

# Adolescent Gambling: Understanding the Role of Stress and Coping

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**Abstract** The central variables of stress, coping, and gambling severity were examined along three lines of inquiry. The first addressed whether adolescents with gambling problems reported a greater number of minor or major stressful (i.e., negative) life events relative to others. The second examined whether more with gambling problems employed less-effective coping styles, such as those characterized as less task- or solution-focused, and more emotion- or avoidance-focused coping. Finally, the third question explored whether adolescents' coping styles mediated the association between stress and gambling severity. Ranging from 11 to 20 years of age, 2,156 high-school students completed instruments assessing gambling involvement, gambling severity, stressful life events, and coping styles. Results indicated that, overall, adolescents with gambling-related problems reported more negative life events relative to social gamblers and non-gamblers. When negative life events were further separated into major and minor events, results revealed that problem gamblers reported more major negative life events but not more minor negative life events relative to others. Results indicated that adolescents with gambling-related problems used less task-focused coping, and more avoidance-focused coping. Males, but not females, who experience gambling-related problems reported using more emotion-focused coping strategies. Finally, emotion-oriented coping was found to mediate the relationship between negative life events and gambling severity. Implications and directions for future research are discussed.

**Keywords** Stress · Coping · Gambling · Adolescence

## Introduction

Over the course of the last 10 years researchers have shed considerable light on the phenomenon of youth gambling. Although prevalence rates vary across studies, it is widely

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accepted that a small but important proportion of youth experience serious gambling-related problems (Derevensky & Gupta, 1996, 2000; Gupta & Derevensky, 1998a; Jacobs, 2004; Shaffer & Hall, 1996, 2001). Research during the last decade has also shown that problematic gambling among youth is associated with a host of negative outcomes such as poor school performance, low-self esteem, depressive symptomatology, difficulties in interpersonal relationships, and delinquency (Derevensky & Gupta, 1996, 1999; Griffiths, 1990; Gupta & Derevensky, 1998a, 1998b, 2000; Stinchfield, 2004; Winters & Anderson, 2000). Overall, studies have stressed two central premises that set the stage for the current work. First, it is clear that gambling can have a potentially devastating effect on the developing individual, and second, adolescents, like their adult counterparts, are at differential risk of developing a serious gambling problem (for review see Derevensky & Gupta, 2004a).

In order to identify those at greatest risk, and ultimately make predictions about gambling-related trajectories, researchers commonly draw upon the tenets of diathesis-stress models of behaviour.<sup>1</sup> For example, Jacobs (1986, 2000) suggests that pathological gamblers manifest different psychophysiological vulnerabilities that leave them ill equipped, relative to others, to cope with stress. As such, a number of researchers have long proposed that gambling, like other addictive behaviours, may serve the purpose of negotiating negative or stressful experiences when poor, or less adaptive coping skills prove inadequate (Gupta & Derevensky, 1998b).

### Stress and Adolescence

For some individuals, adolescence is a vulnerable time. While many individuals traverse adolescence on healthy developmental trajectories, a portion of young people experience significant psychosocial adjustment difficulties during this time. Increased problems with emotional regulation, interpersonal relationships, and involvement in addictive or high-risk activities are well documented (Cookson, 1994; Hardoon, Gupta, & Derevensky, 2004; Jessor, 1998; Marcotte, Fortin, Potvin, & Papillion, 2002). In clarifying the aetiology of many of these difficulties, researchers have cited stressful or negative life events as important precursors to both internalizing and externalizing difficulties across development (Compas, Ey, & Grant, 1993; Nolen-Hoeksema, Girgus, & Seligman, 1992; Williamson, Birmaher, Anderson, Al-Shabbout, & Ryan, 1995).

Stress is not a static or unidirectional phenomenon. It is clear that what is deemed *stressful* varies significantly between individuals, and that such differences reflect the heterogeneity of the internal and external resources with which individuals operate. The wide array of possible reactions to stress rests upon many factors, including those reflecting the nature of the stressful event itself. Stressors are commonly weighted according to duration and intensity (i.e., acute vs. chronic), and according to the magnitude of impact ensued upon the individual (minor vs. major) (Brown & Harris, 1986; Compas, 1987; Compas et al., 1993; Kanner, Coyne, Schafer, & Lazarus, 1981). Studies have shown that minor hassles and major negative life events may both influence young peoples' sense of well-being and general psychosocial adjustment (Rowlison & Felner, 1988).

Even though there is a lack of research examining how life stressors impact adolescent gambling behaviour, studies with adult participants suggest that a link exists. Increased levels of depression and anxiety have been shown in adult pathological gamblers who had

<sup>1</sup> A diathesis-stress or vulnerability-stress model underscores the effects of life stressors as a significant precursor to the development of negative outcomes (Jessor, 1998).

experienced significant negative life events prior to the onset of their gambling behaviour (Taber, McCormick, & Ramirez, 1987). Despite such findings, however, the links between a priori life stress and excessive gambling behaviour remain far from clear. For instance, in examining college students Lightsey and Hulsey (2002) have suggested that stress is not a direct predictor of excessive gambling; the authors found no links between these variables in women and only an indirect one in men. It has been proposed that assessing life stress in a vacuum without considering other factors, such as individual differences in coping strategies, blurs the developmental picture and thwarts accurate predictions about psychosocial outcomes over time (Compas, 1987; Herman-Stahl, Stemmler, & Petersen, 1995).

### Individual Differences in Coping Strategies

Coping skills largely determine how individuals experience stress. It is thought that positive coping, which includes problem or solution-focused strategies, allow the individual to consider multiple options when dealing with stressful or adverse life events (Parker & Endler, 1996). On the other hand, less task-driven strategies, which usually involve increased avoidance behaviour, rumination, or negative-affective strategies do not (Endler & Parker, 1990; Lazarus & Folkman, 1984). The use of more active, problem-focused coping strategies has been linked to several positive developmental outcomes such as self-efficacy, positive self-esteem, and perceived competence in multiple domains (Causey & Dubow, 1992; Wills & Hirky, 1996). Moreover, cross-sectional and longitudinal studies with children, adolescents, and adults have shown that active problem-focused coping is related to fewer emotional and behavioural difficulties, as well as with fewer substance-abuse problems (Ayers, Sandler, West, & Roosa, 1996; Ebata & Moos, 1991; Sandler, Wolchik, MacKinnon, Ayers, & Roosa, 1997). In contrast, less solution-focused coping strategies have been linked to higher incidents of depression, conduct problems, and substance abuse in children and adolescents (Ayers et al., 1996; Herman-Stahl et al., 1995; Sandler, Tein, & West, 1994).

With respect to gambling, it has been suggested that coping may be the fundamental mechanism that separates controlled gamblers from excessive ones (Sharpe & Tarrier, 1993). Although only a handful of studies have examined coping strategies among adolescent gamblers, preliminary evidence indicates that youth who gamble excessively exhibit coping styles that are more emotion-based, avoidant, and distraction oriented (Gupta, Derevensky, & Marget, 2004; Nower, Derevensky, & Gupta, 2004). Interestingly, some evidence suggests gender-specific patterns of coping in which male problem gamblers use more avoidance-oriented coping, while female problem gamblers use less active, less solution-focused coping (Nower et al., 2004). Taken together, recent research suggests that successful coping has important implications for gambling severity among young people.

Three central styles of coping have been particularly salient in the study of youth gambling: *task-focused*, *emotion-focused*, and *avoidance-focused* coping. Task-focused coping draws upon strategies that attempt to solve, re-conceptualize, or minimize the effects of a stressful situation (Parker & Endler, 1996). Alternatively, emotion-focused coping includes strategies that involve self-preoccupation, fantasy, or other conscious activities related to affect regulation. Finally, avoidance-oriented coping involves using tactics of social diversion or distraction by engaging in substitute tasks. Distinct, but not mutually exclusive, both emotional- and avoidance-focused coping are thought to be linked to an increase in addictive activities as both strategies offer a temporary escape from life stressors (Gupta et al., 2004; Jacobs, 1986). While theoretical models highlight the

importance of the relationship between stress and coping in the prediction of gambling severity (see Jacobs, 2000), very little research has explicitly examined how coping styles may mediate the relationship between life stress and gambling behaviour among adolescents (see Kaufman, Derevensky, & Gupta, 2002).

### Current Goals

The present work aimed to address whether adolescents with gambling-related problems experienced a greater number of life stressors, otherwise called negative life events, relative to less severe gamblers. It was expected that more severe gamblers would report an increased number of total negative life events. In addition, it was thought that when major and minor events were examined separately, that more severe gamblers would report a greater number of both types of negative life events relative to others. Moreover, it was hypothesized that more severe gamblers used less-effective coping strategies than youth who did not gamble severely. Finally, this research also examined the associations between negative life events, coping, and gambling severity. Although both life stressors and coping strategies were expected to be directly associated with gambling severity, it was anticipated that individual differences in coping style would mediate the relationship between life stress and gambling severity among youth.

## Method

### Participants

The sample consisted of 2,156 students (1,093 boys; 1,063 girls) attending grades 7 through 12 from eight high schools in the Province of Ontario. The participating schools came from six different school boards and were located in both rural and urban areas. Socioeconomic status based on parental education and occupation indicated that 2.0% of participants' parents could be classified as non-skilled workers, 7.3% as semi-skilled workers, 18.1% as clerical or skilled workers, 40.5% as small-business operators/owners or minor professionals, and 32.1% as university-educated professionals (Hollingshead, 1971). Informed consent was obtained from both parents and students. All participants were assured confidentiality and anonymity, informed of the voluntary nature of the study, and told that they could discontinue at any time without penalty.

### Measures

#### *Gambling Activities Questionnaire (GAQ) (Gupta & Derevensky, 1996)*

The GAQ assesses the frequency of play across different types of gambling activities. Participants were presented with a list of eight different gambling activities (e.g., cards, lottery play, sports betting, casino games, etc.) and asked to indicate the frequency with which they engaged in a number of gambling activities (participants were able to include others not on the list) during the past 12 months. Using a 3-point Likert-type scale, participants recorded their answers ranging from “never”, “less than once a week”, to “once a week or more”.

*DSM-IV-MR-J (Fisher, 2000)*

Modelled upon the DSM-IV (APA, 1994) criteria for diagnosis of adult pathological gambling, the DSM-IV-MR-J (MR = multiple response, J = juvenile) is a 12-item, 9-category instrument designed to screen for probable pathological gambling among youth. Designed to assess the gambling severity among adolescents who report having gambled at least once in the past year, the DSM-IV-MR-J has been found to be a conservative measure of pathological gambling among young people (Derevensky & Gupta, 2004b). The majority of the questions provide participants with four response options: “never,” “once or twice,” “sometimes,” or “often”. In accordance with Fisher (2000), participants scoring 4 or more of the 9 categories were identified as probable pathological gamblers. In addition, individuals scoring 2 or 3 were classified as at-risk gamblers, while individuals who obtained a total score of 0 or 1 were classified as social gamblers.

Principle factor components analyses reveal that the DSM-IV-MR-J is represented primarily by two main factors. The first general factor, accounting for 33.3% of the variance, measures the negative psychological dimensions associated with excessive gambling involvement including preoccupation, tolerance, loss of control, escape, and chasing losses. A second general factor, accounting for an additional 11% of the variance, is associated with withdrawal symptoms and the antisocial behaviours typically linked with juvenile problem gambling (e.g., lying and stealing). The internal reliability for the DSM-IV-MR-J was acceptable with Cronbach’s  $\alpha = .75$ .

*Adolescent Perceived Events Scale—Form B (APES) (Compas, Davis, Forsythe, & Wagner, 1987)*

The APES is a 100-item instrument designed to assess adolescents’ cognitive appraisals of major and minor life events. Adolescents indicated whether or not a specific event occurred within the past year. Following this, students indicated (a) whether the event was perceived as either “good” or “bad,” and (b) the degree of impact the event had on their life. Perceived impact was assessed using a 4-point Likert-type scale ranging from “no impact” to “great impact”. Major negative life events were operationalized as those assessed as “bad” and as having a “moderate” or “great” impact on a participant’s life, while minor negative life events were defined as “bad” events having “no” or only “some” impact on the respondent’s life. Examples of events assessed by the APES include the death of a parent in the last 12 months, breaking up with a girlfriend or boyfriend, and starting a part-time job. The APES is reported to have good psychometric properties with test–retest reliability ranging from .76 to .89.

*Coping Inventory for Stressful Situations (CISS) (Endler & Parker, 1990)*

The CISS is a self-report measure designed to assess the coping strategies used by adolescents in response to difficult, stressful, or upsetting situations. The CISS consists of 48 items, with 16 items loading onto each of three distinct subscales measuring task-oriented, emotion-oriented, and avoidance-oriented coping, respectively. Task-oriented coping items consist of active, planning strategies such as “I determine a course of action and follow it”, and “I adjust my priorities”. Emotion-oriented strategies include statements that involve self-preoccupation or fantasy such as “I feel anxious about not being able to cope” and “I get angry”. Avoidance strategies include ways of escaping stressful situations such

as ‘‘I go for a walk’’ or ‘‘I go to a party’’. The normative mean score for each of the three subscales is 50 ( $SD = 10$ ). The CISS has strong internal consistency with alpha coefficients for task, emotion, and avoidance subscales ranging from .83 to .90.

## Procedure

All instruments were group-administered to participants in their schools by trained research assistants. Groups ranged from 10 to 250 students depending on where the test administration took place (e.g., classrooms, school cafeterias). Before beginning, gambling was defined as an activity that involves an element of risk in which money could be won or lost. Although participants completed the questionnaire individually, research assistants were present at all times to answer any questions or to provide additional information. Students required approximately 30–50 min to complete the questionnaire.

## Plan of Analyses

The results are divided into three sections. The first section used factorial analyses of variance (ANOVA) to examine whether different types of male and female gamblers reported different frequencies of negative life events. The second section used multivariate analyses of variance (MANOVA) to assess whether different types of males and female gamblers reported using different types of coping styles, namely task-oriented, avoidance-oriented, and emotion-oriented coping styles. Finally, the third section of results used path analyses to examine whether coping styles mediated the relationship between negative life events and gambling severity.

## Results

### Preliminary Analyses

Before addressing central questions, preliminary analyses were conducted to examine gambling involvement among participants. Using the GAQ to examine the frequency of adolescents’ gambling behaviour, results indicated that the majority of adolescents have engaged in gambling activities within the past 12 months. Although 36.6% of youth have not gambled during the past year, most young people, approximately 63.4%, reported having engaged in some type of gambling activity. Moreover, almost a quarter of the total sample reported engaging in gambling activities on a weekly basis.

Based upon the frequency of gambling as assessed by the GAQ, and upon the severity of gambling-related problems as yielded by the DSM-IV-MR-J, participants were classified into four groups: non-gamblers, social gamblers, at-risk gamblers, and probable pathological gamblers. Non-gamblers were individuals who had not gambled during the past year; social gamblers were individuals who scored 0 or 1 on the DSM-IV-MR- J; at-risk gamblers were those who scored 2 or 3; and probable pathological gamblers were those who scored 4 or greater on the DSM-IV-MR-J. Among participants 36.6% of youth were classified as non-gamblers, 54.1% as social gamblers, 6.6% as at-risk gamblers, and 2.7% as probable pathological gamblers. Because of the important similarities between the at-risk and probable pathological gamblers, researchers have stressed the conceptual and statistical utility of merging these groups when no statistical differences emerge between them (for review see Hardoon et al., 2004). By combining the at-risk and probable

pathological gamblers, results suggested that approximately 9.3% of adolescents reported experiencing at least some gambling-related problems. In the current study, three levels of gambling group were examined across all analyses: non-gamblers, social gamblers, and more severe gamblers consisting of the combined at-risk and probable pathological gamblers.

**Do More Severe Gamblers Report a Greater Frequency of Total Negative Life Events?**

Three separate 2 × 3 factorial ANOVAs (gender × gambling group) were conducted to examine differences in (a) the total number of reported negative life events, (b) the number of major negative life events, and (c) the number of minor negative life events. Results from the first 2 × 3 factorial ANOVA revealed a significant main effect of gender ( $F(1, 2,110) = 30.42, p < .001$ ; partial  $\eta^2 = .02$ ) and of gambling group ( $F(2, 2,110) = 16.45, p < .001$ ; partial  $\eta^2 = .02$ ). No significant interaction effects emerged in the current analysis. As shown in Table 1, girls reported a higher number of total negative life events than boys. Also, Tukey post-hoc analyses indicated that more severe gamblers reported an increased number of negative life events relative to social gamblers, and that social gamblers reported more negative life events relative to non-gamblers.

In addition to examining the frequency of total negative life events, the current study also sought to distinguish between major and minor negative events. Thus, 2 × 3 factorial ANOVAs were performed separately for both major and minor events. With respect to major life events, 30% of participants ( $n = 639$ ) reported having experienced a “bad” life event in the past 12 months that had a moderate to great impact on their lives. Results of the analysis revealed a significant main effect of gender ( $F(1, 635) = 14.35, p < .001$ ; partial  $\eta^2 = .02$ ) and of gambling group ( $F(2, 635) = 4.38, p < .05$ ; partial  $\eta^2 = .01$ ); no interaction effects were found. Again, results indicated that girls reported more major negative life events than boys. Moreover, Tukey post-hoc analyses indicated that more severe gamblers tended to report a greater number of major negative life events ( $M = 12.23, SD = 9.36$ ) relative to non-gamblers ( $M = 9.67, SD = 8.28$ ). With respect to minor negative life events, however, analyses revealed a different pattern of results with no significant main or interaction effects emerging for gender and/or gambling groups.

**Do More Severe Gamblers Use Different Coping Styles?**

The second section of results investigated differences in the coping styles employed by non-, social-, and more severe gamblers. A 2 × 3 MANOVA (gender × gambling group)

**Table 1** Descriptive statistics and mean differences for negative life events across gender and gambling group

	<i>M</i>	<i>SD</i>	<i>F</i>
Gender			30.42***
Male ( $n = 1,066$ )	12.1	10.8	
Female ( $n = 1,050$ )	15.0	10.7	
Gambling group			16.45***
Non-gambler ( $n = 773$ )	12.5 <sup>c</sup>	10.9	
Social gambler ( $n = 1,149$ )	13.8 <sup>b</sup>	10.6	
Problem gambler ( $n = 194$ )	16.3 <sup>a</sup>	11.6	
Gender × Gambling group ( $n = 2,116$ )			.65

Note \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . In addition,  $a > b > c$

was performed to simultaneously examine differences in the task-, emotion-, and avoidance-focused coping among youth. Significant effects emerged for all three types of coping strategies. With respect to task-oriented coping, main effects emerged for gambling group ( $F(2, 1,271) = 8.64, p < .001$ ; partial  $\eta^2 = .01$ ); specifically Tukey post-hoc analyses indicated that the more severe gamblers used less task-oriented coping than the non-gamblers (see Table 2). No significant gender differences or interaction effects emerged for task-oriented coping.

With respect to avoidance-oriented coping, analyses yielded a similar pattern of findings (see Table 2). Results showed a significant main effect of gambling group, ( $F(2, 1,271) = 9.87, p < .001$ ; partial  $\eta^2 = .02$ ). Tukey analyses indicated that the more severe gamblers use more avoidance-oriented strategies than the non-gamblers. Paralleling results examining task-oriented coping, no significant main effects of gender or interaction effects were found for avoidance-oriented coping.

When examining group differences in emotion-oriented coping, a different picture emerged. Significant main effects were found for gender ( $F(1, 1,271) = 15.12, p < .001$ ; partial  $\eta^2 = .01$ ), and for gambling group ( $F(2, 1,271) = 4.96, p < .01$ ; partial  $\eta^2 = .01$ ).

**Table 2** Descriptive statistics and mean differences for coping styles across gender and gambling group

Coping styles	<i>M</i>	<i>SD</i>	<i>F</i>
<i>Task coping</i>			
Gender			.28
Male ( <i>n</i> = 621)	51.5	9.9	
Female ( <i>n</i> = 650)	51.8	9.6	
Gambling group			8.64***
Non-gambler ( <i>n</i> = 486)	53.0 <sup>a</sup>	9.8	
Social gambler ( <i>n</i> = 688)	51.0	9.6	
Problem gambler ( <i>n</i> = 97)	49.4 <sup>b</sup>	9.9	
Gender × Gambling group ( <i>n</i> = 1,271)			.80
<i>Avoidance coping</i>			
Gender			.03
Male	52.8	10.4	
Female	52.6	10.6	
Gambling group			9.87***
Non-gambler	51.2 <sup>b</sup>	10.8	
Social gambler	53.4	10.2	
Problem gambler	55.2 <sup>a</sup>	10.2	
Gender × Gambling group			.86
<i>Emotion coping</i>			
Gender			15.12***
Male	50.1 <sup>a</sup>	11.2	
Female	47.8 <sup>b</sup>	11.0	
Gambling group			4.96**
Non-gambler	48.4 <sup>b</sup>	11.3	
Social gambler	48.7	10.8	
Problem gambler	53.4 <sup>a</sup>	11.7	
Gender × Gambling group			3.31*
Male × Non-gambler	46.6 <sup>c</sup>	11.5	
Male × Social gambler	49.8 <sup>c</sup>	10.6	
Male × Problem gambler	56.0 <sup>a</sup>	11.7	
Female × Non-gambler	48.1	11.2	
Female × Social gambler	47.4 <sup>d</sup>	10.9	
Female × Problem gambler	48.7 <sup>b</sup>	10.4	

Note \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . In addition, a > b and c > d; a > c and e

More importantly, however, results yielded a significant interaction effect between gender and gambling group ( $F(1, 1,271) = 3.31, p < .05$ ; partial  $\eta^2 = .01$ ). To clarify the interaction,  $t$ -tests were first conducted to examine gender differences within gambling groups. Among the social and more severe gamblers, boys use more emotion-focused coping than girls,  $t(827) = 3.52, p < .001$ , and  $t(124) = 2.70, p < .001$ , respectively. However, no gender differences emerged among the non-gamblers; thus, boys in the non-gambling group did not use more emotion-focused coping relative to their female counterparts. To further clarify the interaction, one-way ANOVAs were conducted to examine mean differences across gambling groups for boys and girls separately. Results revealed a main effect of gambling group for males ( $F(1, 768) = 10.77, p < .001$ ), but not for females ( $F(1, 827) = 1.48, p = .229$ ). As shown in Fig. 1, Tukey post-hoc tests indicated that more severe male gamblers use more emotion-focused coping than male social gamblers and non-gamblers. In other words, emotion-oriented coping is employed more by more severe male gamblers relative to other males, but not by more severe female gamblers relative to other females.

Do Coping Styles Mediate the Effect of Negative Life Events on Gambling Severity Among Adolescents?

To examine which coping styles might mediate the links between negative life experiences and gambling severity, preliminary correlation matrices were computed for the central variables of interest, namely the total number of negative life events, the three types of coping styles and gambling severity as measured by participants’ DSM-IV-MR-J cumulative score. For mediation to occur the mediator (i.e., coping style) must be correlated with both the predictor (i.e., negative life events) and the outcome (i.e., gambling severity); in addition, the predictor must be correlated with the outcome. Emotion-focused coping was the only coping strategy that showed a significant association with negative life events ( $r = .33, p < .001$ ) and with gambling severity ( $r = .25, p < .01$ ). As such, of all three coping styles of interest, emotion coping was the only strategy that could mediate the relationship between negative life events and gambling severity.

To test mediation, structural equation modelling was performed where emotion-focused coping was predicted by the total number of negative life events and where gambling

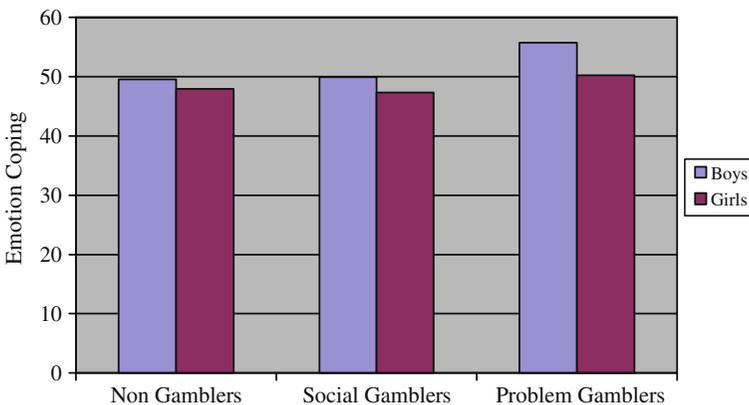
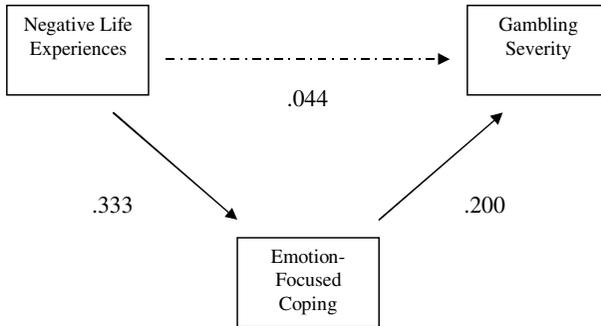


Fig. 1 Emotion-focused coping for boys and girls within gambling groups



**Fig. 2** The associations between negative life events, emotion-focused coping, and gambling severity among adolescents. *Note* The indirect effect of emotion-focused coping = .07,  $Z = 6.73$ ,  $p < .001$ . Solid lines indicate significant paths at  $p < .001$  and dashed lines indicate non-significant paths. All values are standardized path coefficients

severity was predicted by both negative life events and emotion-focused coping. As depicted in Fig. 2, the frequency of negative life events was found to be positively associated with emotion-focused coping (standardized coefficient = .333,  $t(1595) = 14.10$ ,  $p < .001$ ), and emotion-focused coping, in turn, was positively linked to gambling severity (standardized coefficient = .200,  $t(1595) = 7.73$ ,  $p < .001$ ). When compared to the zero-order correlation ( $r = .111$ ,  $p < .001$ ), the direct path between negative life events and gambling severity was reduced when accounting for emotion-focused coping (standardized coefficient = .044,  $t(1595) = 1.31$ ,  $p = \text{n.s.}$ ), suggesting that emotion-oriented coping mediates the link between negative life events and gambling severity. In addition, a Sobel Test (Sobel, 1982) revealed that the indirect effect as mediated by emotional coping was, albeit small, indeed significant (indirect effect = .07,  $z = 6.73$ ,  $p < .001$ ).

## Discussion

The purpose of the current work was to shed light on the differences and associations between three central variables: stress, coping strategies, and gambling severity. As expected, results revealed that more severe gamblers have experienced a greater number of stressful or negative life events relative to others. Specifically, more severe gamblers reported a greater number of stressors than social gamblers, and social gamblers reported a greater number of events than non-gambling youth. When examining differences in major and minor life events separately, findings showed that more severe gamblers had experienced more major negative life events but not an increased number of minor life events. Although minor events or daily hassles have been linked to negative outcomes (Compas et al., 1993), no such evidence emerged with respect to gambling severity. While the inference of causality remains purely speculative, it seems reasonable to suggest that negative life events, and particularly those negative life events weighted as more serious, impact gambling behaviour among youth who may use gambling activities as a vehicle to reduce and manage stress.

Concordant with prior research, findings also revealed that more severe gamblers used more maladaptive forms of coping relative to others (Gupta et al., 2004). Specifically, results showed that severe gamblers used less task-oriented coping, and more avoidance-oriented coping than adolescents who did not gamble. Moreover, emotion-oriented coping

was also used more often by severe gamblers relative to others, but only when these gamblers were male. Boys who gambled more excessively were more likely to display emotional reactions such as getting angry, frustrated, or anxious when faced with adversity. Interestingly, girls who gambled more excessively relative to their peers did not report heightened levels of emotion-focused coping. Perhaps emotion-focused girls are more likely to direct their painful feelings inward, resulting in more internalizing difficulties, whereas boys are more likely to direct theirs outwards into more externalizing problems such as gambling, alcohol and/or drug use.

It is important to note that the use of avoidant- or emotion-focused coping is not necessarily deleterious at all times and across all situations. In fact, under certain conditions, the latter strategies are thought to be advantageous. It is clear that actively reflecting upon, or taking pause from, distressing feelings is not only a healthy part of balanced coping, but often a necessary tactic of psychological defence systems. It is thought, however, that the excessive use of such strategies, without the ability to effectively address the problem at hand, negatively impacts an adolescent's sense of agency in dealing with hardship. Individuals who display a balance of different coping strategies to negotiate different situational demands that arise are believed to be at lower risk of developing addiction-related problems, and by extension, better equipped to safeguard and promote their psychological health.

Finally, the current work also revealed that, of the three styles of coping examined, only emotion-oriented coping was directly linked to both life stress and gambling severity. As expected, findings revealed that emotion-focused coping mediates the relationship between life stress and gambling severity. Thus, above and beyond the effects of stress, gambling severity is predicted by one's style of coping with stress. Although coping strategies are ultimately designed to manage adversity, the findings suggest that emotion-focused coping may in fact promote the involvement in high-risk behaviours such as those associated with gambling.

The implications of the current study are far reaching. First, the results provide direct evidence that more severe adolescent gamblers experience increased stress and cope less effectively with negative life events. Second, the findings suggest that the relationship between life stress and gambling severity is mediated by less effective coping styles. Finally, the results also shed light on important gender differences in gambling behaviour among youth. Taken together, the findings set the stage for designing more effective, gender-sensitive prevention and intervention programs aimed at curbing the onset of problematic gambling in boys and girls. For example, risk-reduction initiatives in girls may focus on increasing task-oriented coping skills, while in boys the focus may be predominantly on reducing the use of emotion-focused strategies. Results also imply that, although the occurrence of some adverse events in a young person's life may be unavoidable, the degree of impact such events have can be mollified. Targeting the development of effective coping strategies should be considered an integral protective factor that can buffer against negative life events; thus, minimizing their potentially deleterious impact on mental health.

Despite these broad implications, however, it is important to draw attention to the current study's methodological and statistical limitations. For example, in order to assess differences in major versus minor stressors participants were asked to rate negative events as having "no impact", "some impact", a "moderate impact", or a "great impact" on their lives. Although "moderate impact" and "great impact" responses were computed to create a composite score of events considered major (as compared to those considered to have "no impact" or "some impact", which were used to create a composite score of events considered minor), it is possible that terms such as "some" and "moderate" may

not be easily distinguishable by adolescents. More pointed operational definitions may benefit future research. It is also important to note that, despite differences in reported stressors among types of adolescent gamblers, the mean number of stressors reported by all three groups of gamblers fell within a standard deviation of one another. Finally, and most importantly, although reported results are statistically significant, the effect sizes and variance accounted for are relatively small. As such, the clinical meaningfulness of the current findings need to be weighted against the backdrop of such shortcomings.

In the future, several central issues should be addressed. First, attempts should be made to investigate the different types of negative life events (e.g., stressors stemming from the familial or peer domain) to examine how such events differentially impact the developmental trajectories of boys and girls. It seems plausible that boys and girls gamble for different reasons, and perhaps as a result of different types of stress. Second, in order to truly elucidate gender-specific trajectories, longitudinal designs are required. Although stress is thought to be an important precursor of gambling, it also remains a consequence associated with excessive gambling. Third, it is also proposed that attention be paid to developing more community-oriented measures of gambling severity. By using conservative clinical measures (i.e., DSM-IV-MR-J) to assess gambling behaviour among community samples of young people, the data became skewed in a manner that can minimize effect sizes and undermine the statistical power required to uncover the relationship between key variables. It is thought that by using increasingly sensitive assessment tools and more precise measurement techniques, more powerful findings will emerge.

In sum, it is clear that much remains unknown about the genesis of gambling pathology among adolescents. Despite legal prohibitions, a large number of youth gamble without experiencing reported difficulties. However, a small but identifiable proportion of adolescents develop serious gambling-related problems that negatively impact their development (Gupta & Derevensky, 2004). It is vital to shed more empirical light on the risk and protective factors that predict gambling, and by extension, mental health problems for some. Increased collaborative efforts between researchers, clinicians, and educators alike are required to address an all too unnoticed problem among young people.

## References

- American Psychiatric Association. (1994). *Diagnostic and statistical manual: Fourth edition*. Washington, DC: Author.
- Ayers, T. S., Sandler, I. N., West, S. G., & Roosa, M. W. (1996). A dispositional and situational assessment of children's coping: Testing alternative models of coping. *Journal of Personality, 64*, 731–774.
- Brown, G. W., & Harris, T. (1986). Establishing causal links: The Bedford College Studies of depression. In H. Katschnig (Ed.), *Life events and psychiatric disorders: Controversial issues* (pp. 107–187). London: Cambridge University Press.
- Casey, D. L., & Dubow, E. F. (1992). Development of a self-report coping measure for elementary school children. *Journal of Clinical and Child Psychology, 21*, 47–59.
- Compas, B. E. (1987). Stress and life events during childhood and adolescence. *Clinical Psychology Review, 7*, 275–302.
- Compas, B. E., Davis, G. E., Forsythe, C. J., & Wagner, B. M. (1987). Assessment of major and daily life events during adolescence: The adolescent perceived event scale. *Journal of Consulting and Clinical Psychology, 55*, 534–541.
- Compas, B. E., Ey, S., & Grant, K. E. (1993). Adolescent depression: Issues of assessment, taxonomy, and diagnosis. *Psychological Bulletin, 114*, 323–344.
- Cookson, H. (1994). Personality variables associated with alcohol use in young offenders. *Personality and Individual Differences, 16*(1), 179–182.

- Derevensky, J. L., & Gupta, R. (1996). Risk taking and gambling behavior among adolescents: An empirical examination. *Paper presented at the annual meeting of the national conference on compulsive gambling*, September 1996, Chicago, IL.
- Derevensky, J. L., & Gupta, R. (1999). Youth gambling problems: Prevalence, clinical treatment, and social policy issues. *Paper presented at the annual meeting of the national council on problem gambling*, June 1999, Detroit, MI.
- Derevensky, J. L., & Gupta, R. (2000). Prevalence estimates of adolescent gambling: A comparison of the SOGS-RA, DSM-IV-J, and the G. A. 20 questions. *Journal of Gambling Studies*, 16, 227–251.
- Derevensky, J. L., & Gupta, R. (2004a). Adolescents with gambling problems: A review of our current knowledge. *e-Gambling: The Electronic Journal of Gambling Issues*, 10, 119–140.
- Derevensky, J. L., & Gupta, R. (2004b). The measurement of youth gambling problems: Current instruments, methodological issues and future directions. In J. Derevensky, & R. Gupta (Eds.), *Gambling problems in youth: Theoretical and applied perspectives* (pp. 121–143). NY: Kluwer Academic/Plenum Publishers.
- Ebata, A. T., & Moos, R. H. (1991). Coping and adjustment in distressed and healthy adolescents. *Journal of Applied and Developmental Psychology*, 12, 33–54.
- Endler, N. S., & Parker, J. D. A. (1990). *Coping inventory for stressful situations (CISS): Manual*. Toronto, Canada: Multi-Health Systems.
- Fisher, S. (2000). Developing the DSM-IV-MR-J criteria to identify adolescent problem gambling in non-clinical populations. *Journal of Gambling Studies*, 16, 253–273.
- Griffiths, M. D. (1990). Addiction to fruit machines: A preliminary study among young males. *Journal of Gambling Behavior*, 6, 113–126.
- Gupta, R., & Derevensky, J. L. (1996). The relationship between video-game playing and gambling behavior in children and adolescents. *Journal of Gambling Studies*, 12, 375–394.
- Gupta, R., & Derevensky, J. L. (1998a). Adolescent gambling behavior: A prevalence study and examination of the correlates associated with problem gambling. *Journal of Gambling Studies*, 14(4), 319–345.
- Gupta, R., & Derevensky, J. L. (1998b). An empirical examination of Jacobs' general theory of addictions: Do adolescent gamblers fit the theory? *Journal of Gambling Studies*, 14(1), 17–49.
- Gupta, R., & Derevensky, J. L. (2000). Adolescents with gambling problems: From research to treatment. *Journal of Gambling Studies*, 16, 315–342.
- Gupta, R., & Derevensky, J. L. (2004). A treatment approach for adolescents with gambling problems. In J. Derevensky, & R. Gupta (Eds.), *Gambling problems in youth: Theoretical and applied perspectives* (pp. 165–188). NY: Kluwer Academic/Plenum Publishers.
- Gupta, R., Derevensky, J., & Marget, N. (2004). Coping strategies employed by adolescents with gambling problems. *Child and Adolescent Mental Health*, 9, 115–120.
- Hardoon, K. K., Gupta, R., & Derevensky, J. (2004). Psychosocial variables associated with adolescent gambling: A model for problem gambling. *Psychology of Addictive Behaviors*, 18(2), 170–179.
- Herman Stahl, M. A., Stemmler, M., & Petersen, A. C. (1995). Approach and avoidant coping: Implications for adolescent mental health. *Journal of Youth and Adolescence*, 24, 649–665.
- Hollingshead, A. (1971). Commentary on "the indiscriminate state of social class measurement". *Social Forces*, 49(4), 563–567.
- Jacobs D. F. (1986). A general theory of addictions: A new theoretical model. *Journal of Gambling Behavior*, 2, 15–31.
- Jacobs, D. F. (2000). Juvenile gambling in North America: An analysis of long term trends and future prospects. *Journal of Gambling Studies*, 16, 119–152.
- Jacobs, D. F. (2004). Youth gambling in North America: Long term trends and future prospects. In J. Derevensky, & R. Gupta (Eds.), *Gambling problems in youth: Theoretical and applied perspectives* (pp. 1–24). NY: Kluwer Academic/Plenum Publishers.
- Jessor, R. (1998). *New perspectives on adolescent risk behavior*. Cambridge, UK: Cambridge University Press.
- Kanner, A. D., Coyne, J. C., Schafer, C., & Lazarus, R. S. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine*, 4, 1–39.
- Kaufman, F., Derevensky, J., & Gupta, R. (2002). The relationship between life stresses, coping styles, and gambling behavior among adolescents. *Poster presented at the annual meeting of the national council on problem gambling*, June 1996, Dallas, TX.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lightsey, O. R., & Hulsey, C. D. (2002). Impulsivity, coping, stress, and problem gambling among university students. *Journal of Counseling Psychology*, 49(2), 202–211.

- Marcotte, D., Fortin, L., Potvin, P., & Papillon, M. (2002). Gender differences in depressive symptoms during adolescence: Role of gender-typed characteristics, self-esteem, body image, stressful life events, and pubertal status. *Journal of Emotional and Behavioral Disorders, 10*(1), 29–42.
- Nolen-Hoeksema, S., Girgus, J. S., & Seligman, M. E. (1992). Predictors and consequences of childhood depressive symptoms: A 5-year longitudinal study. *Journal of Abnormal Psychology, 101*(3), 405–422.
- Nower, L., Derevensky, J., & Gupta, R. (2004). The relationship of impulsivity, sensation seeking, coping and substance use in youth gamblers. *Psychology of Addictive Behaviors, 18*(1), 49–55.
- Parker, J. D. A., & Endler, N. S. (1996). Coping and defense: A historical overview. In M. Zeidner, & N. S. Endler (Eds.), *Handbook of coping* (pp. 3–23). New York: Wiley.
- Rowlison, R. T., & Felner, R. D. (1988). Major life events, hassles, and adaptation in adolescence: Confounding in the conceptualization and measurement of life stress and adjustment revisited. *Journal of Personality and Social Psychology, 55*, 432–444.
- Sandler, I., Tein, J., & West, S. (1994). Coping, stress, and the psychological symptoms of children of divorce: A cross-sectional and longitudinal study. *Child Development, 65*, 1744–1763.
- Sandler, I. N., Wolchik, S. A., MacKinnon, D., Ayers, T. S., & Roosa, M. W. (1997). Developing linkages between theory and intervention in stress and coping processes. In S. A. Wolchik, & I. N. Sandler (Eds.), *Handbook of children's coping: Linking theory and intervention. Issues in clinical and child psychology* (pp. 3–40). New York: Plenum.
- Shaffer, H. J., & Hall, M. N. (1996). Estimating prevalence of adolescent gambling disorders: A quantitative synthesis and guide towards standard nomenclature. *Journal of Gambling Studies, 12*, 193–214.
- Shaffer, H. J., & Hall, M. N. (2001). Updating and refining prevalence estimates of disordered gambling behaviour in the United States and Canada. *Canadian Journal of Public Health, 92*(3), 168–172.
- Sharpe, L., & Tarrier, N. (1993). Towards a cognitive-behavioral theory of problem gambling. *British Journal of Psychiatry, 162*, 407–412.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equation-models. In S. Leinhardt (Ed.), *Sociological methodology 1982* (pp. 290–312). San Francisco: Jossey-Bass.
- Stinchfield, R. (2004). Demographic, psychosocial, and behavioral factors associated with youth gambling and problem gambling. In J. Derevensky, & R. Gupta (Eds.), *Gambling problems in youth: Theoretical and applied perspectives* (pp. 27–39). NY: Kluwer Academic/Plenum Publishers.
- Taber, J. I., McCormick, R. A., & Ramirez, L. F. (1987). The prevalence and impact of major life stressors among pathological gamblers. *International Journal of the Addictions, 22*(1), 71–79.
- Williamson, D. E., Birmaher, B., Anderson, B. P., Al-Shabbout, M., & Ryan, N. D. (1995). Stressful life events in depressed adolescents: The role of dependent events during the depressive episode. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(5), 591–598.
- Wills, T., & Hirky, E. (1996). Coping and substance abuse: A theoretical model and review of the evidence. In M. Zeidner, & N. S. Endler (Eds.), *Handbook of coping* (pp. 279–302). New York: Wiley.
- Winters, K. C., & Anderson, N. (2000). Gambling involvement and drug use among adolescents. *Journal of Gambling Studies, 16*, 175–198.