambling poses substantial regulatory challenges.

Given the variety of contexts in which gamblification might be present, Macey et al. (2024) consider tools are needed that allow gamblification to be identified and investigated as a mechanism to set the scene for work that can protect vulnerable populations such as youth. They have developed a comprehensive framework and scales to assist in assessing the framework components.

Issues in researching online gambling

Gamblification research is an emerging field, and the online world is changing fast. For these reasons, it is hard for research to keep up with the pace of change, particularly in the area of gamblification of the online games commonly played by youth. Researchers suggest a number of research focuses that could be further developed including the need for:

- consistent terminology that better defines youth problem online gambling and its component parts (Montiel et al., 2021). As noted by Montiel et al., some countries see loot boxes as an aspect of online gambling and others do not. In an Aotearoa New Zealand context, the Youth'19 Smart Survey asked students:

  > *… Have you ever gambled or bet precious things or money on any of these activities? Instant Kiwi (scratchies), Lotto (including Strike, Powerball and Big Wednesday), Pub or club (pokies), A casino (e.g. roulette, pokies), TAB betting (e.g. on track racing or sports), Games and gambling on a cell/mobile phone for money or prizes (e.g. txt games),* ***Gambling on the Internet for money or prizes (e.g. internet casinos or poker),*** *Bets with friends or family, Cards or coin games (e.g. poker), None of these. (Archer et al., 2021, p. 2, emphasis added)*

  Only 1.7% of youth who responded to the Youth'19 survey reported they engaged in gambling on the internet for money or prizes. We wondered whether adding questions that included examples of online behaviours that youth might not perceive as gambling may have changed these statistics?
- better assessment and diagnostic tools specifically for adolescents that indicate the presence of problem gambling (Montiel et al., 2021). For example, in the Aotearoa

New Zealand context, as mentioned earlier, youth gambling and online gaming and gambling do not appear to have much of a presence in one of the main diagnostic tools used in secondary schools (the HEeADSSS assessment).

- more research that looks beyond online gaming to include a fuller range of gambling-like or gambling modalities (Richard & King, 2023).

Key messages and learnings for Tūturu

As with youth problem gambling, the intersection of gaming and gambling appears to be an under the radar public health issue. Findings from this section suggest a need for:

- more awareness raising for students, parents and whānau, teachers, and school leaders about the link between online gaming and gambling (and the potential harms for young people)
- building youth's ability to think critically about gamblification. This area could be a good topic for a social sciences or media studies curriculum unit. This unit could look at the challenges (e.g., such as the targeting of vulnerable youth via online games) as well as the affordances (e.g., encouraging prosocial behaviours such as taking part in recycling or vaccination campaigns or working towards personal goals)
- better assessment tools for schools that assist them to identify students who need extra support to address online gaming and gambling that has become problematic.

Systems-focused advocacy and collaboration

The link between early online gaming behaviours and later adult problem gambling suggests a need for advocacy and regulation in this space. For NZDF and Tūturu, this system-focused work could include:

- working with school leader groups and communities to raise awareness about the under the radar nature of problem gambling, that gambling can be one of youth first "risky behaviours", and the link between online behaviours and gaming; for example, via school leader groups such as the New Zealand Principals' Federation (NZPF) or Te Whakarōputanga Kaitiaki Kura o Aotearoa (formerly School Trustees' Association)
- working with HEeADSSS providers to include gambling and online gaming questions in assessments or providing suggestions that schools could use for assessments
- working with groups such as Netsafe to ensure consistency of messages about promoting youth critical thinking about gamblification
- working with Youth2000 researchers and other longitudinal study teams (e.g., Growing up in New Zealand) to ensure consistency in defining online gambling and ensure questions about online gaming feature in questions about gambling behaviours and contain the most up-to-date types of online gambling (e.g., features like loot boxes, skin gambling, and simulated gambling)
- advocating for wider regulation of youth online gaming and the use of frameworks that identify gamblification to enhance consumer protection.

6. Exploring risk and protective factors

This chapter explores the question, "What can we learn from literature about youth gambling risk and protective factors?" A socioecological lens is used to explore what is known about individual, social, organisational, and environmental/community risk and protective factors relating to youth problem gambling. Four papers specifically addressed risk and protective factors:

- an analysis of Aotearoa New Zealand Youth'12 survey data by Rossen et al. (2016)
- a systematic review on early risk and protective factors by Dowling et al. (2017)
- a systematic review on the association between gambling-like activities and problem gambling by Richard and King (2023)
- a review of educational gambling programmes addressing risk and protective factors by Oh et al. (2017).

A range of other studies also identified risk and protective factors for youth. Table 1 below summarises the main risk and protective factors identified and locates them in one level (e.g., individual, social, organisational, or environmental). To assign a level to each factor we used the authors' categorisations. If the authors did not categorise factors by level, we located each factor in its place of best fit. Aotearoa New Zealand evidence is highlighted in blue.

Rossen et al. (2016) used regression modelling to identify problem gambling risk and protective factors from Youth'12 survey data. As these data were cross-sectional, the authors noted it was difficult to disentangle cause and effect. For instance, gambling may be related to an existing mental health issue such as depression, *or* problem gambling might contribute to an existing depression. Youth'12 data showed a connection between unhealthy gambling, other risky behaviours, and mental health issues. Therefore, Rossen et al. emphasised the need for problem gambling to be considered alongside other health and wellbeing issues.

Given the influence of family on youth gambling, Rossen et al. (2016) also emphasise the need for ecological approaches that take into account the impact of peers, parents and whānau, and society. Their findings also suggest a need for additional targeted assessment and support for youth most "at risk".

Dowling et al. (2017) conducted a systematic review on longitudinal studies that looked at early risk and protective factors related to problem gambling. They explored data relating to three age groups: childhood (0–12 years); adolescence (13–17 years); and young adults (18–25 years). A total of 15 studies met their criteria, one of which was the Dunedin Longitudinal Study. They used a range of analyses which identified three protective factors and 13 individual risk factors, one relationship risk factor, and one community-level risk factor.

Dowling et al. (2017) noted that most studies concentrated on identifying risk factors rather than protective factors, and this was one reason they were only able to identify three protective factors. Overall, they found insufficient evidence of protective factors that could guide prevention initiatives, and concluded there is a need for more exploration of protective factors particularly at a relationship, community, and societal level.

Richard and King (2023) conducted a systematic review to explore the emergence of problem gambling from childhood to emerging adulthood. They also included a focus on the impact of emerging technologies on youth problem gambling. This review included 45 articles from 41 cross-sectional or longitudinal studies (including the Youth'12 study). Richard and King noted that prior studies indicate that engagement in technology-mediated gambling or gambling-like activities increases during adolescence and emerging adulthood, and thus increases risks for vulnerable youth. To build on these studies, Richard and King examined the association between problem gambling and child and youth engagement in gambling-like activities (such as video game loot boxes) and/or novel forms of gambling (e.g., e-sports betting). They also looked for interactions with psychopathology, cognitive processes, and demographic factors. They concluded that:

- gambling and gambling-like behaviours using emerging technologies are associated with problem gambling
- longitudinal evidence is mixed as to whether these behaviours are predictive of problem gambling
- some emotional or cognitive vulnerabilities increase the risk of problem gambling symptoms.

Richard and King (2023) concluded that a comprehensive risk-reduction approach aimed at young people is needed.

From a review of 17 studies, Oh et al. (2017) concluded that evidence-based approaches tended to be developed in two main ways. One approach aimed to address the determinants of problem gambling; that is, risk factors. This approach was relatively common in the literature we reviewed. Oh et al. found that risk factor approaches tend to concentrate on determinants such as addressing erroneous misconceptions and beliefs about gambling. However, problem gambling can also be related to emotional vulnerabilities and family, culture, and societal influences. For this reason, it would be hard to develop an approach that targets all of these areas, and some may not be relevant to each individual. Oh et al. suggest there is a need to focus more on the second approach; building protective factors through positive youth development. However, more work is needed in this space to identify key protective factors.

Table 1 Youth gambling vulnerabilities and risk and protective factors (by level)

More vulnerable youth	***Less vulnerable***
Demographics • Males* (Rossen et al., 2016; Dowling et al., 2017; Richard & King, 2023) • Students from Māori, Pacific, and Asian communities (Rossen et al., 2016) • Same/both sex or not sure attracted youth (Rossen et al., 2016)	
Risk factors	***Protective factors***
Level: Individual	
Attitudes and cognitive factors • Having more accepting attitudes to gambling (Rossen et al., 2016) • A perception of a "much worse" future (Brolin Låftman et al., 2020) • Gambling-specific cognitive distortions (e.g., beliefs about ability or illusions of control) (Oh et al., 2017; Richard & King, 2023) **Behaviours** • Recent specific acts of gambling (Rossen et al., 2016); higher level of gambling or severity of gambling (Dowling et al., 2017) • Increased involvement in activities with gambling-like features (e.g., online gaming loot boxes) or novel forms of gambling (e.g., e-sports betting) (Richard & King, 2023) • Involvement in other risky substance-related behaviours (e.g., weekly alcohol or smoking) (Rossen et al., 2016); Use of illicit drugs, cannabis, alcohol, tobacco (Dowling et al., 2017) • Antisocial behaviours (e.g., theft) (Dowling et al., 2017) • Impulsivity, sensation seeking (Dowling et al., 2017); impulsivity, risk taking (Richard & King, 2023) • Violence (Dowling et al., 2017) **School and learning** • Truancy (Rossen et al., 2016) • Poor academic performance (Dowling et al., 2017) **Emotional health and wellbeing** • Being worried about gambling and/or trying to cut down (Rossen et al., 2016) • Attempting suicide in last 12 months (Rossen et al., 2016) • Witnessing violence or being a victim of violence or bullying (Rossen et al., 2016) • Depressive symptoms (Dowling et al., 2017) • Emotional vulnerabilities (Oh et al., 2017; Richard & King, 2023)	**Emotional health and wellbeing** • Good wellbeing (Rossen et al., 2016)
Level: Social (Peer relationships)	
• Internet use and online gaming (Rossen et al., 2016) • Strong belonging to online social media community (Savolainen et al., 2020)	• Low levels of social problems (Dowling et al., 2017)
Level: Social (Family)	
• Family vulnerability (arguments, bills not paid, dishonest acts) (Rossen et al., 2016)	• Family connectedness (Rossen et al., 2016) • Parental supervision (Dowling et al., 2017) • Higher socioeconomic status (Dowling et al., 2017)

Level: Organisational (School)	
	Curriculum skill learning • Problem solving, decision making, coping skills (Oh et al., 2017) **Access to support/counselling** • Peer social support networks (Oh et al., 2017)
Level: Environmental (Community, culture, and society)	
• Living in very high deprivation or urban neighbourhoods (Rossen et al., 2016)	
**BLUE text denotes findings solely from Aotearoa New Zealand studies. Both Dowling et al. (2017) and Richard and King (2023) included one Aotearoa New Zealand study.*	

From a socioecological perspective, many of the identified risk factors are at an individual level, and a few relate to other levels (social and environmental). Across studies there is commonality in many of the risk factors. There are gambling- and gaming-specific risk factors, but also generic risk and protective factors that are evident in relation to other health and wellbeing issues (e.g., family connectedness as a protective factor).

All papers suggested there is a need to screen and support youth with high vulnerability and risk profiles. Given the existence of generic risk and protective factors, Rossen et al. (2016) emphasise the need for problem gambling screening to be considered alongside other health and wellbeing issues. This finding is consistent with one of the foundations of positive youth development; that is, many youth issues are influenced by similar risk and protective factors, therefore approaches that aim to address common risk factors and build common protective factors is likely to be more useful than a single-issue approach (Catalano et al., 2002). The existence of risk or protective factors across all levels (individual, social, organisational, and environmental) suggests the need for ecological approaches to youth gambling that take into account the impact of peers, parents and whānau, schools, and society.

Fewer studies explored protective factors, particularly at the school level. Therefore, there is less information to inform the design of preventative school-based approaches. Most researchers suggest there is a need for more studies on risk and protective factors (Dowling et al., 2017; Richard & King, 2023; Rossen et al., 2016; St-Pierre & Derevensky, 2016).

Key messages and learnings for Tūturu

These analyses of problem gambling risk and protective factors indicate that more work is needed to identify protective factors that can inform the development of school-based approaches. The mix of factors that influence problem gambling is complex and is likely to vary depending on the individual and their environmental influences. Given these caveats,

learnings for Tūturu could include a need for more focus on generic and specific gambling-related support that aim to mitigate risk factors.

Generic and universal support:

- Risk minimisation approaches to youth gambling need to consider the social and cultural environment within which youth are situated. These approaches could include universal education that takes into account the influence of peers, educators, parents and whānau, and society.

Specific targeted support:

- Problem gambling is best considered alongside other health and wellbeing issues, with targeted assessment and support for youth who are most likely to be vulnerable to problem gambling as well as other health, wellbeing, and educational issues.
- Schools may require support to assist them to identify and support youth with high vulnerabilities such as those who have high intensity technology usage and emotional or cognitive vulnerabilities.

Ngā kōrero whakakapi | Summing up

This summary chapter explores the question, “Overall, what can Tūturu learn from the youth gambling literature?”

Youth gambling research is emergent and fast-moving

Research into youth gambling is an emerging field that does not have the same research or public health profile as other areas such as AoD use. Combined with this lower profile, forms of gambling behaviour are rapidly changing with the advent of new technologies. The authors featured in this review identified a wide range of study design tensions and methodological challenges in international programme evaluations. Therefore, there is a need to tread carefully when interpreting findings. Some authors suggest there is a need to innovate based on what is currently known about the components of school-based initiatives that are associated with better outcomes. Although the literature summarised in this review is complex, some tentative conclusions we can draw are that:

- the mix of factors that influence problem gambling are broad and include individual, social (peer and family), organisational (e.g., school), and environmental (community, culture, and society) risk and protective factors
- individuals and communities can have different motivations and types of gambling behaviours; therefore, there is a need to individualise approaches
- early behaviours such as online forms of gambling can lead to later harms
- the social context is key as peers, family, and culture influence youth behaviour and attitudes.

Many researchers conclude there are gaps in knowledge in terms of youth problem gambling. Two main areas that require more research are:

- best practice in the prevention of youth problem gambling
- protective factors that could inform the design of school-based approaches. To date, most research has concentrated on identifying risk factors and only a few protective factors have been identified. There is need for more exploration of protective factors across all possible layers: individual, social, organisational, and environmental.

Youth gambling is an early form of “risky behaviour”

Studies suggest that gambling is one of the first potentially risky activities that children engage in before AoD use or sexual activity. Studies also show that early gambling behaviours can lead to later harms. In the online space, early exposure to gamblified activities (such as loot boxes) can result in young people setting up patterns or behaviours that make them vulnerable to later commercial gambling. A concern is expressed in the literature that young people are increasingly being exposed to gambling behaviours, but may not have the critical thinking skills needed to help them evaluate risks and make good decisions that maintain their wellbeing.

Youth problem gambling is an under the radar area

Gambling behaviours surround youth, and many youth engage in some form of gambling behaviour. Gambling can be both positive and negative for youth. Problem gambling is not common for Aotearoa New Zealand youth (Archer et al., 2021; Rossen et al., 2016). However, for these few young people who could be called “problem gamblers”, these behaviours can lead to significant harm.

Although studies suggest that gambling is one of the first risky activities that children engage in, findings from this review suggest that youth problem gambling is not always on the radar for teachers, pastoral teams, parents and whānau, or peers. One reason for this is that risks from other activities such as AoD use are more widely known. Another is that some forms of gambling (such as that which occurs online) can be hidden from view.

Researchers suggest there is a need to raise awareness in schools and communities about the impact of youth gambling as teachers, parents, and youth may not recognise when youth gambling is becoming problematic. One area of awareness raising relates to the increasing gamblification of online gaming. This gamblification exposes young people, who are not able to legally gamble, to gambling content and behaviours. Adolescents have easy access to unregulated and online forms of gambling. Researchers suggest this makes them more vulnerable as they are still developing cognitively and more likely to engage in risk taking.

International studies show that youth tend not to seek help for problem gambling, and effective support may not be available. Therefore, they suggest better screening tools are needed to more effectively identify vulnerable youth who could be offered support (Rossen et al., 2016; St-Pierre & Derevensky, 2016). Overall, researchers consider youth gambling is a significant public health issue given the wide range of harms with which it is associated.

Avoid one-size-fits-all and culture-free approaches

St-Pierre and Derevensky (2016) note the variety of factors that influence youth problem gambling suggests a need to individualise approaches for youth. Similarly, Akçayır et al. (2023) suggest we need to develop harm minimisation strategies that account for personal, cultural, and regional factors.

Aotearoa New Zealand and international research shows that males, gender diverse youth, and students from lower income and Māori, Pacific, and Asian communities are more vulnerable to problem gambling.

Cultural influences are highlighted in Chapter 4 of this review which summarises Māori, Pacific, and Asian perspectives on gambling. This chapter alerts us to the unique cultural contexts underpinning gambling motivations and behaviours. Some implications for NZDF and schools include the need:

- for schools to consider their community and design approaches to suit their needs (e.g., if a school has a significant number of Asian international students one approach could be to design peer support groups that address gambling behaviours and support the development of social connections)
- to consider a range of cultural and collective values when designing curriculum approaches (as opposed to focusing on Western values and individual motivations)
- to support youth to think critically about the benefits as well as the harms to themselves and their communities that gambling is associated with
- to consider the different ways youth from a range of cultures and groups might gamble and ensure these are represented in any information or resources about gambling behaviours
- to consider how to draw on cultural strengths and include families, communities, and social structures like marae and churches in school-related work around gambling.

Tiered and sustained support for youth is needed in schools

Most Aotearoa New Zealand problem gambling research and evaluation concentrates on adult populations; therefore, we looked to the international literature for findings about school-based initiatives. Many international school-based initiatives include multiple components. However, there was inconclusive evidence about which components are the most effective. Summing up the international evidence, researchers consider that, as problem gambling is an under the radar behaviour that is influenced by many factors, there is a need to innovate and for schools to be proactive in offering multifaceted harm minimisation approaches. These approaches need to be holistic, avoid the use of “fear tactics”, and address known risk factors as well as build generic protective factors. Commonly suggested components of a multifaceted approach include:

- a universal curriculum approach for all students that starts with younger children, and includes sustained learning (not one-off sessions) (see section below)
- screening of all students to enable early identification and intervention for vulnerable youth (given that studies show youth are not likely to seek support for problem gambling and are not likely to be aware of the options available to them, and parents and whānau and teachers may not be aware of these behaviours)
- small-group peer support for students identified as needing support
- web-based and self-monitoring support
- specialist support for the most vulnerable students who are experiencing harm from problem gambling behaviours.

Curriculum opportunities have widened over time

The literature suggested a range of ways youth gambling could be incorporated into the curriculum to promote critical thinking and build students' SEL skills and capabilities. In early school-based initiatives, mathematics was the most frequently mentioned learning area and the focus was primarily on:

- mathematics and statistics approaches that aimed to encourage understanding of, and critical thinking about, gambling behaviours through exploring mathematical concepts related to gambling such as odds, chance, and probability. One facet of this work often also included identifying unrealistic beliefs about gambling that are commonly held by problem gamblers and the use of mathematics concepts to show how these beliefs are inaccurate.

Over time the focus on mathematics concepts has broadened and more recent approaches span a wider range of curriculum areas. One reason for this shift is likely to be study findings that indicated there was little evidence that mathematical education by itself led to changes in behaviour. Currently, critical thinking and building SEL capabilities appear to be the main learning focus. The range of curriculum opportunities now include:

- Mathematics and financial literacy: Encourage critical thinking about the wider impacts of problem gambling, and build financial literacy capabilities through combined mathematical, financial literacy, and citizenship education.
- Social sciences and media studies:
    - Support youth to think critically about how colonisation has contributed to a range of harms for Māori which include problem gambling
    - Build youth's ability to think critically about gamblification through exploring challenges (e.g., such as the targeting of vulnerable youth via online games) as well as affordances (e.g., encouraging prosocial behaviours such as taking part in recycling or vaccination campaigns or working towards personal goals).
- Media studies: Build students' ability to engage in critical thinking through an exploration of gambling advertising.

- Health and PE (note that, in this learning area, many SEL capabilities are protective for a range of wellbeing issues). Common focuses for health learning include:
    - raising awareness about problem gambling and the intersection with online gaming as a health and wellbeing issue
    - building students' SEL skills and capabilities including: self- management and monitoring behaviours; help-seeking and coping skills; and problem solving and good decision making across a range of contexts that include gambling behaviours
    - focusing on peer strategies for avoiding peer pressure.

Effective learning experiences could offer support for teachers and be designed in ways that:

- are relevant to the age and developmental stage of students
- build on the cultural strengths and values of students at the school
- use engaging and interactive approaches that make use of technologies
- involve peers and families (given the social context of gambling behaviours)
- enable adaptation to individuals and each school's unique setting and community
- include a range of different contexts for gambling behaviours that are relevant to the range of groups that make up the school community.

The expertise of youth can be harnessed

One principle of positive youth development is that young people are key partners who have expertise that can be harnessed. The literature suggested several ways of including young people in the design and delivery of problem gambling approaches, including youth:

- designing messaging about gambling that is likely to resonate with their peers (this could be at a school or national level)
- contributing to peer support groups or other supports that aim to create a stronger social support network for vulnerable youth (this suggestion was particularly evident in the literature that refers to Māori, Pacific, and Asian communities)
- being involved in the design or review of learning experiences. Gambling can be a social behaviour; therefore, involving students in the design of learning experiences could harness their knowledge of their social world, particularly in the online space.

School-based approaches are only one focus

Findings from this review suggest that school-based approaches are only one part of a coherent public health response to youth gambling (Monreal-Bartolomé et al., 2023; Richard & King, 2023; Rossen et al., 2016; St-Pierre & Derevensky, 2016). Researchers are clear that school and youth preventative approaches need to sit alongside regulations that restrict youth availability and access to gambling products and venues. A particular need for regulation was identified for online forms of gambling including those found in online games.

Youth are easily able to access these games and they are less regulated in comparison to more traditional forms of gambling. As well as the need for regulation, the findings from the literature suggest there is a range of systems-focused collaborations that could build shared understandings about youth problem gambling such as working with school-based health services and HEeADSSS providers to ensure gambling- and gaming-related concerns are more visible in HEeADSSS assessments for youth.

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HE KUPU TAKA | List of terms and abbreviations

Abbreviation	Full text or explanation
AoD	Alcohol and other drugs
Gamblification	The use of gambling-like features in activities like online games
Gamify	The use of elements of game playing (e.g., point scoring, competition, rules of play) to a new context where these elements are not usually included
Health and PE/HPE	Health and Physical Education (a learning area in *The New Zealand Curriculum*)
Loot box	Rewards you get when you achieve a level of an online game
NCEA	National Certificate of Educational Achievement (a senior secondary school qualification structure)
NZCER	New Zealand Council for Educational Research
NZDF	New Zealand Drug Foundation
PYD	Positive Youth Development
SEL	Social and emotional learning
Skin	A "virtual good" that can be purchased or won within an online video game (e.g., an addition to a gun; something that changes the aesthetic aspect of the game such as a new costume for your avatar)
Taiohi Māori	Māori teenager
Talanoa	Talanoa ("talk" or "discussion" in Fijian, Samoan, and Tongan) is a Pacific form of dialogue that brings people together to share views without predetermined expectations for agreement
Targeted prevention	Programmes and approaches targeted towards individuals or groups who are known to be "at risk"
Te Whakarōputanga Kaitiaki Kura o Aotearoa	A group that represents New Zealand school boards (formerly the New Zealand School Trustees Association)
Universal prevention	Programmes and approaches aimed at raising awareness and skills for a whole population (e.g., all students at a school or selected year groups)
Youth	Young people aged 12 to 24 years (New Zealand age range)
WSA	Whole School Approach

Āpitihanga A | Appendix A Search strategies

The main focus topic for this review was "school-based approaches to youth gambling". Within this overall topic, a number of areas were selected which are covered in the chapters in this review.

We used the following criteria to refine the search:

- a **key word** focus on "gambling", "school"
- a **population** focus on "youth" ("teen*", "taiohi", "adolescen*", "student", "rangatahi")
- a **date range** of 2010 to 2024
- international literature in the form of **overviews/systematic reviews/meta-analyses** and individual studies
- **seminal studies** (these may have a wider date range than 2010 to 2024)
- individual studies from **Aotearoa New Zealand** with a focus on te ao Māori, Pacific, and Asian literature and approaches. We also focused on school-related **Australian literature** and include some "grey literature" in the form of documents from websites.

Our librarians searched databases including EBSCO, EDResearch, ERIC, Google Scholar, INNZ, PsychInfo (EBSCO), and Te Puna Search. The following search terms were used:

- gambling*youth*overview/literature review/systematic review/meta-analysis
- youth*gambling like behaviours/gamblification
- gambling*youth*schools*curriculum/school-based intervention/prevention
- gambling*youth*decision making/critical thinking
- gambling*youth*Māori
- gambling*youth*Pacific/Tongan/Samoan/Pasifika
- gambling*youth*Asian.

We also searched Google Scholar and followed up on some literature cited in key documents.

The librarians also searched selected relevant journals or journal special issues that focus on the selected topic including:

- *Journal of Gambling Studies*
- *Journal of Mental Health Addiction*
- *International Journal of Adolescence and Youth*
- *Journal of Prevention*.

All references were entered in Zotero, an online referencing system.