

Impact of changes to Electronic Gaming Machine characteristics on play behaviour of Recreational Gamblers

August 2009

DEPARTMENT
OF JUSTICE


Victoria
The Place To Be

This study on the State of Victoria has been conducted under “Taking Action on Problem Gambling: A strategy for combating problem gaming in Victoria” which was announced in October 2006. This five-year strategy includes a commitment to improving consumer protection. Action Area 7, which deals with fostering gambling research states that the Government “...will begin to build an integrated knowledge base on how gambling and problem gambling sit in the broader social and cultural context”. This means that the government will investigate whether measures taken to protect vulnerable communities, impact on the consumer’s right to engage freely in a legitimate recreational activity.

The purpose of this study therefore is to examine the attitudes and likely behaviours of recreational EGM players to hypothetical changes in EGM design and other related policy changes.

Author	Sarah Hare of Schottler Consulting Pty Ltd
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Office of Gaming and Racing
P.O.Box 18055 Collins Street East
Melbourne VIC 8003
Tel: 03 8684 1910
Fax: 03 8684 1900
Email: GamingandRacingEnquiries@justice.vic.gov.au

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Impact of changes to EGM characteristics on play behaviour of recreational gamblers

Prepared by:

Schottler Consulting Pty Ltd
Level 23, 127 Creek Street Brisbane 4000

For:

Office of Gaming and Racing,
Department of Justice, State of Victoria

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Executive summary

Purpose

The purpose of this study was to examine the attitudes and likely behaviours of recreational EGM players to hypothetical changes to EGM design and other related policy changes. For the purpose of the study, non-problem gamblers and low risk gamblers were classified as 'recreational gamblers'.

The study involved a Computer Aided Telephone (CATI) Survey of N=1000 EGM players. This included N=500 non-problem and low risk gamblers from the epidemiological study database and N=500 EGM players randomly sampled through Random Digit Dialling (RDD). The 'left over' numbers from the epidemiological study were used to generate the RDD sample of N=500 to avoid recontacting EGM players who had already participated in either the recent Epidemiological or Market Segmentation studies. A copy of the survey instrument used in the study is presented in Appendix A - Survey instrument on page 87.

Screening for problem gambling

All respondents in the study were screened for problem gambling using the nine-item Canadian Problem Gambling Severity Index (PGSI). In the case of respondents from the epidemiological study panel, screening had already occurred and data was imported into the study. In the case of RDD respondents, all EGM players were screened using the nine-item PGSI.

In total, the survey was approximately 22 minutes at completion. Approximately 1500 non-problem and low risk EGM players from the Epidemiological study were contacted to yield 500 completed interviews for the sample that came from the epidemiological panel. Research was conducted late November to December 2008 (with field completion just prior to Christmas 2008).

Sample

Sampling in the study was designed to ensure that results are representative of Electronic Gaming Machine (EGM) players in the Victorian population. The overall confidence interval for the full sample of N=1000 was +/- 2.57% (assuming roughly that 22% of Victorian adults play EGMs).

This implies that we can be 95% confident that the population results fall within a margin of error plus or minus 2.57%. This implies that results are quite representative of the real population of EGM players across Victoria.

Confidence intervals are presented in Table 1 and have been based on known proportions of each gambling risk segment in the Victorian community. The end survey sample obtained through the research included 703 non-problem gamblers, 192 low risk gamblers, 80 moderate risk gamblers and 25 problem gamblers.

Table 1. Margins of error in sampling across EGM gambling risk segments

Segment	Sample size in survey (N)	Confidence intervals (95% confidence level)
Non-problem gamblers	703	3.55%
Low Risk gamblers	192	3.36%
Moderate Risk gamblers	80	3.07%
Problem gamblers	25	3.90%
Total sample	1000	2.57%

For the purpose of sampling, 'recreational' gamblers were defined as 'non-problem' and 'low risk' gamblers. However, upon review of results, it was apparent that there were considerable differences between non-problem and low risk gamblers.

For this reason, following discussion with OGR, a decision was made to present results by all PGSI risk segments, rather than combining non-problem and low risk gamblers. Overall themes, however, are interpreted for both groups where apparent.

KEY FINDINGS OF THE RECREATIONAL PLAYER STUDY

Factors influencing EGM play frequency

Findings highlighted that the factors most likely to affect EGM play frequency for recreational gamblers (ie. **non-problem** and **low risk gamblers**) included:

Recreational segments	Factors that had LARGEST impact in decreasing EGM play frequency	How other factors impacted EGM play frequency
Non-problem gamblers	<ul style="list-style-type: none"> • pokies not awarding free spins (1.4) • pokies not awarding features (1.4) • features being awarded, but not being linked to winning money (1.5) • alcohol restrictions during EGM play (1.6) • a single, rather than multiple pay lines (1.6) • having to ask for EFTPOS withdrawals (1.7) • 50 lines maximum (1.7) 	<p><i>No impact</i></p> <ul style="list-style-type: none"> • Being required to set your own expenditure limit before starting to play the pokies (2.0) • If you had to wait 3 seconds between button presses (2.0) <p><i>Slight decrease</i></p> <ul style="list-style-type: none"> • Only being required to set a limit if spending above a certain amount (1.9) • If venues sensitively approached any pokies players if they suspected problem gambling (1.9) • If you received a visual warning for every 30 minutes you spent on the pokies (1.9) • Being able to only access linked jackpots across a small number of poker machines(1.9) • If you could only put in a maximum of a \$10 note in the pokies (1.9) • If there was no double up or gamble button available during pokies play (1.9) • If you could only put in a maximum of a \$20 note in the pokies (1.9) • If the maximum lines was set to 25 lines(1.9)
Low risk gamblers	<ul style="list-style-type: none"> • If pokies no longer awarded free spins at all (1.2) • If pokies no longer awarded features at all (1.3) • If features were awarded, but were for entertainment and not linked to money (1.4) • Not being able to drink alcohol at all while playing the pokies (1.6) • If there was only a single pay line for winning rather than multiple pay lines (1.6) • Having to ask a cashier for an EFTPOS withdrawal every time you needed to access to cash (1.6) • If the number of lines was set to 50 lines maximum (1.6) • If there was information on the pokies screen that told you your nett loss in a single session (1.6) 	<p><i>No impact</i></p> <ul style="list-style-type: none"> • Being required to set your own expenditure limit before starting to play the pokies (2) • If you had to wait 3 seconds between button presses (2) <p><i>Slight increase</i></p> <ul style="list-style-type: none"> • no measures were identified <p><i>Decreasing enjoyment</i></p> <ul style="list-style-type: none"> • If you had to wait 4 seconds between button presses (1.9) • If the maximum was a single credit bet per line (1.9) • Being able to only access linked jackpots across a small number of poker machines (1.9) • If you could only put in a maximum of a \$10 note in the pokies (1.9) • If there was no double up or gamble button available during pokies play (1.9) • If you could only put in a maximum of a \$20 note in the pokies (1.9) • If the maximum lines was set to 25 lines (1.9)

Factors influencing EGM session length

Findings highlighted that the factors most likely to affect EGM session length for recreational gamblers (ie. **non-problem gamblers** and **low risk gamblers**) included:

Recreational segments	Factors that had LARGEST negative impact on EGM session length	How other factors impacted EGM session length
Non-problem gamblers	<ul style="list-style-type: none"> If pokies no longer awarded free spins at all (1.4) If pokies no longer awarded features at all (1.5) If features were awarded, but they were for entertainment only and not linked to winning money (1.5) Not being able to drink alcohol at all while playing the pokies (1.6) 	<p><i>No impact</i></p> <ul style="list-style-type: none"> If you had to wait 3 seconds between button presses (2.0) If you had to wait 5 seconds between button presses (2.0) <p><i>Slight decrease</i></p> <ul style="list-style-type: none"> Having to wait 24 hours before being able to change your pokies expenditure limit (1.9) If you received a visual warning for every 30 minutes you spent on the pokies (1.9) Having to take a 20 minute compulsory break every 2 hours (1.9) ONLY being required to set a limit if wanted expenditure to go above a certain amount (1.9) Being able to only access linked jackpots across a small number of poker machines (1.9) Being required to set your own expenditure limit before starting to play the pokies (1.9) If you could only put in a maximum of a \$10 note in the pokies (1.9) If you could only put in a maximum of a \$20 note in the pokies (1.9) If you had to wait 4 seconds between button presses (1.9) If the maximum lines was set to 25 lines (1.9) If there was no double up or gamble button available during pokies play (1.9)
Low risk gamblers	<ul style="list-style-type: none"> If pokies no longer awarded free spins at all (1.3) If pokies no longer awarded features at all (1.4) If features were awarded, but they were for entertainment only and not linked to winning money (1.4) Not being able to drink alcohol at all while playing the pokies (1.6) If the number of lines was set to 50 lines maximum (1.6) Having to ask a cashier for an EFTPOS withdrawal every time you needed to access to cash (1.6) If there was information on the pokies screen that told you your nett loss in a single session (1.6) 	<p><i>No impact</i></p> <ul style="list-style-type: none"> If you had to wait 4 seconds between button presses (2.0) If you had to wait 3 seconds between button presses (2.0) If you had to wait 5 seconds between button presses (2.0) <p><i>Slight decrease</i></p> <ul style="list-style-type: none"> If the maximum was a single credit bet per line (1.9) ONLY being required to set a limit if wanted expenditure to go above a certain amount (1.9) If you could only put in a maximum of a \$10 note in the pokies (1.9) If you could only put in a maximum of a \$20 note in the pokies (1.9) If the maximum lines was set to 25 lines (1.9) If there was no double up or gamble button available during pokies play (1.9)

Factors influencing EGM spending

Findings highlighted that the factors most likely to affect EGM play spending for recreational gamblers (ie. **non-problem gamblers** and **low risk gamblers**) included:

Recreational segments	Factors that had LARGEST negative impact on EGM spending	How other factors impacted EGM spending
Non-problem gamblers	<ul style="list-style-type: none"> If pokies no longer awarded features at all (1.5) If features were awarded, but they were for entertainment and not linked to money (1.5) If pokies no longer awarded free spins at all (1.5) Not being able to drink alcohol at all while playing the pokies (1.7) If there was only a single pay line for winning on the pokies rather than multiple pay lines (1.7) 	<p><i>Slight decrease</i></p> <ul style="list-style-type: none"> If you received a visual warning for every 30 minutes you spent on the pokies (1.9) Having to take a 20 minute compulsory break from the pokies after every 2 hours of play (1.9) Having to wait 24 hours before being able to change your pokies expenditure limit (1.9) If venues sensitively approached any pokies players if they suspected problem gambling (1.9) If you could only put in a maximum of a \$10 note in the pokies (1.9) If the maximum was 10 credits bet per line (1.9) Being required to set your own expenditure limit before starting to play the pokies (1.9) If the number of lines was set to 50 lines maximum (1.9) Being able to only access linked jackpots across a small number of poker machines (1.9) ONLY being required to set a limit if you want expenditure to go above a certain amount (1.9) If the maximum lines was set to 25 lines (1.9) If there was no double up or gamble button available during pokies play (1.9) If you could only put in a maximum of a \$20 note in the pokies (1.9) If you had to wait 3 seconds between button presses (1.9)
Low risk gamblers	<ul style="list-style-type: none"> If pokies no longer awarded free spins at all (1.3) If pokies no longer awarded features at all (1.4) If features were awarded, but they were for entertainment and not linked to money (1.4) Not being able to drink alcohol at all while playing the pokies (1.6) If there was only a single pay line for winning on the pokies rather than multiple pay lines (1.6) Having to ask a cashier for an EFTPOS withdrawal every time you needed to access to cash (1.6) If there was information on the pokies screen that told you your nett loss in a single session (1.6) 	<p><i>Slight decrease</i></p> <ul style="list-style-type: none"> If the maximum was 10 credits bet per line (1.9) Being able to only access linked jackpots across a small number of poker machines (1.9) ONLY being required to set a limit if you want expenditure to go above a certain amount (1.9) If the maximum lines was set to 25 lines (1.9) If there was no double up or gamble button available during pokies play (1.9) If you could only put in a maximum of a \$20 note in the pokies (1.9) If you had to wait 3 seconds between button presses (1.9)

Factors influencing EGM play enjoyment

Findings highlighted that the factors most likely to affect EGM play enjoyment for recreational gamblers (ie. **non-problem** and **low risk gamblers**) included:

Recreational segments	Factors that had LARGEST negative impact on EGM play enjoyment	How other factors impacted EGM play enjoyment
Non-problem gamblers	<ul style="list-style-type: none"> If pokies no longer awarded free spins at all (1.3) If pokies no longer awarded features at all (1.4) If features were awarded, but they were for entertainment and not linked to money (1.4) Not being able to drink alcohol at all while playing the pokies (1.6) If there was only a single pay line for winning on the pokies rather than multiple pay lines (1.7) 	<p><i>No impact</i></p> <ul style="list-style-type: none"> If you had to wait 3 seconds between button presses (2.0) If the maximum lines was set to 25 lines (2.0) <p><i>Slight decrease</i></p> <ul style="list-style-type: none"> Having to wait 24 hours before being able to change your pokies expenditure limit (1.9) If venues sensitively approached any pokies players if they suspected problem gambling(1.9) ONLY being required to set limit if you want your expenditure to go above a certain amount (1.9) Having to take a 20 minute compulsory break from the pokies after every 2 hours of play (1.9) If you could only put in coins into the pokies (1.9) Being able to only access linked jackpots across a small number of poker machines (1.9) If there was no double up or gamble button available during pokies play (1.9) If you received a visual warning for every 30 minutes you spent on the pokies (1.9) Being required to set your own expenditure limit before starting to play the pokies(1.9) If you could only put in a maximum of a \$10 note in the pokies (1.9) If you could only put in a maximum of a \$20 note in the pokies (1.9)
Low risk gamblers	<ul style="list-style-type: none"> If pokies no longer awarded free spins at all (1.3) If pokies no longer awarded features at all (1.3) If features were awarded, but they were for entertainment and not linked to money (1.4) Not being able to drink alcohol at all while playing the pokies (1.6) If there was only a single pay line for winning on the pokies rather than multiple pay lines (1.6) 	<p><i>Stayed same</i></p> <ul style="list-style-type: none"> If you could only put in a maximum of a \$20 note in the pokies (2.0) If you had to wait 3 seconds between button presses (2.0) Being required to set your own expenditure limit before starting to play the pokies (2.0) <p><i>Slight decrease</i></p> <ul style="list-style-type: none"> Having to wait 24 hours before being able to change your pokies expenditure limit (1.9) If you could only put in coins into the pokies (1.9) Being able to only access linked jackpots across a small number of poker machines (1.9) If there was no double up or gamble button available during pokies play (1.9) Having to take a 20 minute compulsory break from the pokies after every 2 hours of play (1.9) If the maximum lines was set to 25 lines (1.9) If you could only put in a maximum of a \$10 note in the pokies (1.9)

Comparative trends

Other notable comparisons were also observed between the 'recreational' gambling groups and the problem gambling risk segment. Specific results for problem gamblers for additional policy interest are also explored in more detail in Appendix B - Other interesting findings relating to the problem gambler risk segment. Some interesting top line themes included:

- while 86% of non-problem gamblers and 75% of low risk gamblers felt that they would not be affected by not having ATMs in venues, this was only the view of 51% of problem gamblers (*ie. recreational gamblers are less affected*)
- 60% of non-problem gamblers and 59% of low risk gamblers saw that 1-2 EFTPOS withdrawals was reasonable if no ATMs were in venues for access to cash, however, 39% of problem gamblers wanted 5 or more withdrawals per day (*ie. recreational gamblers generally have a lower need for EFTPOS withdrawals*)
- non-problem gamblers thought it would be reasonable to require a limit at an average daily EGM spend of over \$67 (while low risk gamblers thought \$52 was a reasonable figure for commencing a limit). However, the same figure for problem gamblers was \$248 (*ie. recreational gamblers are likely to require lower EGM expenditure limits*)
- 51% of non-problem gamblers, 58% of low risk gamblers and 74% of problem gamblers were aware of player information displays (*ie. recreational gamblers are less aware of Player Information Displays than problem gamblers*)
- only 7% of non-problem gamblers and 8% of low-risk gamblers - compared to 35% of problem gamblers - believed that the new EGMs with touch sensitive screens encouraged them to spend significantly more (*ie. recreational gamblers are less 'encouraged' to spend money when using touchscreens, compared to problem gamblers*)
- only 35% of non-problem gamblers and 44% of low risk gamblers played all lines per spin compared to 66% of problem gamblers (*ie. recreational gamblers are less likely to play all EGM lines per spin, compared to problem gamblers*)

DISCUSSION OF FINDINGS WITH POLICY RELEVANCE

Findings of future policy interest

Features/free spins/alcohol. Findings of research with recreational gamblers suggest that features, free spins and alcohol consumption during play are fundamental in the recreational gambler EGM play experience and have significant potential to negatively impact consumer behaviour, if removed from play. Findings also show that these similarly hold great value to the higher risk segments.

This highlights that future policy changes which alter the fundamental characteristics of EGM design have great potential to affect the overall gaming experience and make EGMs less attractive to ALL players. This presents a very unsustainable commercial position for venues, given that features/free spins and alcohol are fundamental parts of a venue's product offering to consumer markets. Similar to the results above, recreational players were generally also quite against having only a single pay line on EGMs, a further indication that this is an important 'core' characteristic of the EGM play experience.

Expenditure limits. From a recreational gambler perspective, it is also quite apparent that the new policy decision of compulsory limits during play is not likely to adversely impact the gaming experience of recreational gamblers, as most indicate that this would only very marginally affect their play. Similarly, the same applies to the concept of having a compulsory set limit past a certain expenditure point - this was not seen as major issue for recreational gamblers and hardly affected play enjoyment.

EFTPOS withdrawals and ATM removal. Along a further current policy dimension, findings of the current research show that there may be a slight reaction of recreational gamblers to having to use EFTPOS for cash withdrawals, although based on the research, this is not likely to prove to be a major obstacle. In fact, given that 86% of non-problem gamblers and 75% of low risk gamblers thought ATM removal would have no impact on their play enjoyment, this is a reasonable indication that such a measure is fairly acceptable to the recreational player market. Most are also quite comfortable with limited EFTPOS withdrawals.

Reel spins. In relation to reel spins, there was an overarching theme for 'small changes' such as increasing reel spins to three seconds per spin (from the current 2.13 seconds) to not overly impact recreational gamblers in any major way. It is also notable that both groups - non-problem and low risk gamblers - did not feel that 3 second reel spins would at all impact their play enjoyment (with both rating 2.0 to indicate 'no change'). However, as reel spins increased in length, there was a very slight tendency for recreational gamblers to report slightly more of an impact on their play behaviour - although still only a small impact overall. It should be noted, however, that it is very difficult to assess consumer experiences with reel spins and that real-life trials of alternative reel spin speeds would be necessary to adequately assess impacts. Nevertheless, it does suggest that this would be worth trialling in future research in a real-world setting. In particular, it would be interesting to understand the precise point at which play becomes less satisfying from a reel spin perspective.

Changes to lines of play. Changing lines of play is also an interesting area for policy exploration. Findings generally suggest that changing lines to 50 lines maximum will affect recreational play more than changing lines to 25 lines maximum. While the reason for this is somewhat unclear, there seems to be an indication that recreational players would decrease frequency of play more with 50 lines, simply because of the fear that they may spend more. Although when their predicted play spending is viewed, it shows a similar impact on expenditure for both 25 and 50 lines. Accordingly, in future research, it would be interesting to ask players to give a rationale for their reported play behaviours and further investigate this result.

Credits per line. As far as changes to credit betting per line are concerned, the overall trend was for most changes to only very marginally impact the play behaviour of recreational gamblers. This was particularly the case for limiting bets to a single credit - it only marginally seemed to affect play behaviour. This could be a useful future area for policy consideration, given the known risk of multi-credit bets to problem gamblers. From this perspective, there is some evidence to suggest that a single credit limitation would not overly impact the recreational play experience, whilst provide some benefit and protection to problem gamblers. This would also be supported by the trend for problem gamblers to INCREASE their bets, if 10 credit bets were the maximum available.

Limiting access to linked jackpots. The concept of having linked jackpots on only certain gaming machines is also an interesting area for future policy exploration. While evidence relating to 'capping' is still very unclear (eg. limiting access to EGMs more generally), the benefit of having limited linked jackpots to allow venues to view 'at-risk' players in certain parts of a venue may offer some harm-minimisation benefits. This could also be worth exploring as the gaming industry moves towards card-based gaming and increasing identification of 'at-risk' gambling in venues. For instance, as recreational players do not seem overly affected by limited linked jackpot machines, such machines could form a point of visible 'focus' for venue managers to identify early signs of problem gambling. This would of course be based on the assumption that problem gamblers are highly attracted to linked jackpot EGMs.

Limits on note acceptors. Findings of the research highlight some policy value in exploring the idea of reducing notes accepted by gaming machines, given that recreational gamblers generally report very limited impacts of such changes. In particular, limiting note acceptors to \$20 or \$10 maximum appears to be very acceptable and while even the impact of coins is somewhat larger, there is still not a great indication that it overly impacts the recreational gambler play experience. However, the policy value of such a change also needs to be considered in the context of player convenience and inflation, which may eventually make it untenable to use small notes or coins. Similarly, as other jurisdictions move towards card and cashless gaming as a delivery mechanism for precommitment, the concept of any note acceptors may eventually become untenable.

Breaks in play. Findings show that recreational gamblers are similarly not significantly affected by a compulsory 20 minute break in play, nor find that this adversely affects their enjoyment of gaming. This is arguably because most recreational gamblers would not play for such a length of time. From a policy perspective, however, such a measure may be difficult for venues to easily enforce without a technology such as card-based gaming. There may also be concern about litigation if players are left to play with a break and subsequently lose a large sum of money. However, with card-based technologies, such a measure is much easier to monitor and hence could be considered in a future policy environment where precommitment card technologies are available.

Responsible gambling measures and messaging. Perhaps one of the most interesting findings of the current study is that responsible gambling measures and messaging don't seem to have an overly negative impact on recreational players. However, this contrasts significantly with a much higher impact on problem gamblers. Accordingly, from a policy viewpoint, this would be a worthy area for future consideration, given that most recreational players would not be negatively impacted. In fact, there appears to be high merit in measures such as on-screen warnings (eg. think of what you are really gambling with), a diagnostic survey to identify problem gambling and on-screen displays of nett loss. The concept of having venues approach players 'sensitively' if problem gambling is suspected is also worth considering, given that this measure does not affect the recreational player market. In contrast, however, it does seem to have a very positive effect on higher risk segments and particularly problem gamblers. While such a measure is challenging for venues from an implementation perspective, a non-regulatory measure for Government to 'encourage and support' such a practice may be worthy of future exploration.

Conclusion

In conclusion, findings of the recreational player study clearly highlight that most changes to EGM design have a negligible impact on non-problem and low risk gamblers as 'recreational' EGM players. However, it is apparent that the impact on low risk gamblers of most measures is generally higher and this highlights the need to continue to view low risk gamblers as an 'at-risk' gambling segment. In many respects, this also challenges the assumption that low risk gamblers are 'recreational players'.

Indeed, as apparent in reviewing research findings, there were often differences between non-problem and low risk players in their reactions to EGM design characteristics and larger differences were apparent in relation to certain design features. Particularly worthy of mention is the difference between non-problem and low risk gamblers in relation to (removal of) free spins, as it was quite apparent that low risk gamblers would decrease their spending on EGMs more if free spins were no longer awarded (compared to non-problem gamblers). This may suggest that free spins, while a 'fun' feature of EGM play, are also a design feature which are more admired by higher risk segments.

Indirectly, this also highlights the need to consider other findings of research pertaining to higher risk segments, given that group comparisons often provide the greatest insight into the effects of EGM design. For instance, a review of problem gambler findings (see final section of the report), clearly highlights the value of responsible gambling features in the context of EGM play as potential harm-minimisation measures and also shows that implementation of such measures is likely to have a limited impact on the non-problem gambler segment (but a slightly higher impact on all at-risk gamblers - including low risk gamblers).

It is similarly interesting that even measures such as having to use EFTPOS for access to cash and on-screen display of nett loss have a larger impact on lower risk gamblers than non-problem gamblers. In this respect, there may be a set of 'EGM characteristics' that hold the answer to understanding why 'at-risk' segments exhibit higher risk play behaviour:

This would undoubtedly be the most interesting area for future research and would require a real-life evaluation to ensure that study findings are relevant to real gaming situations. This may involve negotiating access with a venue and establishing a small number of 'trial' gaming machines for players to evaluate with associated research evaluation. Based on findings of the current study, some research issues for future 'in-venue' exploration could include:

- further examining EGM design characteristics that lead to continued play in higher-risk gamblers, compared to recreational gamblers - including identification of underlying mechanisms (ie. how this occurs)
- exploring the types of responsible gambling messaging that could be incorporated into EGM design to have the most impact on higher-risk players and to encourage continued responsible gambling in non-problem gamblers (eg. which messages and how should they be displayed?)
- exploring the type of information that gamblers generally would find useful to allow informed decisions about gambling expenditure limits (including how such information should be presented and what type of information) - this is now particularly relevant in the context of precommitment
- exploring whether slowing of reel spin speed would have a protective effect on higher risk gamblers in a real-world situation (given its negligible effect on recreational players)
- research to identify algorithms to target 'at-risk' gambling behaviours in the context of future technologies which allow precommitment
- identification of EGM design factors which generally have the greatest potential to migrate people from a 'no risk' or 'low risk' category to a higher risk status (and underlying mechanisms).

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