防範青少年沉迷賭博

問卷調查2023

The research on the participation in gambling of Macau adolescent 2023

主辦單位

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防範青少年沉迷賭博問卷調查2023

THE RESEARCH ON THE PARTICIPATION IN GAMBLING OF MACAU ADOLESCENTS 2023

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報告摘要

受鮑思高青年服務網絡委託，澳門理工大學北京大學醫學部——澳門理工大學護理書院就有關澳門青少年參與博彩活動及沉迷賭博情況進行問卷調查，並與該機構過往同類型研究數據進行對比分析，為預防及干預本澳青少年於沉迷賭博行為上之服務提出建議。

是次研究以橫斷面式問卷調查方式進行，問卷調查透過鮑思高青年服務網絡「自由 Teen 地」舉辦的「預防青少年沉迷賭博專題日營」，向報名活動的學校在讀學生，發放紙本問卷，經工作人員向學生解釋問卷調查目的及問卷內容後，讓學生匿名填寫。

調查研究於 2023 年 7 月至 12 月期間進行，合共派發 923 份問卷，成功回收 915 份，回收率為 99.1%。經數據分析後，調查結果摘要如下：

1. 合共9間學校參與是次調查研究，學生年齡介乎12至19歲，就讀高一至高二。受訪學生的平均年齡為15.39 ± 0.886歲；性別方面以男性居多，佔總受訪學生 60.6%，比例與過往同類型活動情況相若。

2. 在受訪學生中，有515位、約56.3%的學生表示在過去十二個月內曾參與至少一項的博彩活動或具博彩性質的遊戲，其中以參與「遊戲化」形式的「夾公仔機」、以及「幸運博彩類」的「撲克牌 (例如21 點、鬥地主、鋤大 Dee)」及「麻雀」耍樂佔比最多，各佔36.7%、 20.0%及19.7%。

3. 約56.7%受訪學生表示，其家人在過去十二個月內曾參與至少一項的博彩活動或具博彩性質的遊戲，其中以曾參與「幸運博彩類」的「麻雀」耍樂和「撲克牌 (例如21點、鬥地主、鋤大Dee)」及「六合彩」佔比最多，各佔 23.0%及13.4%。另外，亦有 15.4%的家人曾參與「遊戲化」形式的「夾公仔機」。約78%的受訪學生認為「家人的賭博情況」不嚴重。

4. 約有 33.3%曾參與博彩活動的受訪學生表示，其「首次參與博彩活 動」的年齡約為 12-14 歲，亦有約 27.8%的受訪學生在年齡約 9-11 歲時便曾參與博彩活動。

5.大部份曾參與博彩行為的受訪學生表示，其「首次參與博彩活動」的動機是出於「娛樂」心態(約72.5%)，其次則為「朋輩間社交活動」(31.2%)。通常陪伴他們參與博彩活動的是「同學」及「朋友」，各佔31.3%及12.7%。

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6. 在過去一年內，受訪學生表示，他們大多數(65.4%)平均每個月花「少於一小時」於涉及金錢的博彩活動上。而這些關於參與博彩活動的花費上，則有88.3%受訪學生回應他們平均每個月花約澳門幣500圓以內在博彩活動上；他們花費在博彩活動的金錢來自「零用錢」(71.0%)、「家人提供」(76.5%)及「個人儲蓄」(32.2%)。

7. 曾參與博彩活動的受訪學生表示，當家人知悉他們參與賭博活動時，大部分都是「沒太大反應」(77.8%)，只有約16.8%及5.3%的受訪學生表示家人會「勸他們少賭」或「要他們戒賭」。

8. 在受訪學生的家庭狀況方面，大部份受訪學生的父母處於「婚姻關係」中，佔79.8%。他們的父親及母親曾接受教育的程度以「中學水平」為主，分別佔45.3%及46.4%。工作狀況以在職具多，分別佔77.7%及70.2%。

9. 在家庭功能評分方面，受訪學生感受到其所處家庭的關懷度評分平均值為4.95±3.312，處於「中度家庭功能障礙水平」。各細項評分平均值為0.81±7.8 – 1.14±7.85，受訪學生對於來自家庭對其自身的支援與融洽度等狀況偏差。

10. 在賭博失調方面，絕大部份受訪學生未見出現失控的博彩行為，以DSM-5賭博失調標準分析，總體平均分為0.67±1.173。唯仍有約3.2%受訪學生的回應是反映他們有中度至嚴重的賭博失調情況。

11. 二元羅吉斯迴歸分析顯示，受訪學生在博彩活動上的耗時、曾參與特定的博彩活動、家人對其參與博彩活動的反應、以及其首次參與博彩活動的原因，均對其是否有機會發展成為博彩失調具一定的負面影響力，這些風險較使他們提高約3%-9%出現博彩失調問題的風險。

綜上所述，針對預防澳門青少年參與博彩活動及沉迷賭博的方向，可以加強以家庭為基礎和學校為基礎的教育計劃，專注於財務責任和正確的博彩態度。並且持續監測和研究，以更新預防策略。

一. 研究背景及目的

在過去三十年間，不少研究揭示了青少年首次接觸賭博的年齡，以及賭博行為與性別、家庭生活質量、風險行為等社會人口學特徵之間的關聯。其中，男性青少年在心理、社會和經濟方面的負性後果方面顯著高於女性，指出了性別在青少年賭博問題中的重要性(Livazović & Bojčić, 2019)。近年的研究逐漸揭示了家庭和社會環境對青少年賭博行為的深刻影響。McComb和Sabiston（2010）的文獻綜述指出，家庭社會經濟狀態、家庭氣氛、家庭成員的賭博態度與行為、父母的教養方式以及家庭關係特質都與青少年的賭博行為緊密相關。Gupta和Derevensky（1997）通過調查發現，絕大多數定期參與賭博的青少年都曾與家人一起賭博，顯示了家庭在形成賭博行為中的模仿作用。Vegni等（2019）的橫斷面研究進一步探討了義大利青少年中賭博行為與個體或生態因素之間的關係，強調了在預防措施設計時考慮這一特定群體的必要性。這些研究共同強調了在防治青少年賭博問題時，需要重視家庭和社會環境的作用，為制定有效的預防策略提供了理論基礎。

澳門特別行政區作為全球合法博彩城市之一，於去年，澳門博彩總收入為801.63億澳門元（約99.66億美元），較同期美國拉斯維加斯博彩總收入75億美元約高三分之一，重返全球最賺錢賭城寶座(澳門力報，2023)。儘管澳門的旅遊博彩業正在增長，並可能對青少年產生潛在影響，但我們對澳門青少年的博彩行為的全面理解卻很欠缺。

受鮑思高青年服務網絡委託，澳門理工大學北京大學醫學部——澳門理工大學護理書院就有關澳門青少年參與博彩行為及沉迷賭博情況進行問卷調查，並與該機構過往同類型研究數據進行對比分析，為預防及干預本澳青少年於沉迷賭博行為上之服務以實證為本提出建議。具體研究目標包括：

1. 探討澳門青少年對參與博彩行為上的認知、參與度及參與博彩行為的類型；
2. 探討影響澳門青少年參與博彩行為及賭博失調的相關因素，包括社會人口學特徵、朋輩狀況、以及家庭功能等；
3. 與本地、鄰近地區及其他合法推廣博彩活動的城市的研究結果進行對比；
4. 對預防及干預本澳青少年於沉迷賭博行為上之服務以實證為本提出建議。

二. 研究設計

2.1 調查背景

這次問卷調查是透過鮑思高青年服務網絡「自由Teen地」舉辦的「預防青少年沉迷賭博專題服務計劃2023」內進行，讓活動由「澳門社會工作局」資助。負責帶領該活動進行的鮑思高青年服務網絡同工，會分批安排學生或會員參加預防沉迷賭博主題的訓練營。內容除了讓青年人認識沉迷賭博的原因和禍害，還會介紹朋輩間拒絕賭博的技巧，務求讓受訪者的「對抗沉迷賭博」能力能有所提升。營會中會利用問卷讓受訪者作出自我評估，以了解他們對賭博的認知，並讓他們思考賭博是否對自己和家人構成影響。

2.2 調查方法及日期

是次研究於2023年7月至12月期間以橫斷面式問卷調查方式進行，問卷調查透過鮑思高青年服務網絡「自由Teen地」舉辦的「預防青少年沉迷賭博專題日營」，向報名活動的學校在讀學生，發放紙本問卷，經工作人員向學生解釋問卷調查目的及問卷內容後，讓學生匿名填寫。

2.3 調查工具及問卷內容

是次調查的問卷包括三個主要部份。

第一部分是受訪學生及其家人的參與博彩活動的情況，包括曾參與博彩活動的類別、首次參與博彩活動的年齡及原因、陪同參與博彩活動的對象、參與涉及金錢的博彩活動資金來源、花費在涉及金錢的博彩活動的時間與經濟支出、以及其家人知悉其參與博彩活動時的回應等。

第二部分是關於受訪學生的家庭及經濟狀況，包括父母的婚姻、教育水平及工作狀況、家庭每月總收入、以及受訪學生對其家庭功能的主觀感受。

在家庭功能評估方面，本研究使用由Smilkstein博士在1978年開發的The Family APGAR家庭功能評估表，該評估表以測量家庭系統中的五個重要功能維度，包括適應度、合作度、成長度、情感度、融洽度，以評估家庭對受訪者在應對生活變遷和挑戰時的韌性及支援能力。The Family APGAR家庭功能評估表共有五條問題，每條問題均以0-2分Likert量表評分法進行測量，分數越高代表該項功能越好。各條目的分數加總後，總分為0-10分。

經驗證性因素分析顯示，以總分得分為7-10分表示家庭功能無障礙、總分數4-6分表示中度家庭功能障礙、總分數0-3分表示有重度家庭功能不足(Campo-Arias, & Caballero-Domínguez, 2021)。The Family APGAR家庭功能評估表各條目間的相關係數為0.61-0.71，Cronbach's alpha 是0.84；自填及受訪的可信度分別為0.86及0.81，反映該量表在反映受訪者對其家庭功能評估方面有良好的可信度及穩定性 (Bellón Saameño, Delgado Sánchez, Luna del Castillo, & Lardelli Claret, 1996)。

最後一部分是有關受訪學生在博彩失調表現上的評估，此部分根據DSM-5 (The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders; 精神疾病診斷與統計手冊第五版) 和DSM-5-TR (The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, Text Revision; 精神疾病診斷與統計手冊第五版, 修訂版) 中對博彩失調定性為強迫性行為之一，是潛在成癮行為的表現。本研究按有關博彩失調的診斷標準進行提問，受訪者在過去12個月內，如持續且經常性地在九個基本特徵中回應有四個或以上的陽性表現，將被界定為博彩失調(American Psychiatric Association, 2022)。在臨床診斷中，如受訪者在回應中有4-5項特徵為陽性，會被定義為輕度博彩失調、6-7項陽性為中度博彩失調、8-9項為嚴重賭博失調。此外，九個基本特徵中的首六項與受訪者對博彩的「自控與依賴」問題相關，最後三項與博彩對受訪者造成的「負面影響」相關。

2.4 問卷收集及數據統計分析

在每次活動結束後，所有已發出的問卷均會由工作人員進行回收，封存後直接送往研究員處進行數據輸入及數據清理。在檢查遺漏值、異常值和一致性錯誤，確保後續分析的質量後，研究員針對基本人口統計資料和其他變數，進行描述性統計分析（如平均值、標準差、頻率和百分比）以概述樣本特徵。接著，為了探索變數間的關聯，可以運用皮爾森相關分析（Pearson correlation）來分析連續變數之間的相關性。在比較不同組別（如性別、年齡組）在某些指標上的差異時，t檢驗或ANOVA（變異數分析）被使用於兩個或多個獨立樣本的比較。

最後，對於類別變數之間的相關性分析(如有沒有發生賭博失調問題、不同程度的家庭功能障礙對賭博失調發生率的影響等)，則以卡方檢驗（Chi-square test）和邏輯回歸分析（Logistic regression）檢驗變數間的獨立性和預測二元結果變數的機率。

上述統計分析均通過IBM® SPSS Statistics 26.0 for Windows進行。

三. 研究結果

是次研究合共9間學校參與，共派發923份問卷，成功回收915份，回收率為99.1%。經數據分析後，調查結果如下：

3.1 受訪者的個人基本資料

是次調查研究的受訪學生年齡介乎12至19歲，年齡中位數為15歲，平均年齡為15.39 ± 0.886歲。 性別方面以男性居多，佔總受訪學生60.7%(詳見表1.)。

表 1. 受訪者的年齡組別與性別分佈情況

年齡 (歲)	男	女	總計
	n (%)	n (%)	n (%)
14或以下	50 (67.7)	24 (34.3)	74 (8.4)
15	298 (62.1)	182 (37.9)	480 (54.7)
16	128 (53.1)	111 (46.1)	241 (27.4)
17	35 (61.4)	22 (38.6)	57 (6.5)
18或以上	20 (76.9)	6 (23.1)	26 (3.0)
總計 N(%)	531 (60.7)	345 (39.3)	878 (100.0)

3.2曾參與博彩活動情況

3.2.1 受訪學生在過去十二個月內曾參與博彩活動情況

在受訪學生中，有515位、約56.3%的學生表示在過去十二個月內曾參與至少一項的博彩活動或具博彩性質的遊戲，其中以參與「幸運博彩」類的「撲克牌(例如21點、鬥地主、鋤大Dee)」及「麻雀」耍樂佔比最多，各佔20.0%及19.7%。而「遊戲化」形式的博彩活動「夾公仔機」亦佔36.7%。以性別區分，有超過43.7%的女性受訪學生曾參與「夾公仔機」活動，其次是「麻雀」耍樂及「撲克牌 (例如21點、鬥地主、鋤大Dee)」，有約19.3%曾參與；而男性受訪學生同樣以參與「夾公仔機」活動為最多，有約32.3%回應曾參與，其次為「撲克牌 (例如21點、鬥地主、鋤大Dee)」及「麻雀」耍樂，分別有20.3%及19.8%。其次，所有曾參與博彩活動的受訪學生中，曾參與「賭波(例如足球、籃球)」的亦分別有5.3%(詳見表2.)。

表2. 受訪學生在過去十二個月內曾參與博彩活動或具博彩性質的遊戲情況 (多選)

項目	男 n (%)	女 n (%)	總計 n (%)
賭馬/賭狗	1 (0.1)	1 (0.2)	2 (0.2)
即發彩票	30 (5.1)	19 (4.4)	49 (4.8)
賭波(例如足球、籃球)	44 (7.5)	10 (2.3)	54 (5.3)
白鴿票	1 (0.1)	0 (0.0)	1 (0.1)
角子老虎機	4 (0.7)	1 (0.2)	5 (0.5)
六合彩	37 (6.3)	12 (2.8)	49 (4.8)
麻雀	117 (19.8)	84 (19.3)	201 (19.6)
撲克牌 (例如21點、鬥地主、鋤大Dee)	120 (20.3)	84 (19.3)	204 (19.9)
網上賭博	16 (2.7)	13 (3.0)	29 (2.7)
捕魚機(具博彩性質的遊戲)	30 (5.1)	21 (4.8)	51 (5.0)
夾公仔機(具博彩性質的遊戲)	191 (32.3)	190 (43.7)	381 (37.1)
總計 N(%)	591 (57.6)	435 (42.4)	1026 (100.0)

3.2.2 受訪學生反映其家人在過去十二個月內曾參與的博彩活動情況

約56.7%受訪學生表示，其家人在過去十二個月內曾參與至少一項的博彩活動或具博彩性質的遊戲，其中以參與「幸運博彩」類的「麻雀」耍樂、「六合彩」、「撲克牌 (例如21點、鬥地主、鋤大Dee)」、及「遊戲化」形式的「夾公仔機」佔比最多，各佔23.0%、15.4% 及13.4% (詳見表3.)。約78%的受訪學生認為「家人的賭博情況」不嚴重。

表3. 受訪學生反映其家人在過去十二個月內曾參與博彩活動情況 (多選)

博彩項目	總計 n (%)
賭馬/賭狗	33 (2.6)
即發彩票	75 (6.0)
賭波(例如足球、籃球)	126 (10.0)
進入賭場/幸運博彩(如百家樂、牌九、輪盤)	110 (8.8)
白鴿票	11 (0.9)
角子老虎機	42 (3.3)
六合彩	194 (15.4)
麻雀	289 (23.0)
撲克牌 (例如21點、鬥地主、鋤大Dee)	168 (13.4)
網上賭博	22 (1.8)
捕魚機(具博彩性質的遊戲)	19 (1.5)
夾公仔機(具博彩性質的遊戲)	168 (13.4)
總計 N (%)	1257 (100.0)

3.2.3 受訪學生「首次」參與博彩活動的年齡

約有33.3%曾參與博彩活動的受訪學生表示，其「首次參與博彩活動」的年齡約為12-14歲，亦有約27.8%的受訪學生在年齡約9-11歲時便曾參與博彩活動(詳見表4.)。

表4. 受訪學生「首次」參與博彩活動的年齡

年齡 (歲)	男	女	總計
	n (%)	n (%)	n (%)
5歲或以下	29 (9.0)	12 (5.0)	41 (7.3)
6 - 8	53 (16.6)	55 (22.9)	108 (19.3)
9 - 11	82 (25.5)	74 (30.8)	156 (27.8)
12 - 14	111 (34.6)	76 (31.7)	187 (33.3)
15 - 18	46 (14.3)	23 (9.6)	69 (12.3)
總計 N(%)	321 (57.2)	240 (42.8)	561 (100.0)

3.2.4 受訪學生「首次」參與博彩活動的原因

大部份曾參與博彩行為的受訪學生表示，其「首次參與博彩活動」的動機是出於「娛樂」心態(約72.5%)，其次則為「朋輩間社交活動」(31.2%)及「協助父母投注」(12.7%) (詳見表5.)。

表5. 受訪學生「首次」參與博彩活動的原因 (多選)

理由	男	女	總計
	n (%)	n (%)	n (%)
個人投注	29 (4.9)	13 (2.2)	42 (7.1)
協助父母投注	54 (9.1)	21 (3.5)	75 (12.7)
朋輩間社交活動	104 (17.6)	80 (13.5)	184 (31.1)
想賺錢	28 (4.7)	6 (1.0)	34 (5.7)
娛樂	234 (39.5)	196 (33.1)	428 (72.6)
總計 N(%)	347 (58.6)	245 (41.4)	590 (100.0)

3.2.5 參與博彩活動時的伙伴

通常陪伴他們參與博彩活動的是「家人」及「朋友」，各佔61.4%及57.1% (詳見表6.)。

表6. 受訪學生在參與博彩活動時的伙伴 (多選)

伙伴	男	女	總計
	n (%)	n (%)	n (%)
家人	182 (32.1)	166 (29.3)	348 (61.4)
朋友	175 (30.9)	149 (26.3)	324 (57.1)
同學	98 (17.3)	53 (9.3)	151 (26.6)
自己	90 (15.9)	64 (11.3)	154 (27.2)
總計 N(%)	325 (57.3)	242 (42.7)	567 (100.0)

3.2.6 受訪學生花費在「涉及金錢」的博彩活動上時間與金錢開支

在過去一年內，受訪學生表示，他們大多數(65.4%)平均每個月花「少於一小時」於涉及金錢的博彩活動上 (詳見表7.)。而這些關於參與博彩活動的花費上，則有88.3%受訪學生回應他們平均每個月花約澳門幣500圓以內在博彩活動上 (詳見表8.)；他們花費在博彩活動的金錢來自「零用錢」(71.1%)、「家人提供」(46.7%)及「個人儲蓄」(32.0%) (詳見表9.)。

表7. 受訪學生花費在「涉及金錢」的博彩活動上時間

耗時(小時)	男	女	總計
	n (%)	n (%)	n (%)
一1小時以下	157 (62.8)	132 (68.8)	289 (65.4)
1月5日	78 (31.2)	45 (23.4)	123 (27.8)
6月10日	11 (4.4)	5 (2.6)	16 (3.6)
11月15日	2 (0.8)	5 (2.6)	7 (1.6)
15小時或以上	2 (0.8)	5 (2.6)	7 (1.6)
總計 N(%)	250 (56.6)	192 (43.4)	442 (100.0)

表8. 受訪學生花費在「涉及金錢」的博彩活動上金額

耗費(澳門元)	男 n (%)	女 n (%)	總計 n (%)
1-500	207 (87.0)	163 (90.1)	370 (88.3)
501-1000	19 (8.0)	14 (7.7)	33 (7.9)
1001-3000	7 (2.9)	2 (1.1)	9 (2.1)
3001-10000	5 (2.1)	2 (1.1)	7 (1.7)
總計 N(%)	238 (56.8)	181 (43.2)	419 (100.0)

表9. 受訪學生花費在「涉及金錢」博彩活動的賭本來源(多選)

賭本來源	男 n (%)	女 n (%)	總計 n (%)
零用錢	183 (37.8)	161 (33.3)	344 (71.1)
家人提供	113 (23.3)	113 (23.3)	226 (46.7)
個人儲蓄	93 (19.2)	62 (12.8)	155 (32.0)
兼職的工資	21 (4.3)	13 (2.7)	34 (7.0)
向別人借	2 (0.4)	0 (0.0)	2 (0.4)
總計 N(%)	273 (56.4)	211 (43.6)	484 (100.0)

3.2.7 受訪學生反映其家人得知其參與博彩活動時的反應

曾參與博彩活動的受訪學生表示，當家人知悉他們參與賭博活動時，大部分都是「沒太大反應」(77.9%)，只有約16.7%及5.2%的受訪學生表示家人會「勸他們少賭」或「要他們戒賭」(詳見表10.)。

表10. 受訪學生反映其家人得知其參與博彩活動時的反應(多選)

家人反應	男	女	總計
	n (%)	n (%)	n (%)
要我戒賭	21 (4.2)	5 (1.0)	26 (5.2)
勸我少賭	51 (10.3)	32 (6.4)	83 (16.7)
給我鼓勵	14 (2.8)	16 (3.2)	30 (6.0)
沒太大反應	212 (42.7)	175 (35.2)	387 (77.9)
擔心我輸錢	20 (4.0)	14 (2.8)	34 (6.8)
參入賭本	8 (1.6)	7 (1.4)	15 (3.0)
避而不談	8 (1.6)	3 (0.6)	11 (2.2)
總計 N(%)	287 (57.7)	210 (42.3)	497 (100.0)

3.3 受訪學生的家庭狀況

3.3.1受訪學生其父母之「婚姻狀況」

在受訪學生的家庭狀況方面，大部份受訪學生的父母處於「婚姻關係」中，佔79.8% (詳見表11.)。

表11. 受訪學生其父母之「婚姻狀況」

父母之「婚姻狀況」	男	女	總計
	n (%)	n (%)	n (%)
婚姻中（同住）	416 (79.2)	273 (80.8)	689 (79.8)
婚姻中（分居）	38 (7.2)	20 (5.9)	58 (6.7)
離婚	46 (8.8)	33 (9.8)	79 (9.2)
其他	25 (4.8)	12 (3.5)	37 (4.3)
總計 N(%)	525 (60.8)	338 (39.2)	863 (100.0)

3.3.2 受訪學生其父母之「教育程度」

大部份受訪學生表示其父母的教育程度以「中學水平」為主，分別佔45.3%及46.4%；其次為「大學或以上」程度，分別有36.9%及34.1% (詳見表12.)。

表12. 受訪學生其父母之「教育程度」

教育程度	男	女	總計
	n (%)	n (%)	n (%)
父親			
小學或沒受正規教育	49 (9.6)	27 (8.4)	76 (9.1)
中學	227 (44.3)	151 (46.7)	378 (45.3)
大專	40 (7.8)	33 (10.2)	73 (8.7)
大學或以上	196 (38.3)	112 (34.7)	308 (36.9)
總計 N(%)	512 (61.3)	323 (38.7)	835(100.0)
母親			
小學或沒受正規教育	41 (8.0)	24 (7.2)	65 (7.6)
中學	234 (45.4)	160 (47.8)	394 (46.4)
大專	61 (11.8)	40 (11.9)	101 (11.9)
大學或以上	179 (34.8)	111 (33.1)	290 (34.1)
總計 N(%)	515 (60.6)	335 (39.4)	850 (100.0)

3.3.3 受訪學生其父母之「工作狀況」

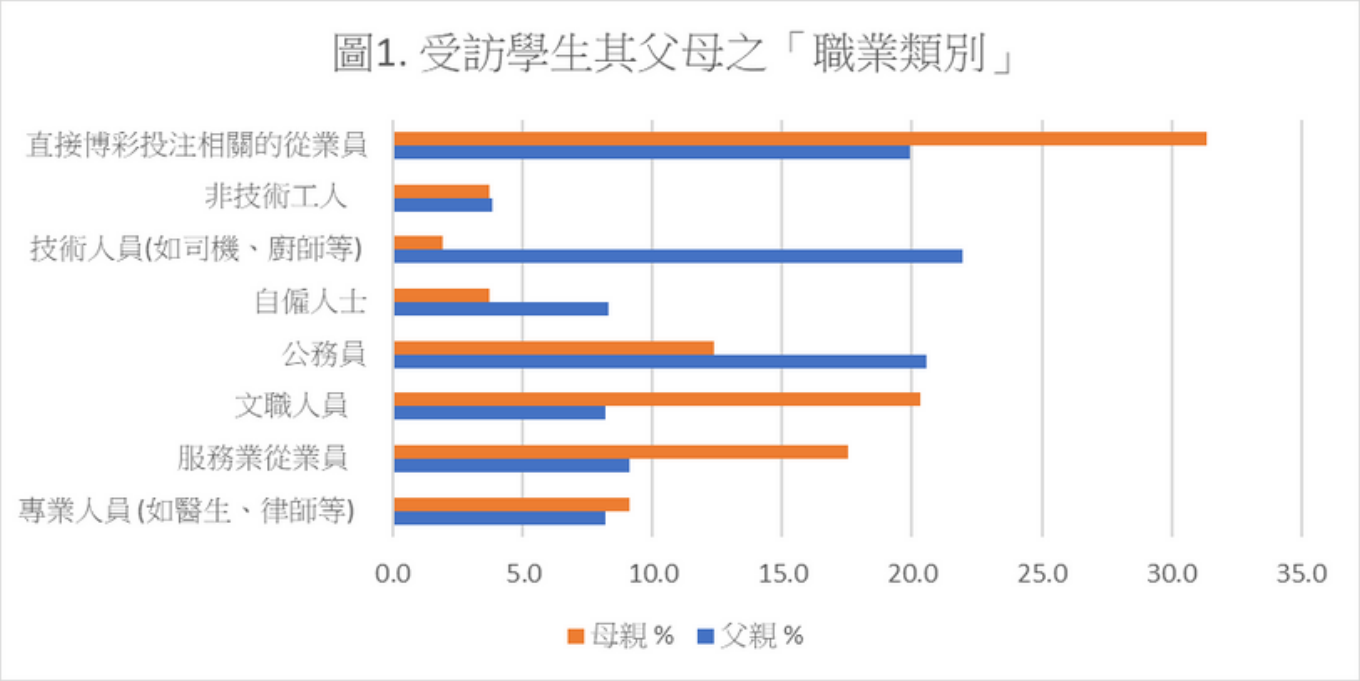
受訪學生其父母之工作狀況以在職居多，分別佔77.7%及70.2% (詳見表13.)。其中需要輪班工作的百分比分別為42.6%及48.4% (詳見表14.)。父母的職業類別方面以「直接博彩投注相關的從業員」各佔19.9%及31.4% (詳見圖1.)。

表13. 受訪學生其父母之「工作狀況」

工作狀況		男	女	總計
		n (%)	n (%)	n (%)
父親				
	在職	409 (78.0)	262 (77.1)	671 (77.7)
	打理家務	2 (0.4)	7 (2.1)	9 (1.0)
	退休	24 (4.6)	9 (2.6)	33 (3.8)
	失業	5 (1.0)	9 (2.6)	14 (1.6)
	不清楚/不知道	84 (16.0)	53 (15.6)	137 (15.9)
總計 N(%)		524 (60.6)	340 (39.4)	864 (100.0)
母親				
	在職	377 (71.8)	233 (68.1)	610 (70.2)
	打理家務	86 (16.3)	71 (20.7)	157 (18.1)
	退休	9 (1.7)	5 (1.5)	14 (1.6)
	失業	6 (1.1)	5 (1.5)	11 (1.3)
	不清楚/不知道	48 (9.1)	28 (8.2)	76 (8.8)
總計 N(%)		526 (60.6)	342 (39.4)	868 (100.0)

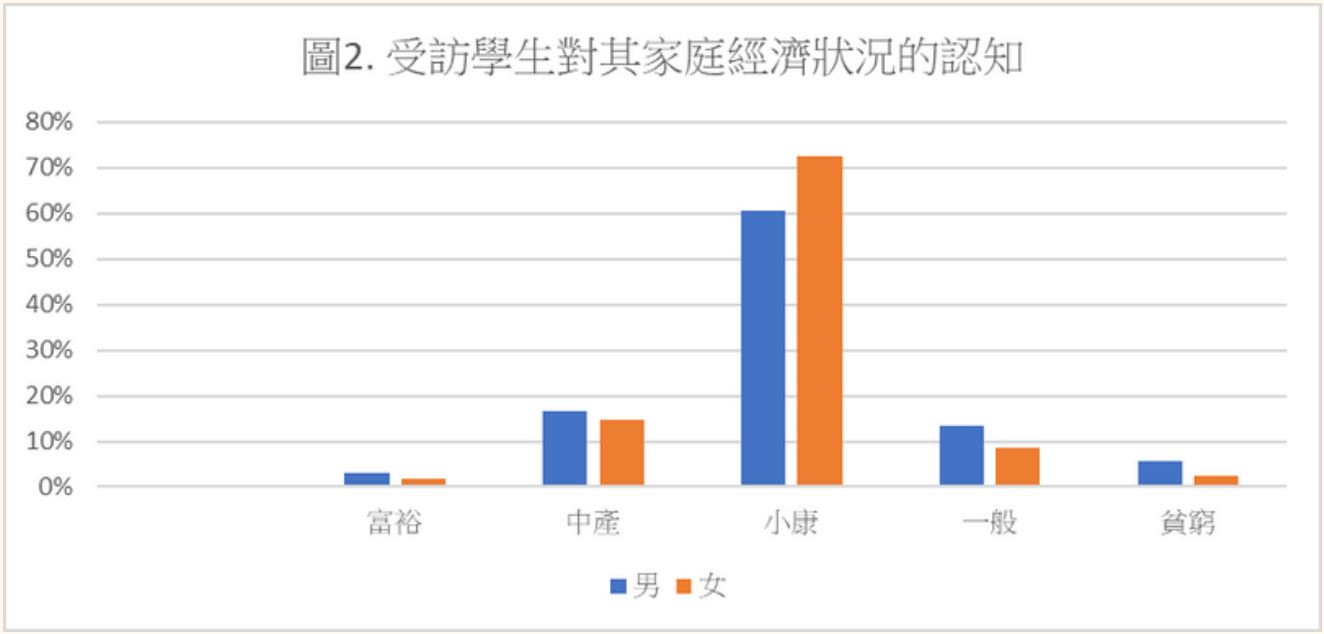
表14. 受訪學生其父母之「工作性質」

工作性質		男	女	總計
		n (%)	n (%)	n (%)
父親				
	需輪班	217 (44.7)	125 (39.6)	342 (42.6)
	不需輪班	269 (55.3)	191 (60.4)	460 (57.4)
總計 N(%)		486 (60.6)	316 (39.4)	802 (100.0)
母親				
	需輪班	213 (50.0)	127 (46.0)	340 (48.4)
	不需輪班	213 (50.0)	149 (54.0)	362 (51.6)
總計 N(%)		426 (60.7)	276 (39.3)	702 (100.0)

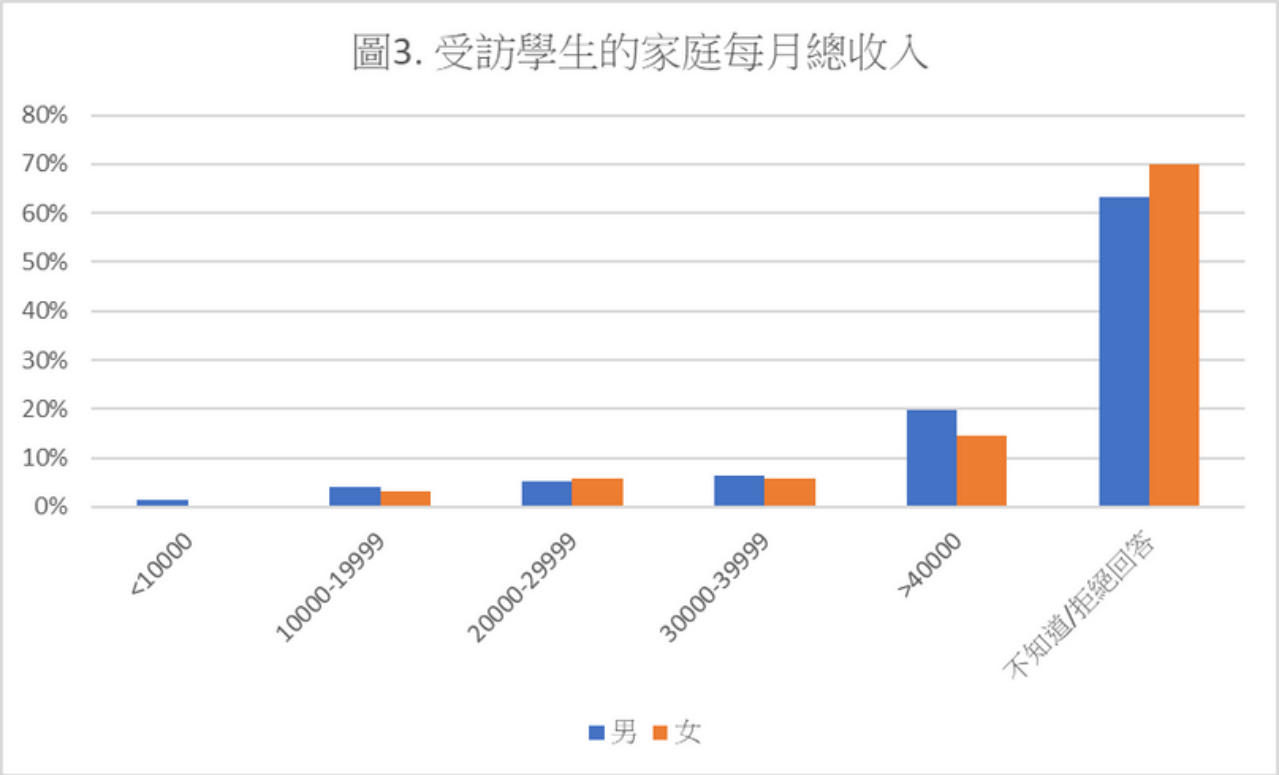


3.3.4 受訪學生之家庭經濟狀況

大多數受訪學生認為其家庭經濟情況屬於「小康」，約佔65.3% (詳見圖2.)。



受訪學生的家庭每月總收入以「多於40,000澳門元」最多，佔，17.7% (詳見圖3.)。



3.4 受訪學生之家庭功能狀況

3.4.1The Family APGAR家庭功能評估表於受訪學生中使用的信度分析

是次調查以The Family APGAR家庭功能評估表中的五條針對不同維度的問題條目評估受訪學生之主觀家庭關懷程度，以他們的受訪結果於SPSS進行信度分析，Cronbach's Alpha 值為0.894，標準化之Cronbach's Alpha 值為0.894；各條目刪除時的Cronbach's Alpha 值均未有高於整份量表的Cronbach's Alpha 值及標準化之Cronbach's Alpha 值。

按吳明隆(2014)的觀點，在社會科學研究領域中，整份量表的信度以Cronbach's Alpha 值≥0.9為最佳，其次以0.8-09為佳，0.7-0.8為可接受，0.6-0.7為勉強可接受，≤0.6為不理想，需重新編製。

綜上所述，本研究使用的The Family APGAR家庭功能評估表對受訪學生進行主觀家庭關懷程度的評估工具，可信度為佳(詳見表15.) 。並且，本研究的分析中將納入全部條目進行分析，未有對任一條目進行刪減。

表15. 對受訪學生使用The Family APGAR家庭功能評估表的信度分析

Cronbach's Alpha值	以標準化項目為準的 Cronbach's Alpha 值	項目的條數
0.894	0.894	5

3.4.1受訪學生家庭功能狀況

在家庭功能評分方面，受訪學生感受到其所處家庭的關懷度評分以滿分「10分」佔比最多，有15.5%；但在平均值得分為4.95± 3.312，處於「中度家庭功能障礙水平」(詳見圖4.)。各細項評分平均值為0.81±7.8 – 1.14±7.85，受訪學生對於來自家庭對其自身的情感度支援與合作度等狀況偏差 ，並未見性別上的差異(詳見表16.)。

圖4. 受訪學生感受到其所處家庭的關懷度評分

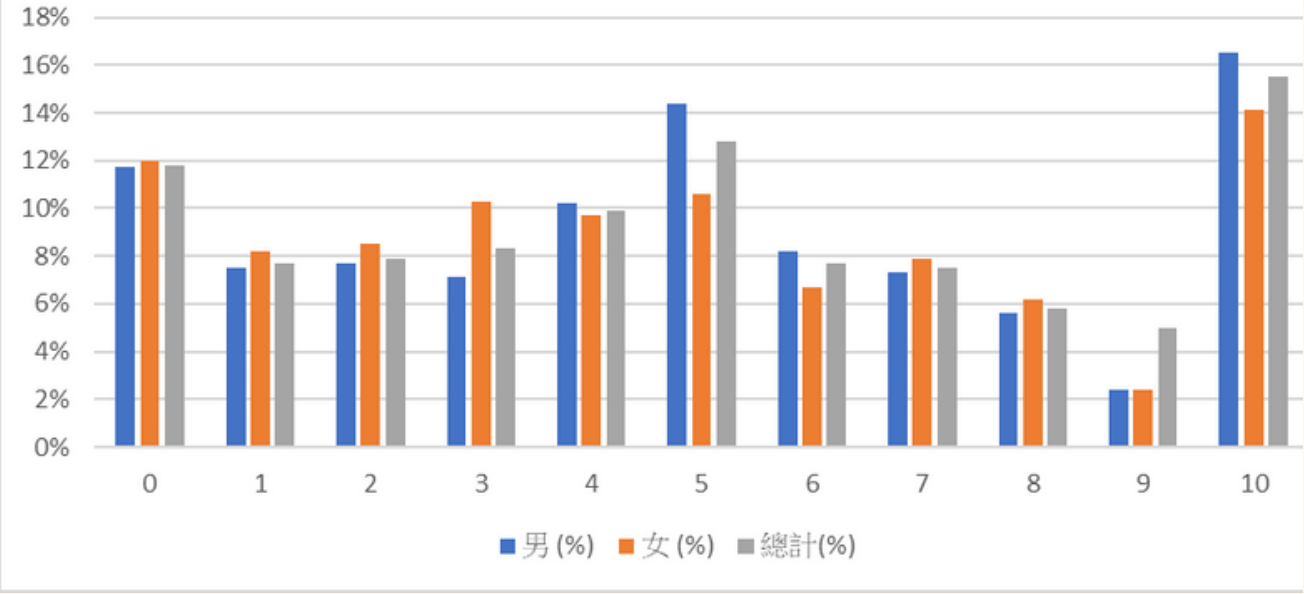


表16. 不同性別受訪學生APGAR評估中各條目平均數差異檢定

	性別	n	平均值	標準差	t	*p*
我滿意於當我遇到困難時，可以求助於家人。（適應度Adaptation）	男	526	1.03	0.795	-0.133	0.894
	女	344	1.04	0.809		
我滿意於家人和我討論事情及分擔問題的方式。（合作度Partnership）	男	525	0.87	0.816	0.309	0.757
	女	345	0.85	0.807		
我滿意於當我希望從事新活動，或是有新的發展方向時，家人能接受並給予支持。（成長度Development）	男	526	1.14	0.784	0.091	0.927
	女	344	1.14	0.781		
我滿意於當家人對我表達情感的方式，以及對我的情緒（如憤怒、悲傷、愛）的反應。（情感度Affectivity）	男	525	0.85	0.785	1.229	0.219
	女	344	0.78	0.777		
我滿意於家人與我共處的方式。（融洽度Resolve）	男	527	1.13	0.796	0.934	0.351
	女	344	1.08	0.758		

圖5.反映受訪學生中，只有約33.8%的學生表示其所在家庭對他們的關懷及支援沒有障礙，即有約六成受訪學生的家庭支援狀況存在中度或重度的功能障礙。並且，這功能障礙的情況在表17.的分析並未見於性別上存在差異。

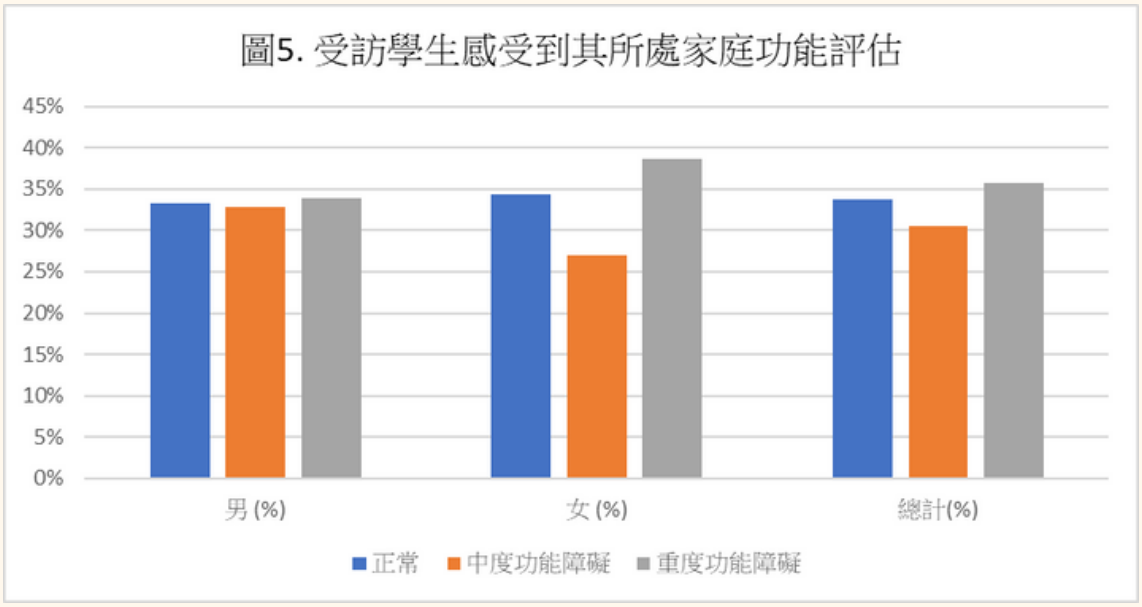


表17. 不同性別受訪學生對其自身家庭功能評估之差異檢定

	正常家庭功能 n	中度家庭功能障礙 n	重度家庭功能障礙 n	X2	*p*
男	174	172	177	0.066	0.152
女	117	92	132		

3.5 受訪學生之博彩失調狀況分析

3.5.1 DSM-5博彩失調診斷標準於受訪學生中使用的信度分析

是次調查以DSM-5博彩失調診斷標準中的九項基礎特徵對受訪學生進行評估，以他們的受訪結果於SPSS進行信度分析，Cronbach's Alpha 值為0.645，標準化之Cronbach's Alpha 值為0.652；各條目刪除時的Cronbach's Alpha 值均未有高於整份量表的Cronbach's Alpha 值及標準化之Cronbach's Alpha 值。

綜上所述，本研究使用的DSM-5診斷標準對受訪學生進行博彩失調程度的評估工具，可信度為尚可接受(詳見表18.) 。並且，本研究的分析中將納入全部條目進行分析，未有對任一條目進行刪減。

表18. DSM-5診斷標準對受訪學生進行博彩失調程度的量表信度分析

Cronbach's Alpha值	以標準化項目為準的 Cronbach's Alpha 值	項目的條數
0.645	0.652	9

3.5.2 受訪學生博彩失調診斷標準各條目異常檢出率

在對博彩的「自控與依賴」問題的六項條目分析中，受訪學生的平均得分為0.56±0.934分，其中男生得分為0.59±0.977分，女生為0.50±0.845分，不同性別對是項問題的得分未見統計學上的顯著性差異(詳見表19.)。

表19. 不同性別受訪學生在對博彩的「自控與依賴」問題之差異檢定

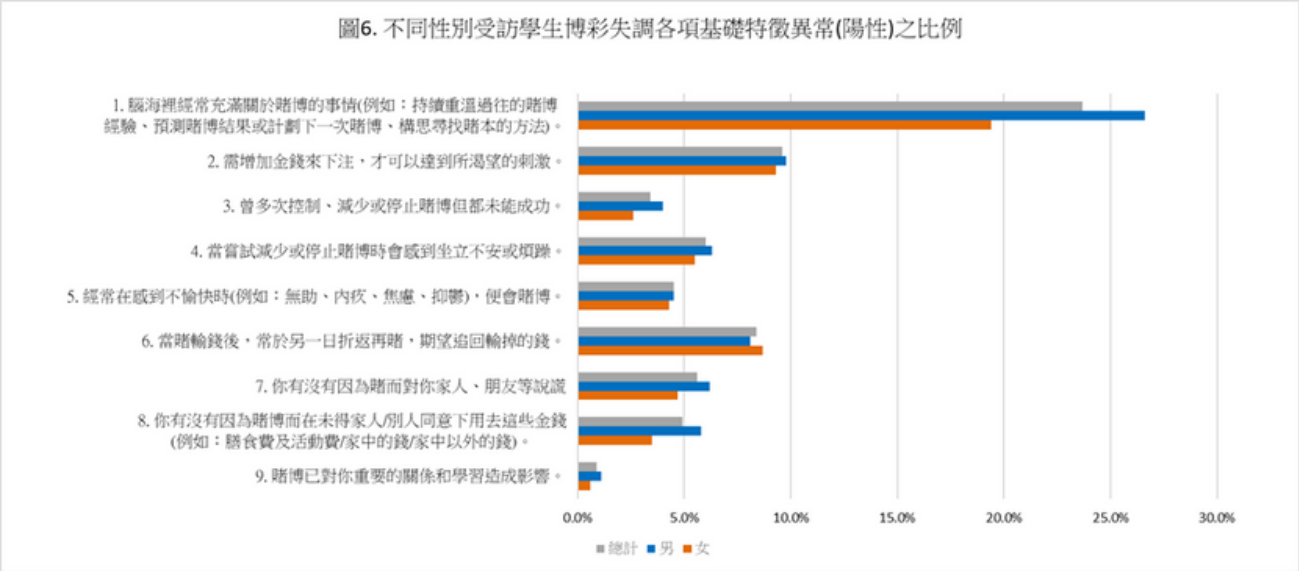
	平均值	標準差	t	*p*
男	0.59	0.977	1.379	0.168
女	0.5	0.845		

在博彩行為對受訪學生造成「負面影響」的三項條目分析中，受訪學生的平均得分為0.11±0.406分，其中男生得分為0.13±0.445分，女生為0.09±0.339分，不同性別對是項問題的得分未見統計學上的顯著性差異(詳見表20.)。

表20. 不同性別受訪學生在對博彩造成的「負面影響」問題之差異檢定

	平均值	標準差	t	*p*
男	0.13	0.445	1.667	0.096
女	0.09	0.339		

圖6.顯示，他們的各條目異常檢出率為0.9%-23.7%。其中以關於對博彩活動「自控與依賴」方面的異常檢出率較高，包括：「1. 腦海裡經常充滿關於賭博的事情(例如：持續重溫過往的賭博經驗、預測賭博結果或計劃下一次賭博、構思尋找賭本的方法)」異常檢出率為23.7%，男生為26.6%、女生為19.4%；「2. 需增加金錢來下注，才可以達到所渴望的刺激」異常檢出率為9.6%，男生為9.8%、女生為9.3%；以及「6. 當賭輸錢後，常於另一日折返再賭，期望追回輸掉的錢」，異常檢出率為8.4%，男生為8.1%、女生為8.7%。



3.5.3 受訪學生博彩失調程度的異常檢出率

以DSM-5博彩失調診斷標準九條目加總計算，受訪學生總體平均分為0.67±1.174，其中男生得分為0.73±1.273分，女生為0.59±0.980分，不同性別對是項問題的得分可見統計學上的顯著性差異(詳見表21.)。

表21. 不同性別受訪學生在博彩失調程度之差異檢定

	未有出現「中度至嚴重」博彩失調例數 n	出現「中度至嚴重」博彩失調例數 n	X2	*p*
男	499	22	3.979	0.046*
女	335	6		

*p<0.05

儘管如此，有約3.2%受訪學生的回應是反映他們有「中度至嚴重」的博彩失調情況，其中男生有2.6%，女生有0.7%，卡方檢定顯示不同性別在出現博彩失調的問題上未見統計學上的顯著差異(詳見表22.)。

表22. 不同性別受訪學生在「中度至嚴重」的博彩失調情況之差異檢定

	平均值	標準差	t	*p*
男	0.73	1.273	1.74	0.082
女	0.59	0.98		

3.5.4 受訪學生博彩失調程度的相關分析

在檢測受訪學生博彩失調與各項人口學資料的相關分析中，具統計學上顯著性差異的條目分別有「家庭每月總收入」及「家庭功能評分」。反映受訪學生家庭每月總收入越低，其博彩失調量表得分越高；家庭功能評分越低，其博彩失調量表得分亦越高(詳見表23.)。

表23.受訪學生的博彩失調程度與其各項人口學資料之相關分析

	r/rs/τ	*p*
性別	-0.055	0.106
年齡	-0.058	0.082
父母的婚姻狀況	0.04	0.229
父親的教育程度	-0.039	0.203
母親的教育程度	-0.046	0.129
父親現時的工作狀況	0.036	0.242
母親現時的工作狀況	-0.015	0.631
父親是否需要輪班工作	0.000	0.989
母親是否需要輪班工作	0.015	0.685
父親職業類別	0.025	0.489
母親職業類別	-0.019	0.608
家庭經濟情況	0.008	0.822
家庭每月總收入	-0.063	0.032*
家庭功能評分	-0.088	0.009**

*p<0.05; **p<0.01

在分析受訪學生及其家人參與博彩行為的相關分析中，顯示有若干博彩行為的表現與受訪學生的博彩失調程度有關，具統計學上顯著性差異(詳見表24.)。

表24. 受訪學生及其家人參與博彩行為與學生博彩失調程度之相關分析

	r/rs/τ	*p*
過去十二個月，自己曾參與博彩活動		
賭馬/賭狗	0.065	0.050*
即發彩票	0.213	<0.01**
賭波(例如足球、籃球)	0.272	<0.01**
角子老虎機	0.187	<0.01**
六合彩	0.166	<0.01**
麻雀	0.286	<0.01**
撲克牌 (例如21點、鬥地主、鋤大Dee)	0.276	<0.01**
網上賭博	0.224	<0.01**
捕魚機	0.195	<0.01**
夾公仔機	0.178	<0.01**
過去十二個月，家人曾參與博彩活動		
即發彩票	0.097	0.004**
賭波(例如足球、籃球)	0.175	<0.01**
進入賭場/幸運博彩(如百家樂、牌九、輪盤)	0.118	<0.01**
白鴿票	0.129	<0.01**
六合彩	0.154	<0.01**
麻雀	0.142	<0.01**
撲克牌 (例如21點、鬥地主、鋤大Dee)	0.142	<0.01**
網上賭博	0.112	<0.01**
首次參與博彩的年齡	-0.22	<0.01**
首次參與賭博的原因		
個人投注	0.133	<0.01**
朋輩間社交活動	0.077	0.021*
想賺錢	0.204	<0.01**
娛樂	0.135	<0.01**

表24. 受訪學生及其家人參與博彩行為與學生博彩失調程度之相關分析(續)

	r/rs/τ	*p*
參與博彩活動的同伴		
家人	0.155	<0.01**
朋友	0.243	<0.01**
同學	0.187	<0.01**
獨自	0.121	<0.01**
過去一年平均每月在涉及金錢的博彩活動耗時	0.373	<0.01**
過去一年平均每月在涉及金錢的博彩活動金錢支出	0.334	<0.01**
花費在博彩活動的資金來源		
零用錢	0.232	<0.01**
家人提供	0.102	0.002**
個人儲蓄	0.196	<0.01**
兼職的工資	0.201	<0.01**
家人知悉其參與博彩活動後的反應		
勸我少賭	0.087	0.009**
沒太大反應	0.144	<0.01**
擔心我輸錢	0.14	<0.01**
參入賭本	0.088	<0.01**
避而不談	0.193	<0.01**
認為家人的賭博情況嚴重程度	0.265	<0.01**

*p<0.05; **p<0.01

表25. 中，二元羅吉斯迴歸分析顯示，受訪學生在博彩活動上的耗時、曾參與特定的博彩活動、家人對其參與博彩活動的反應、以及其首次參與博彩活動的原因，均對其是否有機會發展成為博彩失調具一定的影響力。受訪學生如「在過去十二個月，平均每個月耗時於涉及金錢的博彩活動上」越多，對比完全沒有參與博彩活動的學生，其出現博彩失調的風險可能提升6.43%。在博彩活動的類別方面，如受訪學生在過去12個月內曾參與「即發彩票」、「撲克牌 (例如21點、鬥地主、鋤大Dee)」、及「網上賭博」博彩活動，其出現博彩失調的風險亦會增加3.026-8.952%；而其家人曾參與「即發彩票」活動，則會輕微提升0.089%風險。在家人知悉受訪學生參與博彩活動後，以「避而不談」的態度作為回應，其出現博彩失調的風險高8.778%。最後，在首次參與博彩活動時，以「想賺錢」的心態參與，則會使其出現博彩失調的風險0.83%。

表25. 影響受訪學生出現博彩失調狀況之二元羅吉斯迴歸分析

預測變量	B	S.E.	X2	p	OR	95% CI
在過去十二個月，平均每個月耗時於涉及金錢的博彩活動上 (對照組：完全沒有參與)	16.051	8.793	16.623	0.011	6.43	9.6-56.43
在過去十二個月，曾參與：						
即發彩票 (自己)	2.192	0.558	15.404	<0.001	8.952	2.996-26.746
撲克牌 (例如21點、鬥地主、鋤大Dee)(自己)	1.107	0.492	5.064	0.024	3.026	1.154-7.940
網上賭博 (自己)	2.063	0.61	11.446	0.001	7.866	2.381-25.985
即發彩票 (家人)	-2.419	0.917	6.954	0.008	0.089	0.015-0.537
家人知悉其參與博彩活動後，以「避而不談」的態度作為回應	2.172	0.946	5.269	0.022	8.778	1.374-56.090
首次參與博彩活動的原因：想賺錢	0.511	0.196	2.6	0.009	0.83	0.025-0.896

Model X2= 85.112% (p<0.001); Cox & Snell R2= 0.93, Nagelkerke R2=0.367; Hosmer and Lemeshow X2=11.317 (p=0.125)

四. 討論

4.1 受訪學生參與博彩活動活躍

是次研究發現，在過去一年內，56.3%的受訪澳門學生參與過至少一種賭博活動或博彩性質的遊戲，顯示出博彩在學生中的普及程度。並且，雖然大部分受訪者表示偶爾參與博彩活動，但有15.8%的學生表示每月至少賭博一次。值得留意的是，儘管參與是次研究的受訪者是12-19歲的學生，但他們首次參與博彩的年齡以「12-14歲」的年齡段居多。不少的研究已證實，在首次接觸博彩活動時年齡較輕的群體，其賭博頻率和問題賭博風險傾向更高（Volberg, Gupta, Griffiths, Olason, & Delfabbro, 2010），因此，早期讓青少年認識博彩活動的本質以免發展成為博彩失調的問題是十分值得關注的。

無論在過往的研究，或本次的調查結果，均發現青少年參與博彩活動的原因十分多樣化，包括娛樂尋求、經濟利益和社交互動等目的。隨著社會發展，具博彩性質的活動形式演變多樣。在本次調查中發現，有37%以上的受訪學生表示曾參與「夾公仔機」的活動。不難發現，本澳的「夾公仔機」近年在民居中開設林立，以不同的日常生活或遊戲物品作為獎品，吸引不少兒童及青少年遊玩。但其實「夾公仔機」的本質是「偶然性概率」活動，與博彩活動的輸贏或然率相類似。這類具博彩色彩的活動，在兒童及青少年心智發展未成熟時，很容易被參與的忽視這種「以小博大」的博彩心態，從而輕視博彩對其價值觀的影響性(Montiel, Basterra-González, Machimbarrena, Ortega-Barón, & González-Cabrera, 2022)。

4.2受訪學生的雙職家庭結構及家庭支援不足對其參與博彩行為具有負面影響

家庭功能對青少年的身心發展有重要影響。良好的家庭功能，如有效溝通和情感支持，促進青少年的心理健康，減少行為問題（Shek, 2002）。家庭環境的正向調節和自主性支持與青少年的社會適應性正相關（Barber, & Erickson, 2001）。此外，健康的家庭環境被發現與青少年減少使用酒精和其他物質的行為相關（Ryan, Jorm, & Lubman, 2010）。這些研究表明，家庭的穩定和支援性結構對促進青少年健康成長至關重要。此外，穩定的家庭環境有助於青少年建立健康的自尊和自我認同，從而影響他們的社交能力和學習表現。

相反，功能失調的家庭環境可能導致青少年行為問題和心理壓力，增加他們採取風險行為的可能性，包括參與賭博活動。

受訪學生的家庭結構多為雙親家庭，父母通常具有中學教育水平或以上，並且他們當中不少比例是「直接博彩投注相關的從業員」。儘管父母的穩定工作與家庭的經濟狀況，尤其是中等收入水準，為青少年提供了相對穩定的生活環境（Dickson, Derevensky, & Gupta, 2008）。儘管如此，本研究的受訪學生反映其家庭功能存在中至重度的功能障礙，這可能與雙職家庭的父母與子女溝通互動不足有關。不少研究表明，良好的家庭功能，如成員間的支持和關懷，對青少年的健康發展至關重要（Velleman, Templeton, & Copello, 2005）。

此外，從社會角度看，博彩被視為一種可接受的休閒活動，但對於易受影響的青少年群體，這可能導致錯誤的風險認知和行為習慣（Hing, Russell, Tolchard, & Nower, 2016）。接近一半的受訪學生報告其家庭成員在過去一年中至少參與過一次博彩活動。在受訪學生中亦不乏表示曾參與一些相對賭博成份較重或涉及賭金較多的博彩活動，如「進入賭場/幸運博彩(如百家樂、牌九、輪盤)」、「角子老虎機」以及「網上賭博」等。青少年參與賭博行為的傾向與家庭成員的賭博行為緊密相關，表明家庭環境和家庭成員的行為對青少年賭博行為的形成具有顯著的影響力(Magoon, & Ingersoll, 2006)。在一些已發表的研究中發現，家庭中參與博彩活動的成員一般以父母和其他親屬居多，這種家庭博彩行為模式可能對青少年產生直接影響，作為榜樣行為導致他們模仿或認為博彩是可接受的(Hardoon, & Derevensky, 2002)。特別是，家庭博彩習慣與青少年的博彩行為正相關，暗示家庭環境在形成博彩行為中的作用（Griffiths & Delfabbro, 2001）。

這些家庭特徵不僅影響青少年的日常行為，還可能影響他們對博彩活動的理解、參與和價值觀的建立（Canale, Vieno, Griffiths, Rubaltelli, & Santinello, 2015），以及構成博彩失調的風險有顯著影響(Mccormick, Delfabbro, & Denson, 2012; Vachon, Vitaro, Wanner, & Tremblay, 2004)。

因此，讓青少年瞭解他們的家庭成員背景，以及對博彩行為因果關係的相關性，有助於預防他們發展成為博彩失調的風險。

4.3「遊戲化」的具博彩性質活動及家人對學生們曾參與博彩活動的反饋對受訪學生出現博彩失調構成的風險因素

青少年參與博彩活動及發展成博彩失調的風險因素是多方面的，包括個體特質、家庭背景、社會環境和網路使用習慣。性別和年齡是顯著的風險因素，研究顯示青少年男性及較大年齡段的青少年更容易發展博彩問題（Giosan et al., 2024; Andrie et al., 2019）。社會經濟地位也是一個重要因素，較低的家庭經濟狀況與博彩行為的發生率較高相關。此外，曾參與博彩活動的類別、家庭對博彩的態度、早期博彩經歷和個人博彩動機等，亦是青少年出現博彩失調的相關風險因素。

本研究發現，受訪學生在博彩活動上的耗時、曾參與特定的博彩活動、家人對其參與博彩活動的反應、以及其首次參與博彩活動的原因，均對其是否有機會發展成為博彩失調具一定的負面影響力，這些風險較使他們提高約3%-9%出現博彩失調問題的風險。家庭環境，如父母的賭博行為和態度，以及對青少年參與博彩活動的回應，對青少年是否繼續參與博彩行為有著顯著的影響，如青少年缺乏父母監督和支持，他們更易參與博彩並可能發展成博彩失調(Riley, Oster, Rahamathulla, & Lawn, 2021; Livazović, & Bojčić, 2019)。

近年在澳門的研究顯示，青少年的心理韌性可以減輕焦慮與博彩失調之間的關係（Chen et al., 2018），而家庭和社交圈的積極影響也有助於預防青少年博彩問題（Dowling et al., 2015）。另外，Schwartz (2003)的普世價值觀理論當中的universalism (大同主議 - 為人類和自然的福祉而理解、欣賞、寬容和保護)與博彩失調呈負相關，代表較重視大同主議的青少年較少有博彩失調問題（Chan, 2012; Leung, 2023）。這些都是對預防博彩失調的良好保護因素。但隨著互聯網改變了博彩行為模式，增加了青少年接觸博彩的機會（Gainsbury et al., 2014）。例如現時流行的線上遊戲及「盲盒」抽獎等虛擬化、趣味化的活動，形式與「夾公仔」活動十分類似，玩家通過付費獲得隨機虛擬物品，這種模式與傳統博彩的隨機性和獎勵系統有著本質上的相似性。這些活動可能讓兒童及青少年對博彩活動失去戒心，容易形成「以小搏大」或尋求刺激的博彩心理及價值觀(Montiel, Basterra-González, Machimbarrena, M., Ortega-Barón, & González-Cabrera, 2022)。為了預防青少年博彩失調，家庭層面的監督和支持極為重要。父母需要積極參與青少年的日常生活，提供指導和支持，幫助青少年建立健康的休閒活動習慣。

五. 建議與對策

本研究團隊根據是次調查結果分析，以及參考國際及鄰近國家、地區的預防及應對措施，建議採取多層面、多策略的綜合方法，防止澳門青少年博彩失調持續惡化。

1.家庭層面

1.1 加強家庭監督和支持：家庭是預防青少年博彩失調的第一道防線。家長需要對青少年參與博彩及類博彩活動保持警剔，特別是要指導他們在使用互聯網及參與線上遊戲時，不會容易被「遊戲化」及具博彩性質的活動所吸引及參與其中(Montiel, Basterra-González, Machimbarrena, M., Ortega-Barón, & González-Cabrera, 2022)。通過設定明確的規則和期望，家長可以幫助青少年建立健康的博彩觀念和抵抗參與行為。

1.2 培養健康的家庭環境：創造一個開放的交流環境，使青少年能夠自由地表達自己的想法和感受。家長應該積極對子女參與博彩及類博彩活動給予明確指引，不應以迴避甚至鼓勵的形式回應其參與博彩活動的行為（Giosan et al., 2024）。

2.學校層面

2.1 實施教育和預防計畫：學校是傳授知識和社會技能的理想場所。通過在學校內實施有關預防博彩失調的教育活動，對象包括學生及家長，可以幫助青少年瞭解博彩的風險，培養批判性思維和做出明智決策的能力。同時亦建議增加價值教育的內容，為青少年建立大同主義的價值觀，推動平等、和平、欣賞、寬容和保護環境，促進人類和大自然的福祉等，有助青少年建立正向的價值觀，從而減低博彩失調的風險。

3.社區層面

3.1 加強社區參與和宣傳：通過社區組織和公益宣傳活動，提高社區對青少年博彩失調問題的認識。這些活動可以包括宣傳教育、健康促進專案和社區支援網絡。

3.2 持續關注具博彩性質的遊樂項目：在國內外的研究顯示，坊間如「夾公仔機」、「盲盒」販賣機及手機遊戲等對兒童及青少年存在不同程度的負面影響，容易誤導他們形成對博彩活動不正確的價值觀。建議對相關的具博彩性質的遊樂項目推行針對性預防教育工作，協助兒童及青少年建立正確的認知及價值觀。

六. 結論

是次調查研究共向年齡為12-19歲的澳門在讀學生派發923份問卷，有效問卷為915份，回收率為99.1%。受訪學生來自本澳9所不同的正規教育學校，約佔2023/2024學年提供澳門「中學教育」校部數中15%。受訪學生就讀年級由初中至高中，其中以就讀高一及高二為主。受訪人數約佔2023/2024學年本澳就讀初中及高中總人數約3.3%。

受訪學生在過去十二個月參與不同類型的博彩活動或具博彩性質的活動相當活躍，約有六成受訪者表示至少曾參與一項訪問中的博彩或具博彩性質的活動。當中以參與「遊戲化」型式的「夾公仔」活動回應最多，其次亦有兩成受訪學生表示曾參與「幸運博彩類」活動。值得關注的是，同樣有約六成的受訪學生表示，其家人在過去十二個月，曾參與不同類型的博彩活動。其中以曾參與「幸運博彩類」及「運氣博彩類」活動為最多；曾參與「遊戲化」型式的「夾公仔」活動回應亦不少。

受訪學生回應其「首次參與博彩活動」的年齡最少為「12-14歲」，「首次參與博彩活動」的原因以「娛樂」心態為主，反映受訪學生及其家長在不同博彩活動的參與度相當高，容易忽視過度參與博彩活動的危害。

受訪學生多來自雙職家庭，儘管在家庭經濟支持上相對穩定，但他們反映感受到來自家庭的關懷度普遍不足，特別是在家庭對其自身支援與融洽度方面偏差。在其家人知悉他們曾參與博彩活動的回應更以迴避形式應對居多。雖然本次調查結果反映出現博彩失調情況的受訪學生人數不多，但他們家人日常參與博彩活動頻率及知悉學生們參與博彩活動的反應，可能讓學生們誤以為博彩心態及參與博彩活動是可以被接受的價值觀偏差。

在出現博彩失調的風險預測中，訪學生在博彩活動上的耗時、曾參與特定的博彩活動(「幸運博彩類」及六合彩)、家人對其參與博彩活動的反應(以迴避態度回應)、以及其首次參與博彩活動的原因(想賺錢)等，均對其是否有機會發展成為博彩失調具一定的負面影響力，這些風險較使他們提高約3%-9%出現博彩失調問題的風險。

綜上所述，理解和應對青少年博彩失調的風險因素需要多方面的努力，包括家庭、學校、社會等層面的合作和支持，協助青少年建立正確的博彩觀念，以保護青少年免受博彩問題的影響。

EXECUTIVE SUMMARY

Commissioned by the Bosco Youth Service Network, the Peking University Health Science Center-Macau Polytechnic University Nursing Academy conducted a survey on adolescents' participation in gambling activities and gambling disorder in Macau. The results were compared with the past research data from the organization to provide recommendations for the prevention and intervention of gambling disorder among adolescents in Macau.

This study was conducted in the form of a cross-sectional survey through a questionnaire. The survey was carried out as part of the "Youth Gambling Prevention Project 2023" organized by the Bosco Youth Service Network's "FREEland", which was sponsored by the Social Welfare Bureau, Macau SAR. Standardized questionnaires were distributed to students from the participated schools (formal education). The questionnaires were filled out by the students anonymously after the purpose and content of the questionnaire were explained to the students by the staff.

The survey was conducted from July to December 2023, with a total of 923 questionnaires distributed and 915 successfully collected, which corresponded to a response rate of 99.1 %. After data analysis, the results of the study could be summarized as follows:

1. A total of 9 schools took part in this study, whose participants were between 12 and 19 years old, mainly attending grade 10 and 11. The average age of the participants was 15.39 ± 0.886 years; in terms of gender, the majority were male (60.6%), a proportion that was in line with previous similar activities.

EXECUTIVE SUMMARY

2. Of the 515 participants, 56.3% stated that they had taken part in at least one gambling activities or game with gambling nature in the past twelve months. Among them, participation in 'gamified' forms of 'claw machines and 'games of fortune' such as 'Poker cards (e.g. Blackjack, Dou dizhu, Big Two)' and 'Mahjong' were the most common, at 36.7%, 20.0% and 19.7% respectively.

3. Around 56.7% of the participants stated that their family members had taken part in at least one game of chance or game with gambling nature in the past twelve months. They most frequently participated in 'games of fortune' such as 'Mahjong', 'Poker card (e.g. Blackjack, Dou dizhu, Big Two)' and 'Mark Six', which accounted for 23.0% and 13.4% respectively. In addition, 15.4% of family members had participated in 'Claw machines'. Approximately 78% of the participants felt that the 'gambling status' of their family members was not severe.

4. Approximately 33.3% of the participants who had participated in gambling stated that they had participated in gambling for the first time at the age of 12-14. In addition, 27.8% of the participants participated in gambling when they were around 9-11 years old.

5. Most of the participants who participated in gambling indicated that their "first bet in gambling" had been motivated by 'entertainment' (approximately 72.5%), followed by 'to socialize with peers' (31.2%). Those who usually accompanied them when they gambled were 'classmates' and 'friends' (31.3% and 12.7% respectively).

EXECUTIVE SUMMARY

6. The participants stated that most of them (65.4%) had spent ‘less than one hour’ per month on gambling with money at stake in the past year. In terms of the costs associated with gambling, 88.3% of participants responded that they spent less than 500 Macau Patacas per month on gambling; the money they spent on gambling came from ‘pocket money’ (71.0%), ‘from family members’ (76.5%) and ‘personal savings’ (32.2%).

7. The participants who had participated in gambling stated that the majority (77.8) showed ‘not much response’ when their families found out about their “participation in gambling”. Only about 16.8% and 5.3% of the participants stated that their families had ‘asked them to reduce gambling’ or ‘asked them to stop gambling’.

8. As far as the family situation of the participants was concerned, most of their parents were in a ‘marital relationship’ (79.8 %). The level of education of the fathers and mothers was mainly ‘secondary school’ at 45.3% and 46.4% respectively. Most were employed, 77.7% and 70.2% respectively.

9. Regarding the assessment of family functioning, the participants perceived the family functioning and the relationship between its members with an average score of 4.95± 3.312, which corresponded to a perceived ‘mild dysfunction’ among their family. The average score for each item ranged from 0.81±7.8 to 1.14±7.85, which means that the participants perceived to have weak family support and poor family relationship.

EXECUTIVE SUMMARY

10. The vast majority of the participants did not show uncontrollable gambling behavior. Analyzed according to the DSM-V standards for gambling disorder, the overall average was 0.67±1.173. However, approximately 3.2% of the participants indicated that they suffered from a moderate to severe gambling disorder.

11. Binary logistic regression analysis showed that the time participants spent on gambling, their participation in specific gambling activities, their family's response to their participation in gambling, and the reasons for their first participation in gambling, all had some negative influence on their risk of developing gambling disorder. These risks increased the likelihood of developing gambling disorder by around 3-9%.

In conclusion, in order to prevent adolescents in Macau from participating in gambling activities and being addicted to gambling, family-based and school-based education programs with the focus on financial responsibility and correct gambling attitudes could be strengthened; and continuous monitoring and research could be carried out to update prevention strategies.

1. Research background and research objectives

Over the past thirty years, numerous studies have examined the age at which adolescents first gamble and the relationship between gambling behavior and socio-demographic characteristics such as gender, quality of family life and risky behaviors. Among them, male adolescents have significantly higher levels of negative psychological, social and economic consequences than females, indicating the importance of gender in relation to problem gambling among adolescents (Livazović & Bojčić, 2019). Recent studies have gradually revealed the profound influence of the family and social environment on adolescents gambling behavior. A literature review by McComb and Sabiston (2010) indicated that family socioeconomic status, family atmosphere, family members' gambling attitudes and behaviors, parents' parenting styles, and family relationship characteristics are closely related to adolescents' gambling behavior. Surveys of Gupta and Derevensky (1997) found that most adolescents who regularly participate in gambling have gambled in their family, demonstrating the imitative role of the family in the formation of gambling behavior. A cross-sectional study by Vegni et al. (2019) also examined the relationship between gambling behavior and individual or ecological factors in Italian adolescents and emphasized the need to take this specific group into account when developing preventive measures. Overall, these studies emphasize the need to pay attention to the role of the family and the social environment in the prevention and control of gambling problems in adolescents and provide a theoretical basis for the formulation of effective prevention strategies.

Macau SAR, as one of the world's largest cities with legal gambling, generated a total gaming revenue of 80.163 billion Macau patacas (approx. 9.966 billion US dollars) last year, which was about a third higher than the total gaming revenue (7.5 billion US dollars) of Las Vegas in the USA, thus returning to the throne of the world's most profitable gambling city (Macau Exmoo News, 2023). Although the tourism and gambling industry in Macau is growing and could have a potential impact on adolescents, a comprehensive understanding of adolescents gambling behavior in Macau is insufficient.

Commissioned by the Bosco Youth Service Network, Macau Polytechnic University, Peking University Health Science Center-Macau Polytechnic University Nursing Academy conducted a survey on gambling involvement and status of gambling disorder among adolescents in Macau. The results were compared with the past research data from the organization to provide recommendations for the prevention and intervention of gambling disorder among adolescents in Macau. Specific research objectives include:

1. Exploring perceptions, participation and types of gambling behavior among adolescents in Macau;
2. Investigate the factors influencing Macau adolescents' involvement in gambling behavior and gambling disorders, including socio-demographic characteristics, peer status and family function, etc;
3. Compare the research findings of local, neighboring regions and other cities with legal gambling activities;
4. Provide evidence-based suggestions for prevention and intervention services for adolescents with gambling disorder in Macau.

2. Research methodology

2.1 Background of study

This survey was conducted as part of the “Youth Gambling Prevention Project 2023”, which was organized by “FREEland” of “Bosco Youth Service Network”. The event was sponsored by the Macau SAR Social Welfare Bureau. Staff of Bosco Youth Service Network, who were responsible for operating the event, organized the students to participate in the gambling addiction prevention day camp in groups. The day camp not only enabled adolescents to understand the causes and risks of gambling addiction, but also taught them the skills to refuse gambling among peers, with the aim of improving the participants’ ability to combat gambling addiction. The day camp used questionnaires that allowed participants to self-assess their understanding of gambling and reflect on if gambling had an impact on themselves and their families.

2.2 Method and date of study

The cross-sectional survey study was conducted from July to December 2023. The study was conducted as part of the themed day camp “Youth Gambling Prevention Project 2023” organized by "FREEland” of Bosco Youth Service Network. Questionnaires were distributed to the students from the participated schools. The students then filled them out anonymously after the staff had explained the purpose and content of the questionnaire.

2.3 Instruments and contents of the questionnaire

This study comprised of three sections. The first section involved the gambling participation of the participants and their families, including the items of gambling in which they participated, the age and reasons for their first participation, the partner who accompanied them to

gamble, the source of money for gambling, the time spent and expenditure on gambling, and the reaction of their families when they found out about their participation in gambling.

The second section dealt with the family and economic status of the participants surveyed, including parent's marital status, educational level and employment status, total monthly family income and the subjective perception of the family functions of participants.

The APGAR Family Function index, developed by Dr. Smilkstein in 1978, was used in this study to assess the participant's perception of family functioning and the relationship between its members. This rating scale measured five important dimensions of family function, including Adaptation, Partnership, Growth, Affection and Resolve. The results revealed the family's resilience and ability to support participants in coping with life changes and challenges. The APGAR Family Function index consisted of five questions, each rated on a Likert scale of 0-2 points. The higher the score, the better the function. After the scores of the individual items had been added up together, a total score of 0-10 points was obtained. The confirmatory factor analysis showed that a total score of 7-10 points indicated a functional family, a total score of 4-6 points indicated mild dysfunctional family and a total score of 0-3 points indicated severely dysfunctional family (Campo-Arias, & Caballero-Domínguez, 2021). The correlation coefficients between the items of the APGAR Family Function index were 0.61-0.71, and Cronbach's alpha was 0.84; the self-report and interview reliability were 0.86 and 0.81 respectively, indicating that the scale had good reliability and stability in respondents' assessment of family functioning (Bellón Saameño, Delgado Sánchez, Luna del Castillo, & Lardelli Claret, 1996).

The last section was the assessment of the gambling disorder of the participants. This part was based on the DSM-5 (The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders) and DSM-5- TR (The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, Text Revision) which defined gambling disorder as one of the compulsive behaviors and a manifestation of potentially addictive behavior. In this study, questions were asked according to the diagnostic criteria for gambling disorder. If the respondent persistent and regularly reported four or more positive symptoms among the nine basic characteristics in the past 12 months, he or she was defined as having a gambling disorder. (American Psychiatric Association, 2022). In terms of clinical diagnosis, if the respondent had 4-5 positive criteria in the response, he or she was classified as having a mild gambling disorder, if 6-7 positive criteria were present, the respondent was classified as having a moderate gambling disorder, and if 8-9 criteria were present, the respondent was classified as having a severe gambling disorder. Additionally, the first six of the nine basic characteristics related to the respondent's 'self-control and dependence' on gambling and the last three to the 'influence of gambling' on the respondent.

2.4 Data collection and statistical analysis of the data

After each event, all the questionnaires that were distributed and collected by the staff, archived and forwarded directly to the researcher for data entry and data cleansing. After checking for missing values, outliers and consistency errors to ensure the quality of the subsequent analysis, the researcher performed descriptive statistical analysis (e.g. mean, standard deviation, frequency and percentage) of the basic social demographic data and other variables to summarize the characteristics of the participants. To examine the correlation between the variables, Pearson correlation analysis was

used to analyze the correlation between continuous variables. When comparing the differences of certain variables between different groups (e.g. gender, age group), t-tests or ANOVA (analysis of variance) were used for the comparison between two or more independent samples. Finally, for correlation analysis between categorical variables (e.g. whether gambling disorder occurred, the effects of different levels of family dysfunction on the occurrence of gambling disorder, etc.), the Chi-square test and Logistic regression analysis were used to test the independence of variables and predict the probability of binary outcome variables.

The above statistical analyzes were all performed using IBM® SPSS Statistics 26.0 for Windows.

2. Research Research results

A total of 9 schools had taken part in this study. A total of 923 questionnaires had been distributed, of which 915 were successfully collected, corresponding to a response rate of 99.1%. After data had been analyzed, the major results of the study could be summarized as follows:

3.1 Social-demographic data of participants

The age of the participants in this study had ranged from 12 to 19 years old, with an average age of 15 years old and a mean age of 15.39 ± 0.886 years old. In terms of gender, males were in the majority with 60.7% of the participants (see Table 1. for details).

Table 1. Age and gender distribution of participants

Age (years old)	Male n (%)	Female n (%)	Total n (%)
14 or below	50 (67.7)	24 (34.3)	74 (8.4)
15	298 (62.1)	182 (37.9)	480 (54.7)
16	128 (53.1)	111 (46.1)	241 (27.4)
17	35 (61.4)	22 (38.6)	57 (6.5)
18 or above	20 (76.9)	6 (23.1)	26 (3.0)
Total N(%)	531 (60.7)	345 (39.3)	878 (100.0)

3.2Participation in gambling activities

3.2.1 Participation in gambling of the participants in the last twelve months

Of the participants, 515 students, 56.3%, stated that they had taken part in at least one gambling activity or game with gambling nature in the last twelve months. The most popular “Games of fortune” had been ‘Poker cards (such as Blackjack, Dou dizhu, Big Two)’ and ‘Mahjong’ with 20.0% and 19.7% respectively. The ‘game with gambling nature’, like ‘Claw machine’ had also accounted for 36.7%. Broken down by gender, more than 43.7% of the female participants had taken part in the ‘Claw machine’, followed by ‘Mahjong’ and ‘Poker cards (such as Blackjack, Dou dizhu, Big Two)’, in which around 19.3% had participated. Most male respondents had also participated in the ‘Claw Machine’ activity (32.3%), followed by ‘Poker Cards (such as Blackjack, Dou dizhu, Big Two)’ and ‘Mahjong’ (20.3% and 19.8% respectively). Of all participants who had participated in gambling, 5.3% had also participated in ‘Sports betting (such as football, basketball)” (see Table 2. for further details).

Table 2. Participation in gambling activities or games with gambling nature in the past twelve months (Multiple responses)

Item	Male n (%)	Female n (%)	Total n (%)
Horse Races/Greyhound Races	1 (0.1)	1 (0.2)	2 (0.2)
Instant Lottery	30 (5.1)	19 (4.4)	49 (4.8)
Sports Betting (e.g., football, basketball)	44 (7.5)	10 (2.3)	54 (5.3)
Pigeon Ticket	1 (0.1)	0 (0.0)	1 (0.1)
Slot Machines	4 (0.7)	1 (0.2)	5 (0.5)
Mark Six	37 (6.3)	12 (2.8)	49 (4.8)
Mahjong	117 (19.8)	84 (19.3)	201 (19.6)
Poker Cards (e.g., Blackjack, Dou dizhu, Big Two)	120 (20.3)	84 (19.3)	204 (19.9)
Online Gambling	16 (2.7)	13 (3.0)	29 (2.7)
Fishing Machine (Game with gambling nature)	30 (5.1)	21 (4.8)	51 (5.0)
Claw Machine (Game with gambling nature)	191 (32.3)	190 (43.7)	381 (37.1)
Total N (%)	591 (57.6)	435 (42.4)	1026 (100.0)

3.2.2 Participants reported on their family member's participation in gambling in the last twelve months

Approximately 56.7% of participants had indicated that their family had participated in at least one gambling activity or game with gambling nature in the twelve months prior to the study. The most popular “Game of fortune” were ‘Mahjong’, ‘Mark six’, ‘Poker cards (e.g. Blackjack, Dou dizhu, Big Two)’ and ‘game with gambling nature’ were ‘Claw machines’, which had accounted for 23.0%, 15.4% and 13.4% respectively. Approximately 78% of the participants felt that the ‘gambling participation in their family’ had not been severe (see Table 3. for details).

Table 3. Participants reported on their family member's participation in gambling in the last twelve months (Multiple responses)

Item	Total n (%)
Horse Races/Greyhound Races	33 (2.6)
Instant Lottery	75 (6.0)
Sports Betting (e.g. Football, Basketball)	126 (10.0)
Casino Gambling (e.g. Baccarat, Pai Gow poker, Roulette)	110 (8.8)
Pigeon Tickets	11 (0.9)
Slot Machines	42 (3.3)
Mark Six	194 (15.4)
Mahjong	289 (23.0)
Poker cards (e.g. Blackjack, Dou dizhu, Big Two)	168 (13.4)
Online Gambling	22 (1.8)
Fishing Machine (gambling nature game)	19 (1.5)
Claw Machine (gambling nature game)	168 (13.4)
Total N (%)	1257 (100.0)

3.2.3 Age of participants when they first took part in gambling

Approximately 33.3% of the participants who had participated in gambling reported that they had first participated in gambling between the ages of 12 and 14, and approximately 27.8% of the participants had participated in gambling between the ages of 9 and 11 (see Table 4. for more details).

Table 4. Age of participants when they first took part in gambling

Age (years old)	Male n (%)	Female n (%)	Total n (%)
5 or above	29 (9.0)	12 (5.0)	41 (7.3)
6 - 8	53 (16.6)	55 (22.9)	108 (19.3)
9 - 11	82 (25.5)	74 (30.8)	156 (27.8)
12 - 14	111 (34.6)	76 (31.7)	187 (33.3)
15 -18	46 (14.3)	23 (9.6)	69 (12.3)
Total N(%)	321 (57.2)	240 (42.8)	561 (100.0)

3.2.4 The reasons for the "first" participation in gambling activities of the participants

Most of the participants who had participated in gambling stated that their motivation for their "first participation in gambling" was "To seek entertainment" (approx. 72.5%), followed by "To socialize with peers" (31.2%), and " To cope with familial gambling " (12.7%) (see Table 5. for details).

Table 4. Age of participants when they first took part in gambling

Age (years old)	Male n (%)	Female n (%)	Total n (%)
5 or above	29 (9.0)	12 (5.0)	41 (7.3)
6 - 8	53 (16.6)	55 (22.9)	108 (19.3)
9 - 11	82 (25.5)	74 (30.8)	156 (27.8)
12 - 14	111 (34.6)	76 (31.7)	187 (33.3)
15 -18	46 (14.3)	23 (9.6)	69 (12.3)
Total N(%)	321 (57.2)	240 (42.8)	561 (100.0)

3.2.4 The reasons for the "first" participation in gambling activities of the participants

Most of the participants who had participated in gambling had stated that their motivation for their "first participation in gambling" was "To seek entertainment" (approx. 72.5%), followed by "To socialize with peers" (31.2%), and " To cope with familial gambling " (12.7%) (see Table 5. for details).

Table 5. Reasons for the participants' 'first' participation in gambling activities (Multiple responses)

Reason	Male n (%)	Female n (%)	Total n (%)
To try betting	29 (4.9)	13 (2.2)	42 (7.1)
To cope with familial gambling	54 (9.1)	21 (3.5)	75 (12.7)
To socialize with peers	104 (17.6)	80 (13.5)	184 (31.1)
To win money	28 (4.7)	6 (1.0)	34 (5.7)
To seek entertainment	234 (39.5)	196 (33.1)	428 (72.6)
Total N(%)	347 (58.6)	245 (41.4)	590 (100.0)

3.2.5 Partners in gambling activities

Family members or friends were typically the ones who accompanied the participants when they gambled (61.4 % and 57.1 % respectively). See Table 6. for more information.

Table 6. Partners of participants when participating in gambling activities (Multiple responses)

Partner	Male n (%)	Female n (%)	Total n (%)
Family	182 (32.1)	166 (29.3)	348 (61.4)
Friends	175 (30.9)	149 (26.3)	324 (57.1)
Classmates	98 (17.3)	53 (9.3)	151 (26.6)
Alone	90 (15.9)	64 (11.3)	154 (27.2)
Total N(%)	325 (57.3)	242 (42.7)	567 (100.0)

3.2.6 Time and money spent by the participants on 'money-betting' gambling activities

The participants had stated that most of them (65.4 %) had spent 'less than one hour' per month on money-involved gambling activity in the past year. In terms of the costs associated with gambling, 88.3% of the participants had responded that they had spent less than 500 Macau Patacas per month on gambling. The money they had spent on gambling came from 'Pocket money' (71.1%), 'From family members' (46.7%) and 'Personal savings' (32.0%) (see Table 7.- Table 9. for details).

Table 7. Time spent by participants on 'money-betting' gambling activities

Duration (hours)	Male n (%)	Female n (%)	Total n (%)
Less than 1 hour	157 (62.8)	132 (68.8)	289 (65.4)
1 - 5	78 (31.2)	45 (23.4)	123 (27.8)
6 - 10	11 (4.4)	5 (2.6)	16 (3.6)
11 - 15	2 (0.8)	5 (2.6)	7 (1.6)
15 hours or more	2 (0.8)	5 (2.6)	7 (1.6)
Total N(%)	250 (56.6)	192 (43.4)	442 (100.0)

Table 8. Amount of money spent by participants on 'money-betting' gambling activities

Expenditure (Macau Patacas)	Male n (%)	Female n (%)	Total n (%)
1-500	207 (87.0)	163 (90.1)	370 (88.3)
501-1000	19 (8.0)	14 (7.7)	33 (7.9)
1001-3000	7 (2.9)	2 (1.1)	9 (2.1)
3001-10000	5 (2.1)	2 (1.1)	7 (1.7)
Total N(%)	238 (56.8)	181 (43.2)	419 (100.0)

3.2.7 The family's responses of the participants when they recognized their participation in gambling

Participants who had participated in gambling stated that most of their family member had 'Not much response' (77.9%) when they found out about their gambling participation. Only 16.7% and 5.2% of the participants had reported that their families had 'Asked them to reduce gambling' or 'Asked them to stop gambling' (see Table 10. for details).

Table 9. Sources of betting money for "money-related" gambling activities among participants (Multiple responses)

Betting money source	Male n (%)	Female n (%)	Total n (%)
Pocket money	183 (37.8)	161 (33.3)	344 (71.1)
From family members	113 (23.3)	113 (23.3)	226 (46.7)
Personal savings	93 (19.2)	62 (12.8)	155 (32.0)
Part-time job wages	21 (4.3)	13 (2.7)	34 (7.0)
Borrowing from others	2 (0.4)	0 (0.0)	2 (0.4)
Total N(%)	273 (56.4)	211 (43.6)	484 (100.0)

Table 10. Participants' reflection on their family's reaction when they find out they are participating in gambling activities (Multiple responses)

Family's reaction	Male n (%)	Female n (%)	Total n (%)
Ask me to stop gambling	21 (4.2)	5 (1.0)	26 (5.2)
Ask me to reduce gambling	51 (10.3)	32 (6.4)	83 (16.7)
Encourage me	14 (2.8)	16 (3.2)	30 (6.0)
No significant reaction	212 (42.7)	175 (35.2)	387 (77.9)
Worried about me losing money	20 (4.0)	14 (2.8)	34 (6.8)
Involved in the stake	8 (1.6)	7 (1.4)	15 (3.0)
Avoid talking about it	8 (1.6)	3 (0.6)	11 (2.2)
Total N(%)	287 (57.7)	210 (42.3)	497 (100.0)

3.3 Family situation of the participants

3.3.1 The ‘marital status’ of the parents of the participants

Table 11. showed that 79.8% of parents of the participants lived in a ‘marital relationship’.

Table 11. Parent's 'Marital Status' of the parents

Parent's "Marital Status"	Male n (%)	Female n (%)	Total n (%)
Married (Living Together)	416 (79.2)	273 (80.8)	689 (79.8)
Married (Separated)	38 (7.2)	20 (5.9)	58 (6.7)
Divorced	46 (8.8)	33 (9.8)	79 (9.2)
Other	25 (4.8)	12 (3.5)	37 (4.3)
Total N(%)	525 (60.8)	338 (39.2)	863 (100.0)

3.3.1 'Educational level' of the participants' parents

Most of the participants had stated that their parents' level of education was mainly at 'Secondary school level' (45.3% and 46.4% respectively), followed by 'University level or higher' with 36.9% and 34.1% respectively (see Table 12. for details).

Table 12. Parents' "Educational Level" of the participants

Educational Level	Male n (%)	Female n (%)	Total n (%)
Father			
Primary School or No Formal Education	49 (9.6)	27 (8.4)	76 (9.1)
Secondary School	227 (44.3)	151 (46.7)	378 (45.3)
College	40 (7.8)	33 (10.2)	73 (8.7)
University or Above	196 (38.3)	112 (34.7)	308 (36.9)
Total N(%)	512 (61.3)	323 (38.7)	835(100.0)
Mother			
Primary School or No Formal Education	41 (8.0)	24 (7.2)	65 (7.6)
Secondary School	234 (45.4)	160 (47.8)	394 (46.4)
College	61 (11.8)	40 (11.9)	101 (11.9)
University or Above	179 (34.8)	111 (33.1)	290 (34.1)
Total N(%)	515 (60.6)	335 (39.4)	850 (100.0)

3.3.1 'Employment situation' of the parents of the participants

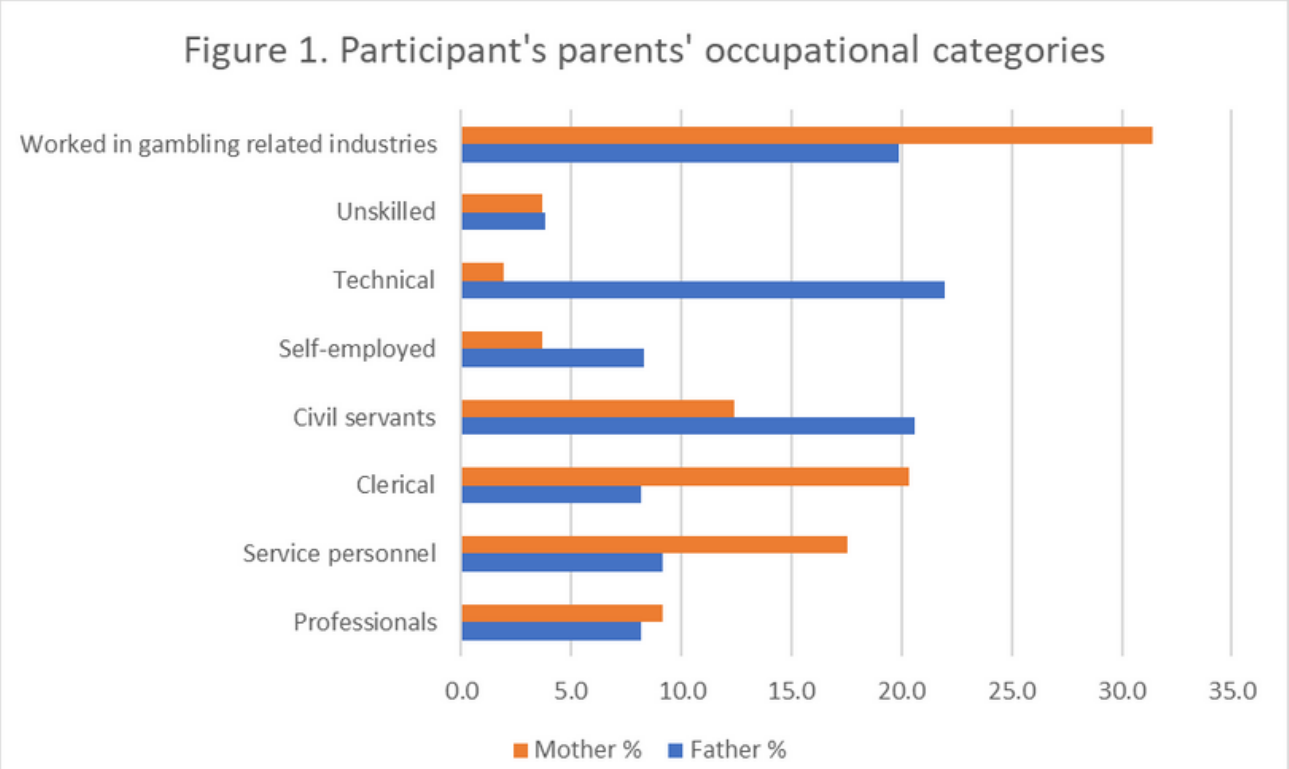
At 77.7% and 70.2% respectively, the employment situation of the participants' parents was predominantly working (see Table 13. for details). The proportion of those who had to work on shifts was 42.6% and 48.4% respectively (see Table 14. for details). As far as the parents' occupational categories were concerned, 19.9% and 31.4% respectively were 'Worked in gambling related industries' (see Figure 1. for details).

Table 13. 'Employment situation' of the participants' parents

Employment situation	Male n (%)	Female n (%)	Total n (%)
Father			
Employed	409 (78.0)	262 (77.1)	671 (77.7)
Housework	2 (0.4)	7 (2.1)	9 (1.0)
Retired	24 (4.6)	9 (2.6)	33 (3.8)
Unemployed	5 (1.0)	9 (2.6)	14 (1.6)
Not know/ Refused to reply	84 (16.0)	53 (15.6)	137 (15.9)
Total N(%)	524 (60.6)	340 (39.4)	864 (100.0)
Mother			
Employed	377 (71.8)	233 (68.1)	610 (70.2)
Housework	86 (16.3)	71 (20.7)	157 (18.1)
Retired	9 (1.7)	5 (1.5)	14 (1.6)
Unemployed	6 (1.1)	5 (1.5)	11 (1.3)
Not know/ Refused to reply	48 (9.1)	28 (8.2)	76 (8.8)
Total N(%)	526 (60.6)	342 (39.4)	868 (100.0)

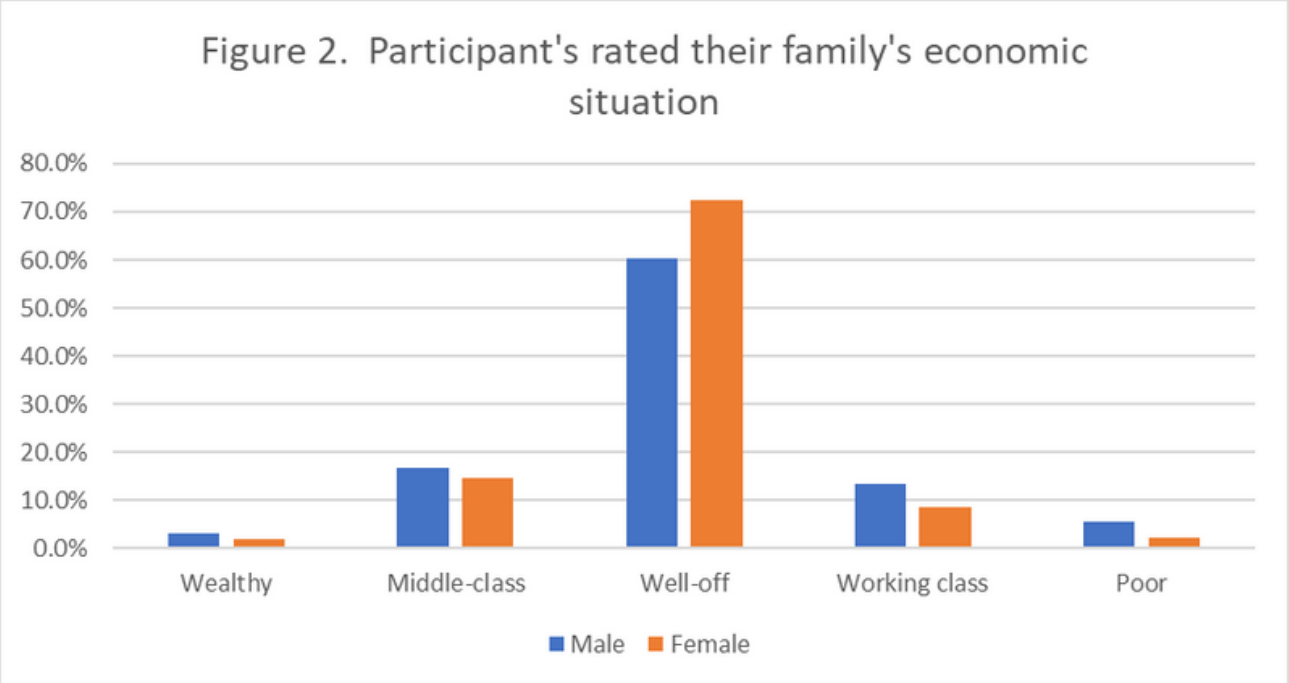
Table 14. Parents' 'nature of work' of the participants

Nature of Work	Male n (%)	Female n (%)	Total n (%)
Father			
Shift required	217 (44.7)	125 (39.6)	342 (42.6)
No shift required	269 (55.3)	191 (60.4)	460 (57.4)
Total N(%)	486 (60.6)	316 (39.4)	802 (100.0)
Mother			
Shift required	213 (50.0)	127 (46.0)	340 (48.4)
No shift required	213 (50.0)	149 (54.0)	362 (51.6)
Total N(%)	426 (60.7)	276 (39.3)	702 (100.0)

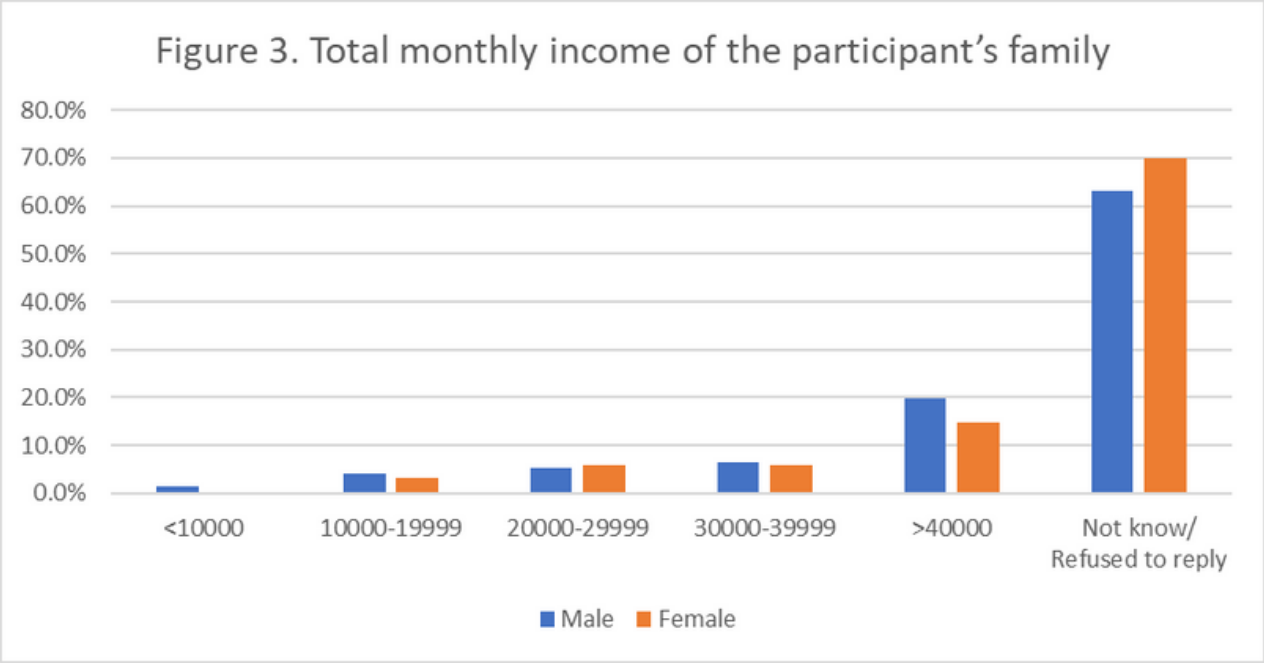


3.3.4 The family economic situation of the participants

Most of the participants rated their family's economic situation as 'Well-off', which corresponds to around 65.3% (see Figure 2. for details).



The total monthly income of the participant's families was mostly 'more than 40,000 Macau Patacas', which corresponds to 17.7% (see Figure 3. for details).



3.4 The family functioning assessment of the participants

3.4.1 Reliability analysis of the APGAR family functioning assessment of the participants

In the study, the five items of the APGAR Family Function index were used to assess the perception of family support of the participants, and the results of the study were subjected to reliability analysis in SPSS, with a Cronbach's alpha coefficient of 0.894 and a standardized Cronbach's alpha coefficient of 0.894; the Cronbach's alpha coefficients when each item was deleted were all not higher than the Cronbach's alpha coefficient and the standardized Cronbach's alpha coefficient of the entire scale. According to Wu (2014), in the field of social science research, the reliability of the whole scale was best with a Cronbach's alpha coefficient ≥ 0.9, followed by 0.8-0.9 as good, 0.7-0.8 as acceptable, 0.6-0.7 as just acceptable, and ≤ 0.6 as not ideal, which required recompilation.

To summarize, the APGAR Family Function index used in this study as an instrument to assess the subjective level of family support of the participants had good reliability (see Table 15. for details). In addition, all items were included in the analysis in this study and no item was deleted.

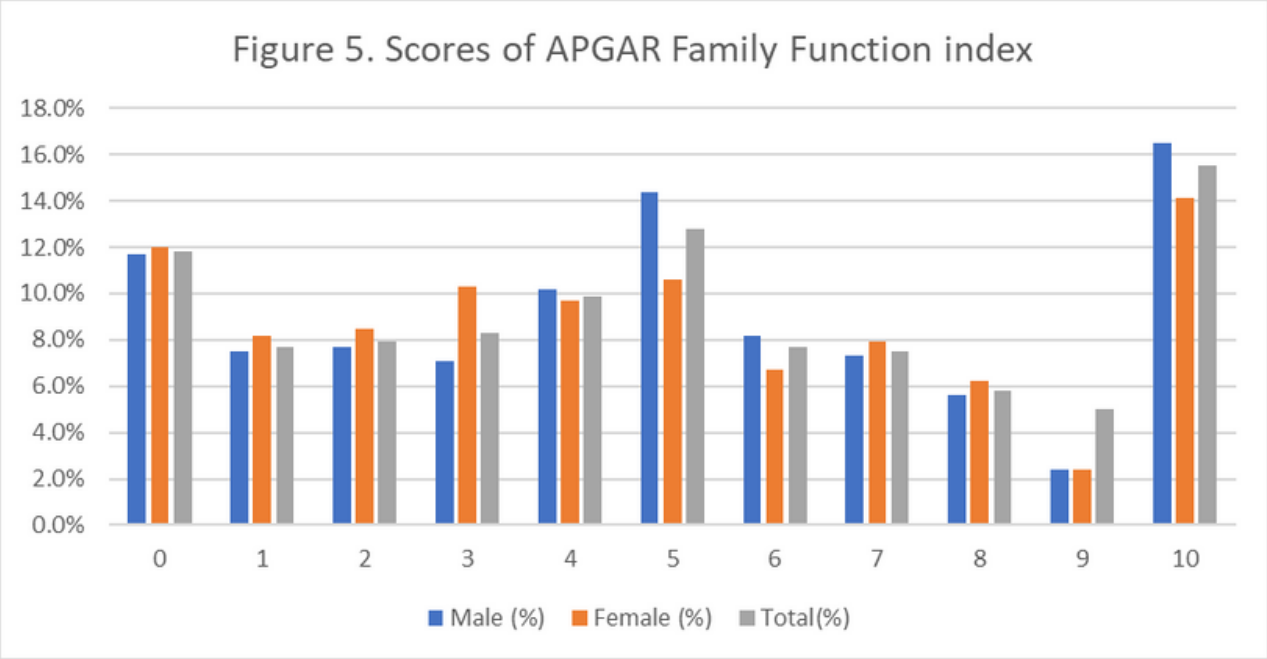
Table 15. Reliability Analysis of the Family APGAR Family Function Assessment scale in the participants

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.894	0.894	5

3.4.2 Status of the family function of the participants

In terms of rating family function, the participants had rated the level of caring of their families the highest, with 15.5% scoring a full '10'. However, the mean score had been 4.95 ± 3.312, which corresponded to the level of "family with mild dysfunction" (see Figure 4.). The mean scores for the individual items had ranged from 0.81±7.8 to 1.14±7.85. The participants had perceived difficulties in affective support and partnership from their families, and no gender differences were found (see Table 16. for details).

Figure 5. showed that only around 33.8% of the participants stated that the care and support they received from their family was satisfactory. In other words, around 60% of the participants' family were at mild or severe dysfunction. This functional impairment did not show any differences by gender in the analysis in Table 17.



3.5 Analysis of gambling disorders among the participants

3.5.1 Reliability analysis of the DSM-5 diagnostic criteria for gambling disorder among the participants

In that study, the nine basic characteristics of DSM-5 diagnostic criteria for gambling addiction were used to evaluate the participants, and their results were used for reliability analysis in SPSS. The Cronbach's alpha coefficient was 0.645 and the standardized Cronbach's alpha coefficient was 0.652; the Cronbach's alpha coefficients were not higher than the Cronbach's alpha coefficient and the standardized Cronbach's alpha coefficient of the entire scale when the individual items were deleted.

To summarize, the DSM-5 diagnostic criteria used in that study to assess the extent of gambling disorder in the participants were still acceptable in terms of reliability (see Table 18. for details). Furthermore, all items were included in the analysis of that study and no item was deleted.

Table 16. Gender differences of the items in the APGAR assessment of participants

	Gender	n	Mean	Standard Deviation	t	*p*
I am satisfied that when I encounter difficulties, I can seek help from my family. (Adaptability)	Male	526	1.03	0.795	-0.133	0.894
	Female	344	1.04	0.809		
I am satisfied with the way my family and I discuss things and share problems. (Partnership)	Male	525	0.87	0.816	0.309	0.757
	Female	345	0.85	0.807		
I am satisfied that when I want to engage in new activities, or have a new direction of development, my family can accept and support me. (Development)	Male	526	1.14	0.784	0.091	0.927
	Female	344	1.14	0.781		
I am satisfied with the way my family expresses emotions to me, and their reaction to my emotions (such as anger, sadness, love). (Affectivity)	Male	525	0.85	0.785	1.229	0.219
	Female	344	0.78	0.777		
I am satisfied with the way my family and I get along. (Revolve capacity)	Male	527	1.13	0.796	0.934	0.351
	Female	344	1.08	0.758		

Table 17. Gender differences in the Family Function assessment by participants

	Normal Family Function	Mild Family Dysfunction	Severe Family Dysfunction	X2	*p*
	n	n	n		
Male	174	172	177	0.066	0.152
Female	117	92	132		

Table 18. Reliability Analysis of the DSM-5 diagnostic criteria for the analysis of gambling disorder of the participants

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.645	0.652	9

3.5.2 The abnormal rate at which each of the diagnostic criteria for gambling disorders among the participants

When the dimension of "Self-Control and Dependence" to gambling was analyzed, the mean score for participants was 0.56±0.934. Males scored slightly higher at 0.59±0.977, while females scored 0.50±0.845. However, the difference between genders was not statistically significant (see Table 19. for details).

Table 19. Gender differences of the Problem of "Self-control and Dependence" on gambling disorder among participants

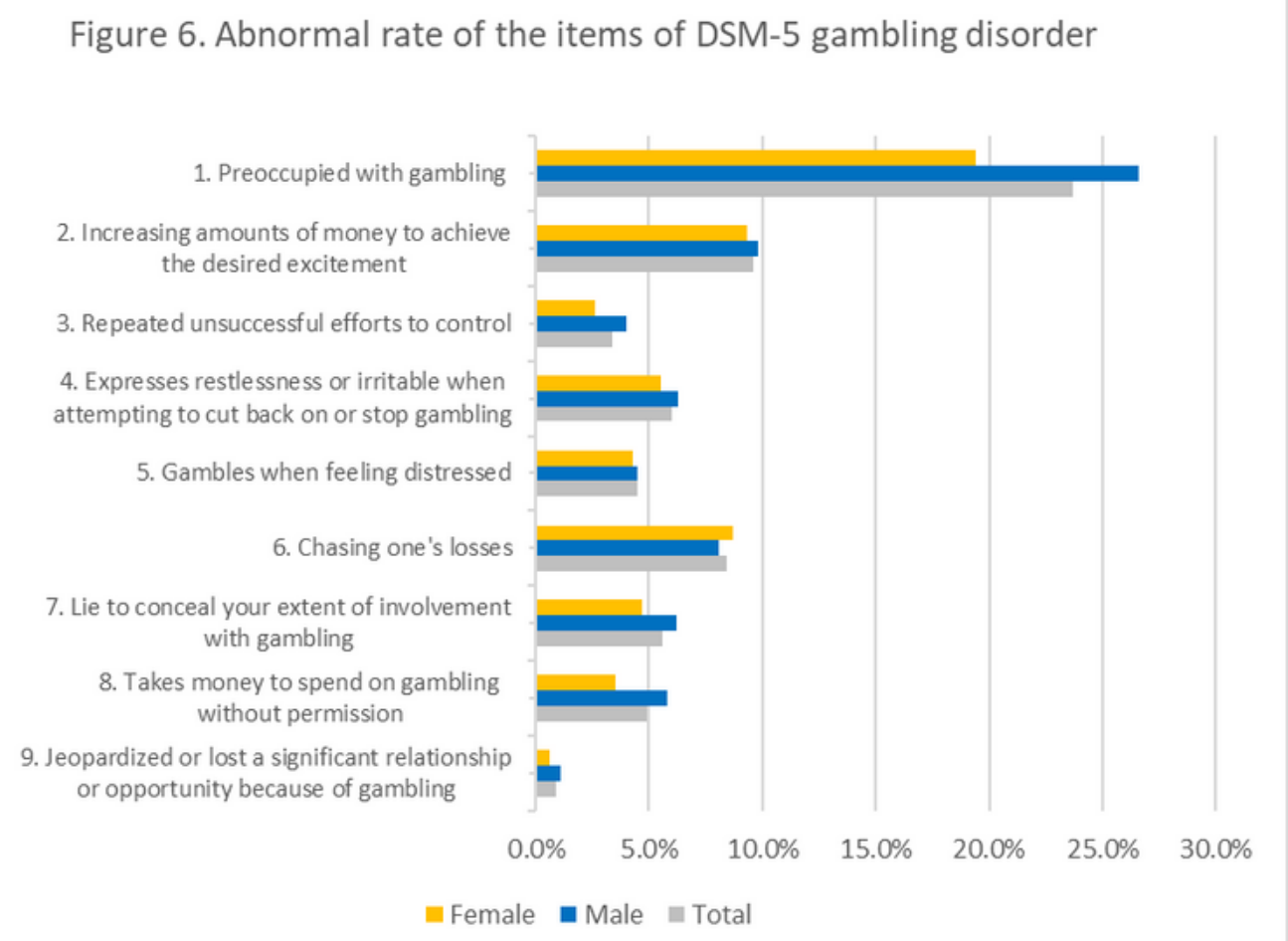
	Mean	Standard Deviation	t	*p*
Male	0.59	0.977	1.379	0.168
Female	0.5	0.845		

When the three items of the dimension of “Influence of Gambling” on the participants due to gambling behavior were analyzed, the mean score of the participants was 0.11±0.406, with male participants having scored 0.13±0.445 and female participants having scored 0.09±0.339. There were no statistically significant differences between the genders (see Table 20. for details).

Table 20. Gender differences of the “Influence of Gambling” on gambling disorder among participants

	Mean	Standard Deviation	t	*p*
Male	0.13	0.445	1.667	0.096
Female	0.09	0.339		

Figure 6. showed that the abnormal rates for the individual items were between 0.9 % and 23.7 %. The abnormal rate was higher for the “Self-Control and Dependence” aspect of gambling, which included: ‘1. Are you often preoccupied with gambling (e.g., having persistent thoughts of reliving past gambling experience, handicapping or planning the next venture, thinking of ways to get money with which to gamble)?’. The abnormal rate was 23.7%, 26.6% for males and 19.4% for females; ‘2. Do you need to gamble with increasing amounts of money in order to achieve the desired excitement?’, the abnormal rate was 9.6%, 9.8% for males and 9.3% for females; and ‘6. After losing money gambling, do you often return another day to get even (“chasing” one’s losses)?’, the abnormal rate was 8.4%, 8.1% for males and 8.7% for females.



3.5.3 The abnormal rate of gambling disorder in the participants

Using the DSM-5 diagnostic standard for gambling disorder, which included a total of nine items, the added up mean score of the participants was 0.67±1.174, with a score of 0.73±1.273 for males and 0.59±0.980 for females. There was a statistically significant difference in the scores of gambling disorder between the different genders (see Table 21. for details).

Table 21. Gender differences in gambling disorder levels among participants

	Cases without "moderate to severe" gambling disorder n	Cases with "moderate to severe" gambling disorder n	X2	*p*
Male	499	22	3.979	0.046*
Female	335	6		

*p<0.05

Nevertheless, around 3.2% of the participants was found to have suffered from a 'moderate to severe' gaming disorder, including 2.6% males and 0.7% females. The Chi-square test had revealed no statistically significant differences in the incidence of gambling disorder between different genders (see Table 22. for more details).

Table 22. Gender differences of 'moderate to severe'' gambling disorder among participants

	Mean	Standard Deviation	t	*p*
Male	0.73	1.273	1.74	0.082
Female	0.59	0.98		

3.5.4 Analysis of the extent of gambling disorder among the participants

In the correlation analysis between the participants' gambling disorders and various social-demographic data, the items that had statistically significant differences were the 'total family income per month' and the 'score of the AGPAR Family Function index'. The lower the total monthly family income of the participants had been, the higher the score on the gambling disorder scale were; the lower scores the AGPAR Family Function index had been, the higher the score on the gambling disorder scale were (see Table 23. for details).

Table 23. Correlation analysis between the degree of gambling disorders among the participants and various social-demographic data

	r/rs/τ	*p*
Gender	-0.055	0.106
Age	-0.058	0.082
Parents' marital status	0.04	0.229
Father's education level	-0.039	0.203
Mother's education level	-0.046	0.129
Father's employment status	0.036	0.242
Mother's employment status	-0.015	0.631
Father work in shifts	0	0.989
Mother work in shifts	0.015	0.685
Father's occupational category	0.025	0.489
Mother's occupational category	-0.019	0.608
Family's financial situation	0.008	0.822
Total family income per month	-0.063	0.032*
Family function score	-0.088	0.009**

*p<0.05; **p<0.01

The analysis of the gambling behaviors of the participants and their family members showed that the participations of various gambling activities was related to the degree of gambling disorder of the participants, with statistically significant differences (see Table 24. for more details).

Table 24. Correlation Analysis of participants and their family members participation in gambling activities and the degree of gambling disorder of participants

	r/rs/τ	p
Participated in gambling activities in the past twelve months		
Horse races/greyhound races	0.065	0.050*
Instant lottery	0.213	<0.01**
Sports betting (e.g. Football, Basketball)	0.272	<0.01**
Slot machines	0.187	<0.01**
Mark six	0.166	<0.01**
Mahjong	0.286	<0.01**
Poker cards (e.g. Blackjack, Dou dizhu, Big Two)	0.276	<0.01**
Online gambling	0.224	<0.01**
Fishing machine (gambling nature game)	0.195	<0.01**
Claw machine (gambling nature game)	0.178	<0.01**
Family members participated in gambling activities in the past twelve months		
Instant lottery	0.097	0.004**
Sports betting (e.g. Football, Basketball)	0.175	<0.01**
Casino gambling (e.g. Baccarat, Pai Gow poker, Roulette)	0.118	<0.01**
White pigeon ticket	0.129	<0.01**
Mark six	0.154	<0.01**
Mahjong	0.142	<0.01**
Poker cards (e.g. Blackjack, Dou dizhu, Big Two)	0.142	<0.01**
Online gambling	0.112	<0.01**
Age of first participation in gambling	-0.22	<0.01**

Table 24. Correlation Analysis of participants and their family members participation in gambling activities and the degree of gambling disorder of participants (continue)

	r/rs/τ	*p*
Reason for first participation in gambling		
To try betting	0.133	<0.01**
To socialize with peers	0.077	0.021*
To win Money	0.204	<0.01**
To seek entertainment	0.135	<0.01**
Partners in gambling activities		
Family Members	0.155	<0.01**
Friends	0.243	<0.01**
Classmates	0.187	<0.01**
Alone	0.121	<0.01**
Average time spent on gambling activities involving money per month in the past year	0.373	<0.01**
Average money spent on gambling activities involving money per month in the past year	0.334	<0.01**
Source of funds spent on gambling activities		
Pocket money	0.232	<0.01**
Provided by family	0.102	0.002**
Personal savings	0.196	<0.01**
Part-time wage	0.201	<0.01**
Family's reaction after knowing their participation in gambling activities		
Ask me to reduce gambling	0.087	0.009**
No much responses	0.144	<0.01**
Worried about me losing money	0.14	<0.01**
Involved in the stake	0.088	<0.01**
Avoid talking about it	0.193	<0.01**
Perception of Family's Severity of Gambling Problem	0.265	<0.01**

*p<0.05; **p<0.01

In Table 25., the binary logistic regression analysis showed that the amount of time participants spent on gambling, their participation in certain gambling activities, their family's responses to their participation in gambling activities, and the reasons for their first participation in gambling activities had certain influences on whether they have the chance to develop gambling disorder. If the participants had spent more time on money-involved gambling activities in the last twelve months than participants who had not participated in gambling at all, the risk of developing gambling disorder increased by 6.43%. Regarding the type of gambling activities, the risk of developing gambling disorder increased by 3.026-8.952% if the participants had participated in 'Instant lottery', 'Poker cards (e.g. Blackjack, Dou dizhu, Big Two)' and 'online gambling' in the past 12 months; if their family had participated in 'Instant lottery', the risk slightly increased by 0.089%. After the family realized of the participant's participation in gambling, the risk of developing gambling disorder was 8.778% higher if the family members reacted with an 'avoidance' attitude. Finally, the risk of developing gambling disorder was 0.83% higher if the participant participated in gambling for the first time because they 'Wanted to win money'.

Table 25. Binary logistic regression analysis of factors influencing gambling disorder in participants

Predictive variables	B	S.E.	X2	*p*	OR	95% CI
Average time spent per month on gambling involving money in the past twelve months (Control group: No participation at all)	16.051	8.793	16.623	0.011	6.43	9.6-56.43
Participation in the past twelve months						
Instant lottery (Self)	2.192	0.558	15.404	<0.001	8.952	2.996-26.746
Poker cards (e.g. Blackjack, Dou dizhu, Big Two)(Self)	1.107	0.492	5.064	0.024	3.026	1.154-7.940
Online gambling (Self)	2.063	0.61	11.446	0.001	7.866	2.381-25.985
Instant lottery (Family)	-2.419	0.917	6.954	0.008	0.089	0.015-0.537
Family's response to participant's gambling participation: Avoidance	2.172	0.946	5.269	0.022	8.778	1.374-56.090
Reason for first participation in gambling: Want to win money	0.511	0.196	2.6	0.009	0.83	0.025-0.896

Model X2= 85.112% (p<0.001); Cox & Snell R2= 0.93, Nagelkerke R2=0.367; Hosmer and Lemeshow X2=11.317 (p=0.125)

4. Discussion

4.1 Active participation in gambling by the participants

This study found that 56.3% of participants had participated in at least one gambling activity or game of gambling nature in the past year, demonstrating the active participation on gambling among adolescents in Macau. Although most participants said they participated in gambling occasionally, 15.8% of participants said they gambled at least once a month. It is worth noting that despite the fact that the participants in this study were students aged 12-19, the “12-14” age group predominates in first-time gambling participation. Numerous studies have confirmed that people who are younger when they first come into contact with gambling activities tend to gamble more frequently and have higher risk of gambling disorder (Volberg, Gupta, Griffiths, Olason, & Delfabbro, 2010). It is therefore very important to let adolescents understand the nature of gambling early to avoid the development of gambling disorder.

Both previous studies and the results of this study have found that the reasons for adolescents to participate in gambling are diverse, including to seek for entertainment, financial benefits and socialization with peers. As the society changes, so do the forms of gambling-related activities. In this study, it was found that more than 37% of the participants had participated in “Claw machine” activities. It is not difficult to find that in recent years, “Claw machines” stores have been opened in many residential areas in Macau, offering various groceries or exquisite goods as prizes, attracting many adolescents to play as a kind of entertainment. However, “Claw machine” is a “random probability” activity similar to the probability of gambling. When adolescents are yet to reach their cognitive developmental maturity, this type of game with gambling nature is easily ignored

because of the gambling mentality of “punch above one's weight” and thus underestimating the impact of gambling on their values (Montiel, Basterra-González, Machimbarrena, Ortega-Barón, & González-Cabrera, 2022).

4.2 The dual-career family structure and lack of family support of the participants may have a negative impact on their participation in gambling

Family functioning has a significant impact on the physical and mental development of adolescents. Good family functioning, such as effective communication and emotional support, promotes adolescent mental health and reduces behavioral problems (Shek, 2002). Positive regulation and autonomy support in the family environment are positively related to adolescents’ social adaptability (Barber, & Erickson, 2001). In addition, a healthy family environment has been found to be associated with lower use of alcohol and other substances by adolescents (Ryan, Jorm, & Lubman, 2010). These studies suggest that a stable and supportive family structure is critical to promoting healthy growth in adolescents. In addition, a stable family environment helps adolescents to build healthy self-esteem and self-identity, which in turn impacts their social skills and academic performance. Conversely, a dysfunctional family environment can lead to behavioral problems and psychological stress in adolescents, increasing the likelihood that they will engage in risky behaviors, including gambling.

The family structure of the participants in this study mostly consists of both parents, and most of them have educational level of secondary school or higher. A significant proportion of them are “Worked in gambling related industries”. Despite the stable working condition of the parents and the economic situation of the family, especially the middle-class level, which provide a relatively stable living environment

for the adolescents (Dickson, Derevensky, & Gupta, 2008). Nevertheless, the participants in this study indicate that they perceived their family functioning is at mild to severe dysfunctional level, which may be related to inadequate parent-child communication and interaction due to the fact that both parents are required to work. Many studies have shown that good family functioning, such as support and care between members, is crucial for the healthy development of adolescents (Velleman, Templeton, & Copello, 2005).

Furthermore, gambling is seen as an acceptable leisure activity from a societal perspective, but this can lead to an incorrect risk perceptions and misbehaviors among vulnerable groups of young people (Hing, Russell, Tolchard, & Nower, 2016). Almost half of the participants reported that their family members had participated in at least one gambling activity in the past year. There are also students who have participated in some gambling activities that involve larg amounts of money, such as “Casino gambling (e.g. Baccarat, Pai Gow poker, Roulette)”, “Slot machines”, and “Online gambling”. The tendency of adolescents’ participation in gambling have proven to have a positive correlation to the gambling behavior of family members, suggesting that the family environment and the behavior of family members have a significant influence on the development of adolescent gambling behavior (Magoon, & Ingersoll, 2006). Some studies have found that the family members who engage in gambling activities are mostly parents and other relatives. This pattern of family gambling behavior can directly affect adolescents by serving as a role model and leading them to imitate or view gambling as acceptable (Hardoon, & Derevensky, 2002). In particular, family gambling behavior is positively correlated with adolescent gambling behavior, indicating the role of the family environment in the formation of gambling behavior (Griffiths & Delfabbro, 2001).

These family characteristics not only affect adolescents' daily behavior, but can also influence their understanding, participation, and appreciation of gambling activities (Canale, Vieno, Griffiths, Rubaltelli, & Santinello, 2015) and significantly affect the risk of developing gambling disorder (Mccormick, Delfabbro, & Denson, 2012; Vachon, Vitaro, Wanner, & Tremblay, 2004).

Therefore, helping adolescents understand their family members' backgrounds of gambling, and the cause and effect relationship of gambling behavior can help prevent them from developing the risk for gambling disorder.

4.3 "Gamification" of gambling-related activities and family response on participant's participation in gambling are risk factors for the development of gambling disorders in participants

The risk factors for adolescent participation in gambling activities and the development of gambling disorders are diverse, which include individual characteristics, family background, social environment and internet use habits. Gender and age are important risk factors, with studies showing that male adolescents and older adolescents are more likely to develop gambling problems (Giosan et al., 2024; Andrie et al., 2019). Socioeconomic status is also a determining factor, with lower family economic status being associated with a higher incidence of gambling behavior. In addition, categories of previous gambling activities, family attitudes towards gambling, early gambling experiences and personal gambling motivations are also risk factors associated with the onset of gambling disorders in adolescents.

This study found that the amount of time the participants spent on gambling, their participation in certain gambling activities, their family member's response to their participation in gambling, and the reasons for their first-time participation in gambling are negatively influencing

on the possibility of developing gambling disorder. These risks increased the likelihood of developing gambling disorder by about 3%-9%. The family environment, such as gambling behavior and parental attitudes, as well as reactions to adolescents' participation in gambling, have a significant impact on whether adolescents continue to participate in gambling. When adolescents who are lack of parental supervision and support, they are more likely to participate in gambling and develop gambling disorder (Riley, Oster, Rahamathulla, & Lawn, 2021; Livazović, & Bojčić, 2019).

Recent research in Macau shows that adolescent's psychological resilience can mitigate the link between anxiety and gambling disorders (Chen et al., 2018), and the positive influence of family and social circles also helps to prevent gambling problems in adolescents (Dowling et al., 2015). Furthermore, in Schwartz's (2003) theory of universal values, universalism (the understanding, appreciation, tolerance, and protection of the well-being of people and nature) is negatively correlated with gambling disorders, suggesting that adolescents who value universalism are less likely to have gambling problems (Chan, 2012; Leung, 2023). These are all good protective factors for the prevention of gambling disorders. However, the internet has changed gambling behavior and increased the opportunities for teens to be exposed to gambling (Gainsbury et al., 2014). For example, popular online games and "Mystery toy boxes" or "Loot boxes" lotteries are virtualized and activities similar to "Claw machines" games, where players pay to receive random virtual items. This form of activities has significant similarities to the chance and reward system of traditional gambling. These activities can make adolescents to lose their vigilance towards gambling and easily develop an illusion of control about gambling and values to achieve "leverage to maximize returns" or to

seek thrills (Montiel, Basterra-González, Machimbarrena, M., Ortega-Barón, & González-Cabrera, 2022). To prevent gambling disorders in adolescents, monitoring and support at the family level are extremely important. Parents must actively participate in the daily life of adolescents, providing guidance and support and helping them to develop healthy leisure habits.

5. Suggestions and Recommendations

Based on the analysis of the results of this study and referring to the prevention and suggestions of international and neighboring countries and regions, the research team proposes a multi-level and multi-strategy comprehensive approach to prevent the aggravation of gambling disorder among Macau adolescents.

1.Family's level

1.1 Strengthen family supervision and support: The family is the first line of defense against adolescents gambling disorder. Parents must pay attention to adolescents' participation in gambling and activities with gambling nature. To provide guidance, especially in the use of the internet and participation in online games, so that they are not easily drawn into "gamified" and gambling related activities (Montiel, Basterra-González, Machimbarrena, M., Ortega-Barón, & González-Cabrera, 2022). By setting clear rules and expectations, parents can help adolescents to develop healthy gaming habits and resist participation.

1.2 Cultivate a healthy family environment: Creating an open communication environment allows adolescents to freely express their thoughts and feelings. Parents should actively and clearly guide their children's participation in gambling and similar activities, particularly

stop responding in a way that avoids discussion or even encourages participation in gambling (Giosan et al., 2024).

2. School's level

2.1 Implementation of education and prevention programs: Schools are ideal places to impart knowledge and social skills. Implementing gambling prevention education programs in schools that target students and parents can help adolescents understand the risks of gambling, cultivate critical thinking and develop the ability to make wise choices. At the same time, it is recommended to expand the content of value education, establish the values of universalism for adolescents, promote equality, peace, appreciation, tolerance and environmental protection, support the well-being of people and nature, etc., which can help adolescents establish positive values and thus reduce the risk of gambling disorder.

3. Community's level

3.1 Increase community involvement and promotion: To raise community awareness of adolescents gambling disorder through community organizations and public service activities. These activities may include education, health promotion projects and community support networks.

3.2 Continued attention to games with gambling nature: National and international studies showed that common activities such as "Claw machines", "Mystery toy boxes", "Loot boxes" lotteries and mobile games might have varying degrees of negative impacts on children and adolescents, and could lead to the development incorrect values about gambling. It is proposed that targeted preventative educational work be carried out for gambling-related leisure activities in order to

help children and adolescents develop correct knowledge and values.

6. Conclusion

A total of 923 questionnaires were distributed to students aged 12-19, and 915 valid questionnaires were returned, representing a response rate of 99.1%. The participants were from 9 formal educational schools, representing about 15% of the total number of Secondary schools in Macau in the 2023/2024 scholastic year. The participants range from junior secondary to senior secondary school, with the majority attending grade 10 and 11. The number of respondents represents approximately 3.3% of the total number of junior and senior secondary school students in Macau in the 2023/2024 scholastic year.

The participants had participated quite actively in various types of gambling or activities of gambling nature in the last twelve months, with around 60% of participants stating that they had participated in at least one gambling or activity of a gambling nature in the study. Among them, participating in the "gamification" type of "claw machines" received the most responses, followed by 20% of student respondents who said they had participated in "games of fortune" activities. It is worth noting that about 60% of the student respondents said that their family members had participated in different types of gambling activities in the past 12 months. Among them, those who had participated in "games of fortune" and "games of lucky " activities were the most popular; those who had participated in the "gamification" type of " claw machines " also received many responses.

Most participants stated that the youngest age at which they first participated in gambling was “12-14 years old” and the reason for their “first participation in gambling” was mainly “ to seek entertainment”, which shows that the participants and their parents have a high level

of participation in various gambling activities and easily overlook the harms of excessive participation in gambling.

Most of the participants come from dual-career family. Although they are relatively stable in terms of family financial support, they reflect a general lack of perception of family caring, especially in terms of family affection and partnership. The response of family members to their participation in gambling was mostly evasive. Although the results of this study indicate that there are not many participants with gambling disorders (3.2%), the frequency of their family members' participation in gambling and the family's reaction to the participants' participation in gambling could lead students to mistakenly think that a gambling mindset and participation in gambling are acceptable.

In predicting the risk of developing a gambling disorder, the time participants spend on gambling, their participation in certain gambling activities ("game of fortune" and "Mark Six"), the reaction of their family members to their participation in gambling (with an avoidant attitude), and the reason for their first participation in gambling (to win money) have some negative impact on their chances of developing gambling disorder. These risks increase the likelihood of developing gambling disorder by around 3-9%.

In summary, understanding and dealing with the risk factors of gambling disorder among adolescent requires multi-faceted efforts, including cooperation and support from families, schools and community, to help adolescents develop proper gambling concepts in order to protect them from the impact of gambling problems.

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防範青少年沉迷賭博問卷調查2023
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