International Journal of Child, Youth and Family Studies (2011) 1 & 2: 83-98

STRAIN, SOCIAL CAPITAL, AND ACCESS TO LUCRATIVE CRIME OPPORTUNITIES

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Abstract: General strain theory (GST) posits that the experience of strains cause negative emotions that individuals try to alleviate through various strategies, including delinquency. GST predicts that the choice of delinquency as a coping solution will be more likely in certain conditions, including those where criminal opportunities are more abundant. The current study considers the role of strain as a direct predictor of lucrative criminal opportunities. Because we are specifically interested in lucrative, as opposed to routine criminal opportunities, our theoretical framework is also informed by research on criminal achievement which posits that offenders with more social capital are more likely to make money out of crime. Drawing from a sample of 170 juvenile offenders incarcerated in British Columbia, our results show that strain experiences are significantly associated with daily access to lucrative criminal opportunities, even after controlling for other factors, including negative emotions such as anger. Our results also indicate that criminal social capital – that is, the ability and willingness to collaborate with co-offenders in criminal pursuits – is strongly associated to access to lucrative criminal opportunities. The number of delinquent peers, however, did not emerge as a significant predictor. Theoretical and empirical implications for understanding and preventing juvenile delinquency are discussed.

Keywords: social capital, delinquent peers, criminal opportunities, general strain theory, delinquency, juvenile offenders

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Acknowledgements: The authors would like to thank Patrick Lussier, as well as the anonymous reviewers for the helpful comments made on an earlier version of this paper.

The main thrust of general strain theory (GST) is that the experience of various types of strain creates negative emotions that lead individuals to delinquency as a way to cope with strain[1] (Agnew, 1985, 1992, 1994, 1999, 2001, 2006). The theory further asserts that strains directly affect other risk factors for delinquency such as the temporary reduction of social controls, and exposure to delinquent others. Although GST treats them as secondary predictors, those mechanisms are potentially more powerful in predicting delinquency than given credit for. Beyond the creation of negative emotions that require individuals to cope, we argue that many of strains experienced are directly linked to the creation of criminal opportunities through unsupervised time spent away from authority figures – figures who are often the very sources of strain.

The above hypothesis is based on two premises: (a) Access to lucrative illegitimate opportunities is not equally available to potential offenders; and (b) this access is an outcome of central importance to strain theorists[2]. For the purpose of this study, access to lucrative illegal opportunities is said to occur when, on a given day, potential offenders perceive that they have a tangible opportunity (offered or created) to earn money from a criminal activity. Within such a framework, access to criminal opportunities – not delinquency – becomes the dependent variable of interest. In effect, strain is argued to be a direct predictor of access to criminal opportunities, and not necessarily of negative emotions. Because we are interested in *lucrative* criminal opportunities more specifically, we draw from research on criminal achievement – the analysis of variations in success from crime – for guidance on other factors influencing the ability to access money-oriented crime opportunities. This research has confirmed that the offenders who are most successful in crime have the strongest ability and willingness to collaborate with others in the criminal enterprise (Bouchard & Nguyen, 2010; McCarthy & Hagan, 2001; Morselli & Tremblay, 2004; Morselli, Tremblay, & McCarthy, 2006). This cooperative ability is not merely a function of the number of co-offenders but rather, the ability to mobilize and use resources in one's social network for profit is a form of *social capital* (Lin, 2001). It is hypothesized that the inability to cooperate with others will prevent even duly motivated (or "pre-disposed") offenders from having regular access to lucrative illegitimate opportunities.

With regard to GST, therefore, we are asserting that the ability of individuals to access criminal opportunities is an essential component of strain theory because it intervenes between strain and delinquency or criminality. While GST recognizes that the experience of strain may increase the likelihood of associating with delinquent peers (which may in turn increase a conditioning variable, as opposed to an explicit factor predicted by the experience of strain – the opportunities for delinquency), the differential access to criminal opportunities is treated as a re-formulation of criminal opportunities. As a separate outcome of strain, if empirically substantiated, this has direct implications for crime prevention by emphasizing prevention efforts

[1] Although the revised version of strain theory has itself undergone a series of revisions between Agnew (1985) and Agnew (2006), we refer to the most recent version throughout this paper for reasons of clarity and consistency.

[2] Variations in access to illegitimate means was the main focus of Cloward's (1959) extension of Merton's (1938) anomie/strain theory. Importantly, Cloward reminded us that profitable criminal opportunities, like legitimate ones, are not equally available to everyone. However, access to opportunities was considered as a conditioning factor, not the main outcome of interest as it is here.

regarding the management of time in addition to the traditional focus on the management of emotions.

Strain and Access to Criminal Opportunities

Agnew's (2006) *general* strain theory encompasses a wide range of sources of strains and stress as predictors of delinquency, as opposed to classical strain theory which mostly emphasized the strain caused by the inability of individuals to achieve their monetary goals (Merton, 1938; Cloward, 1959; Cloward & Ohlin, 1960). By asserting that frustrations *in general* are conducive to crime, Agnew (2006) extends the sources of strains to include (a) the loss of something valued, (b) exposure to negative treatment by others, and (c) the failure to achieve positively valued goals. In the current study, like the majority of contemporary strain studies, we focus on the second category, and examine a variety of negative life events as potential sources of strain.

GST predicts that each type of strain may cause anger, frustration, and other negative affective states. Crime can be a coping strategy for adolescents because it directly reduces negative emotions that resulted from their strains (at least temporarily) through the satisfaction of revenge against either those who have wronged them, or against more vulnerable substitute targets (Agnew, 2006). Non-delinquent responses are, of course, also possible. In the most recent version of GST, Agnew (2006) specifies three types of factors influencing whether strained individuals will choose crime or not:

1. The ability to cope in a legal manner;
2. The costs of criminal coping; and
3. The disposition for criminal coping.

Although the link between strain and negative emotions is the primary and the most theoretically distinct component of strain theory, Agnew (2006) extends the direct effects of strain to the social control domain, and to the social learning of crime. Most importantly for our hypothesis, Agnew (2006) makes the explicit prediction that experiencing specific types of strains may reduce the level of social control thus increasing the likelihood of delinquency. Even though most types of social control are usually stable over time, strain can temporarily disrupt social control, most notably when agents of social control (e.g., parents) are the source of strains. These strains can temporarily reduce (a) emotional bonds to conventional others, (b) investment in conventional institutions like school or work, and (c) direct control, for example, by spending less time with parents and at school or at work. Note that Agnew (2006) specifies that one of the characteristics that makes a strain more likely to cause crime is if it leads to a reduction in social control (the other characteristics being whether the strain is high in magnitude, is seen as unjust, or creates direct pressure for criminal coping).

In the current study, the focus is the relationship between the experience of strains with institutions of social control (e.g., parents and educational institutions) and access to lucrative criminal opportunities. It is argued that negative relations with parents result in more time spent away from them, which increases access to criminal opportunities. Thus, we follow Osgood, Wilson, O'Malley, Bachman, and Johnston's (1996) theory of unstructured socializing which

posits that individuals do not have to be particularly motivated to engage in delinquency but rather simply have to be present when delinquent opportunities occur. Most importantly, spending time with peers in the absence of social control agents provides just such opportunities. Whether these opportunities are *lucrative* may well depend on other factors, such as the amount of social capital one has available.

Social Capital and Access to Lucrative Criminal Opportunities

The fundamental idea behind social capital is straightforward: Sociability and social networks can have positive benefits for individuals. Where human capital refers to the skills and knowledge embedded within individuals enhancing the probability of generating positive returns such as higher income levels (Becker, 1993), social capital is concerned with resources embedded within the social relations of individuals. As such, social capital truly exists only when it is mobilized for action, when individuals reach out to others in order to facilitate goals (Coleman, 1990; Lin, 2001). When used as an asset of individuals (as in the current study), social capital may be defined as the ability of actors to secure benefits by virtue of membership in social networks or other social structures (Lin, 2001; Portes, 1998). The value of a social network thus goes beyond mere potential. For such resources to become "capital", they have to be used for benefit. While the number of delinquent peers may provide a proxy measure of one`s *potential* social capital, a better measure of social capital also taps into the ability of individuals to make use of their social networks for purposive actions, such as obtaining a better job (Granovetter, 1973), or having access to the most profitable criminal opportunities (McCarthy & Hagan, 2001; Morselli & Tremblay, 2004; Morselli et al., 2006).

In their study of 390 Canadian street youths, McCarthy and Hagan (2001) used a measure of social capital operationalized as the willingness of offenders to cooperate with others in criminal pursuits. Collaborative offenders were shown to be more active, inclined to, and effective in transforming their network resources into capital, that is, using their connections with others to increase their criminal earnings (McCarthy & Hagan, 2001). Importantly, these authors show that social capital acquired from association with skilled offenders is more likely to contribute to illegal success than conventional capital does (for example, family ties and years of education). While their measure of social capital differed (i.e., tapped into the idea of structural holes – offenders being strategically located within their criminal networks), similar results were found by Morselli and Tremblay (2004) in a sample of incarcerated adult offenders.

The current study departs from those previous efforts in examining access to profitable opportunities as the main outcome of interest, as opposed to criminal earnings. Such an extension should prove to be fruitful in specifying the mechanisms through which offenders are able to reap higher benefits from crime. It is hypothesized that offenders who have more social capital will have access to more lucrative criminal opportunities. The experience of strain is expected to be important in providing potential offenders with increased exposure to such opportunities.

Data and Methods

Participants and Procedures

The current study draws on data initially collected from 500 young offenders who were serving a custodial sentence at a detention facility in British Columbia, Canada, between 1998 and 2001. All offenders serving a custody disposition at two open and two secure custody units were approached to participate in this study. Participation was voluntary and respondents signed an informed consent form prior to participating. The study achieved a high 93% consent rate, most probably a result of the research team being onsite for a long time period – the team had the luxury of knowing the daily schedule of inmates and of asking them to participate when it was known that offenders were available. The data consists of self-reported information provided by offenders during one-on-one interviews with a trained research assistant, as well as official data from the correctional files. The information collected includes: demographic factors, educational history, substance use and dependence, mental health issues, delinquency, family problems (see Corrado, Cohen, Glackman, & Odgers, 2003, for more details on the data collection).

Because different questionnaires were introduced at various times during the study period, not all respondents were exposed to the same set of questions. A total of 170 young offenders were included in this current study because they completed the collaboration and criminal opportunities scales introduced in early 1999, 12 months after the data collection started. Subjects included were mostly Caucasian (58.9%), were 16 years old on average (*SD*: 1.2), and most were males (70.3%). The nature of the data collection makes this sample over-represented by serious juvenile offenders, although the nature of the current offence is almost evenly divided between violent (32%), property (37%), and other offences (31%).

Dependent Variable

Access to Lucrative Crime Opportunities

Classical strain theory portrays delinquency as a means to achieve valued goals, such as wealth and monetary achievement, when legal options are blocked or unavailable (Cloward, 1959; Merton, 1938; see also: McCarthy & Hagan, 2001; Tremblay & Morselli, 2000). For the purpose of this study, the dependent variable is whether or not a respondent has access to daily opportunities to make money illegally on the street. The measure mirrors a similar one used by McCarthy and Hagan (2001) in a study of street youth offenders. Respondents were asked to answer the following question: How often do you have a chance to make money illegally on the street? Responses were numerically coded (0 = no chance, 1 = less than once a month, 2 = a few times a month, 3 = a few times a week, 4 = a few times a day). Because the sample is composed of serious juvenile offenders, a majority had regular access to lucrative criminal opportunities. But not all of them had *daily* opportunities. Because the distribution was highly skewed towards access to daily crime opportunities, the variable was recoded into a dichotomy: offenders who had access to daily opportunities (62%) vs. all others (38%) (see Table 1).

Independent Variables

Strain Variables

The questionnaire contained a few indicators of strain. Most reliable and consistent with our argument were two types of strain measured for the purpose of this study: family and school-related strain. These have been identified as two of the most important sources of strain for adolescents, and most likely to lead to delinquency (Agnew, 2006). First, Agnew (2006) identified the family setting as a potential aversive environment for adolescents (such aversive stimuli as parental rejection, parental discipline, parental conflict, or harmful experience at home). Adolescents do not have a lot of legal options to escape such an environment in order to avoid these noxious situations. Three yes/no items were meant to measure home-related strain. Respondents were first asked if they had already left home of their own volition to live somewhere else. A total of 134 respondents indicated that they had (78.8%). The second question was: Have you ever been kicked out from home? A total of 83 respondents answered reported they had (48.8%). The third question asked whether respondents got along well with their parents. A total of 64 respondents answered positively to this question (37.6%). Those three questions tap into a potentially chaotic family setting that can strain adolescents and, in addition to creating negative emotions, encourage them to spend time away from this environment.

Second, we turned to school as a potential aversive environment. School strain was measured by three dichotomous variables. Respondents were asked if they were or were not enrolled in school at the time of the current offence (the one for which they were incarcerated). A total of 93 respondents were not enrolled in school (54.7%). Then they were asked if they had ever been in trouble with teachers at school (42% had) and finally, whether they disliked school in general (40% did). Respondents who are not attending school have potentially more time for seeking and seizing criminal opportunities. The same logic can be applied to those who are experiencing numerous problems at school, and explicitly dislike school: They are more likely to give up, to be suspended, and to spend time elsewhere.

A principal component factor analysis of the six strain variables indicated that a clear two-factor solution best fit the data which explained 43% of the variance in the sample[3]. The eigenvalue was set at one and the orthogonal method of rotation was used. The three home-related strain indicators converged as one factor, and the three school-related strain variables converged to produce the second factor. The Kaiser-Meyer-Olkin's measure is .59, very close to the standard limit for sample adequacy at 0.60, and the Bartlett's sphericity test (30.07) is significant at $p < 0.05$, indicating the suitability of this solution.

Anger

General strain theory emphasizes the importance of negative emotions such anger as a mediator variable (although it is usually introduced as a direct predictor in statistical models) between strain and delinquency (Agnew, 2006). According to Agnew (2006), the presence of these emotions increases the likelihood of committing crime. For example, anger may reduce the

[3] These items were also factor analysed using maximum likelihood analysis and orthogonal methods of rotation, but the principal component method provided a better fit to the data.

ability to cope with legal strategies; it may also affect the efficiency of communication with others, and the accuracy of situational assessment. In addition, angry individuals are less concerned with the negative impacts and the costs of crime.

Two anger-related questions were asked to respondents: (a) Have you ever been described as having a bad temper? (b) Would you say you get angry easily? A total of 131 respondents answered positively at the first question (77.1%) and 91 respondents to the second question (54.5%). Based on the (yes/no) answers to these two questions, a two-item anger scale was created (mean of 1.31, see Table 1). The Cronbach's alpha indicate a moderate but acceptable reliability for this scale (a = .62).

Social Capital

Social capital refers to the ability of actors to secure benefits by virtue of membership in social networks or other social structures (Lin, 2001; Portes, 1998). As argued by Portes (1998), social capital is not intrinsically positive – it can also be used for benefit in illegal endeavours (Bouchard & Nguyen, 2010; McCarthy & Hagan, 2001). Our indicators of social capital replicate McCarthy and Hagan's (2001) measure of concepts examining respondents' willingness to collaborate with others in their criminal endeavours (the willingness to help, teach, or provide protection). Six items from McCarthy and Hagan (2001) were used to create our measures, all related to property crimes or drug selling, offences offering opportunities to potentially make money from crime:

1. Have you ever offered to teach someone to steal?
2. Have you ever offered to help someone sell stolen goods?
3. Have you ever offered to help steal?
4. Have you ever offered to teach someone to sell drugs?
5. Have you ever offered to provide protection for someone selling drugs?
6. Have you ever offered to help someone sell drugs?

All of those items were measured from "never" to "all the time" (0 = never, 1 = once or twice, 2 = a few times, 3 = often, 4 = all the time). The six collaboration items were factor analyzed using maximum likelihood analysis[4]. The eigenvalue was set at one and an orthogonal method of rotation was used. A two-factor solution provided the best fit to the data, explaining 73% of the variance. The three items for property crimes and for drug selling split into two factors to produce variables describing (a) social capital related to property crimes, and (b) social capital related to drug supply. The Kaiser-Meyer-Olkin's measure is more than adequate at .799, and the Bartlett's sphericity test (483.4) is highly significant at $p < 0.001$.

For completeness and consistency with previous strain and peer influence studies, we also added a variable measuring the number of delinquent friends that our respondents had. Respondents were asked how many delinquent friends they had: 0 = none, 1 = hardly any, 2 = some, 3 = most, 4 = all of them. A total of 13 respondents indicated that none of their friends

[4] The same two-factor solution was obtained by using principal component analysis. The same group of items was also factor analysed using an oblique rotation technique. The loading was a little bit lower than what was obtained with the orthogonal rotation.

were delinquent, 21 respondents answered "hardly any", 112 mentioned that "some" or "most" of their friends were delinquent, and 24 respondents reported that all their friends were delinquent. This item is, as expected, positively associated to social capital (the higher the number of friends, the more potential for finding and using network resources). The moderate correlation ($r = .29$, $p < 0.01$, $r = .34$, $p < 0.01$), however, suggests that these remain distinct concepts to be measured separately, as we do here (See Appendix/Table 4).

Table 1: Descriptives and coding of variables

Variables	Mean	Standard Deviation
Gender (female = 1)	0.28	0.45
Age	16.21	1.23
Ethnicity (Caucasian = 1)	0.62	0.49
Motivation for crime is money = 1	0.60	0.49
Daily opportunities to make money from crime = 1	0.64	0.48
School strain (factor)	0.00	1.00
Family strain (factor)	0.00	1.00
Anger scale (0-2)	1.31	0.79
Social capital – drug supply (factor)	0.00	1.00
Social capital – property crimes (factor)	0.00	1.00
Number of delinquent friends (0-4) (*none* to *all*)	2.33	1.14

Control Variables

Consistent with past research on strain theory, and as shown on Table 1, our multivariate analyses control for age (mean is 16.2), gender (female = 28%), and ethnicity (Caucasian = 62%, others = 38%). Another control variable measured in this study is whether respondents perceived crime as a way to obtain money. The importance of this control is to isolate the effect of *motivation* to make money out of crime, and the effect of our main independent variables (strain and social capital) on access to lucrative criminal opportunities[5]. Respondents were asked if they agree or disagree with the following item: When I do crime, it's to get money or things. A total of 103 respondents (60.6%) reported doing crime to obtain money.

[5] In other words, highly motivated individuals may create opportunities for themselves independently of the level of strain they experience, or the amount of social capital they have.

Table 2. Bivariate results predicting daily opportunities to make money out of crime

	Daily opportunities to make money from crime		
	NO	**YES**	**F /χ2**
Gender (female = 1)	23.4%	31.1%	1.2
Age	16.2 (1.4)	16.3 (1.1)	0.4
Ethnicity (Caucasian = 1)	51.6%	68.9%	5.1*
Motivation for crime is money	46.9%	68.9%	8.1**
School strain	-0.3 (1.0)	0.2 (1.0)	7.7**
Family Strain	-0.3 (1.0)	0.2 (0.9)	10.5***
Anger scale (0-2)	1.0 (0.8)	1.5 (0.7)	12.4***
Social capital – drug supply	-0.4 (0.8)	0.2 (1.0)	17.7***
Social capital – property crimes	-0.4 (0.9)	0.3 (0.9)	24.5***
Delinquent friends (0-4)	2.0 (1.1)	2.5 (.01)	9.7**

*p<0.05. **p<0.01. ***p<0.001

Results

We first consider the bivariate associations between our independent variables and daily access to criminal opportunities to make money from crime (Table 3). First, notice how demographic characteristics do not appear to be associated with lucrative criminal opportunities. Only ethnicity may play a role as Caucasian respondents are more likely to be found in the daily opportunities category. Offenders who report being motivated by money are also more likely to have daily access to lucrative criminal opportunities. A positive, significant association is also found between both of our strain and social capital indicators, suggesting that all of those factors may, as expected, increase access to lucrative criminal opportunities.

Next we consider whether those associations also hold at the multivariate level. The analysis proceeds in three steps. The first model is the baseline model including only the control variables (i.e., gender, age, ethnicity, motivation for crime is money). The second model adds the

strain factors and the anger score to examine if they are predictors of access to lucrative opportunities. The third model adds delinquent friends and the two social capital indicators to examine the independent contribution of each factor to access to lucrative criminal opportunities.

The baseline model is significant (chi-square = 16.2, $p < 0.01$), with both ethnicity and financial motivation emerging as positive predictors of access to lucrative criminal opportunities. Adding the strain and anger components (Model 2) significantly improves the model ($X^2 = 35.9$, $p < 0.001$). The Cox and Snell R^2 is increased from 9% to 19% and the overall classification is improved as well (from 65% to 69%) – although it remains relatively poor overall. Model 2 shows that the significant effect of ethnicity and financial motivation for crime disappear after controlling for strain. Two predictors are significant at the $p < 0.05$ level: family strain and anger, indicating that experiencing family-based strain and anger increases the likelihood of access to daily lucrative crime opportunities. The school strain factor also is positive as predicted, but only marginally significant ($p = 0.06$).

Table 3. Logistic regression predicting daily opportunities to make money out of crime

	MODEL 1: BASELINE MODEL					**MODEL 2: STRAIN & ANGER**					**MODEL 3: SOCIAL CAPITAL**				
	B	SE	Wald	Sig	Exp (β)	B	SE	Wald	Sig	Exp (β)	B	SE	Wald	Sig	Exp (β)
Gender	.677	.393	2.97	.085	1.968	.659	.418	2.49	.115	1.932	.887	.473	3.52	.061	2.428
Age	.152	.136	1.24	.265	1.164	.236	.147	2.56	.109	1.266	.125	.170	.539	.463	1.133
Ethnicity	.725	.339	4.57	.032	2.065*	.638	.367	3.02	.082	1.893	.504	.412	1.50	.221	1.656
Motivation for crime is money	1.01	.343	8.70	.003	2.751**	.679	.380	3.20	.073	1.973	.371	.433	.732	.392	1.449
School strain						.348	.186	3.51	.061	1.416	.123	.202	.370	.543	1.131
Family Strain						.497	.195	6.52	.011	1.643*	.439	.215	4.17	.041	1.551*
Anger						.567	.233	5.92	.015	1.763*	.447	.270	2.75	.097	1.564
Social capital-drug supply											.703	.234	9.03	.003	2.019**
Social capital-property crimes											.838	.243	11.9	.001	2.311***
Delinquent friends											.015	.205	.005	.943	1.015
Constant	-3.84	2.41	2.54	.111	.021	-5.635	2.602	4.69	.030	.004*	-3.651	3.070	1.42	.234	.026
-2 Log likelihood	207.987					189.316					166.008				
X^2	16.2**					35.9***					59.2***				
Cox & Snell R^2	.091					.190					.294				

Overall classification	64.7%	68.8%	75.9%

*p<0.05. **p<0.01. ***p<0.001

Model 3 adds the social capital indicators, as well as the number of delinquent friends. Doing so significantly improves the model and the classification, indicating the importance of social capital indicators for access to lucrative criminal opportunities. Both the drug selling social capital (B = 0.703, $p < 0.01$) and the property crime social capital (B = 0.838, $p < 0.001$) are strongly associated to access to crime opportunities. The family-based strain factor remains significant, but anger falls to marginal significance. A surprising result relates to the number of delinquent friends, which does not come out as a significant predictor of being exposed to daily lucrative criminal opportunities. This result is consistent with the argument that the ability to mobilize resources in one's social networks (i.e., social capital) matters more than the mere size of the network, at least when assessing the opportunities to make money out of crime.

Discussion and Conclusions

General strain theory (GST) posits that the experience of strains cause negative emotions that individuals will try to alleviate through various strategies, including delinquency (Agnew, 2006). GST predicts that the choice of delinquency as a coping solution will be more likely in certain conditions, including in situations where criminal opportunities are more abundant. The current study does not contest this mechanism. Instead, we alter the logic to consider the role of strain as a direct predictor of criminal opportunities. Instead of taking the presence of opportunities as an external factor to the experience of strain (e.g., living in a high crime area with a large concentration of potential co-offenders), we argue that the very experience of negative life events may directly expose individuals to criminal opportunities (with or without the experience of negative emotions).

Drawing from a sample of 170 serious juvenile offenders incarcerated in British Columbia, our results show that strain experiences are significantly associated with daily access to lucrative criminal opportunities, even after controlling for other factors (including the experience of negative emotions such as anger). Our results show that family-related strains appear to be more closely associated with access to criminal opportunities than school-related strains. In order to better understand this result, we re-analyzed separately the family and school indicators to examine whether the results were driven by one or more of the items. The results (not presented) showed that three out of the six items were more strongly related to our dependent variable: being kicked out of one's home, leaving home of one's own volition to live somewhere else, and not being enrolled in school at the time of the offence. The other three indicators of strain were more focused on negative relationships (with parents, teachers, with school in general), especially those that may cause negative emotions. The three indicators found to be significant point towards events that lead juveniles to spend more time away from authority figures. These negative life events may just as well be interpreted as indicators of unstructured socializing, which have been shown to increase delinquency through increased exposure to criminal opportunities (e.g., Osgood et al., 1996). In other words, these negative life events do not have to lead to negative emotions to create incentives for delinquency, they simply have to lead to decreased levels of social control. The fact that anger does not come out as a significant

predictor of criminal opportunities in our final model is consistent with this interpretation[6]. While the possibility of strain directly affecting levels of social control is raised by Agnew's (2006) most recent version of GST, the theoretical and empirical consequences of this have not been carefully assessed (as mentioned by Agnew himself). The current results raise the possibility that specific types of strains may be associated with specific situations conducive to crime outside the creation of negative emotions, which, if replicated in future studies, invite further revision of the theory.

Because the current study focused on differential access to lucrative criminal opportunities, our theoretical framework was also informed by recent research on criminal achievement. Studies which paid attention to offenders who were more successful at making money out of crime were clear on where to look for predictors: social networks (McCarthy & Hagan, 2001; Morselli & Tremblay, 2004; Morselli et al., 2006). By looking at social networks, these researchers did not mean to merely look at the number of co-offenders, but at the relative ability of individuals to use co-offenders in their network for criminal benefits. In other words, the ability to transform social resources into capital in criminal pursuits is key to understanding who benefits from crime. Our results are very much consistent with this idea. Both of our social capital indicators – measured as the ability to collaborate in lucrative criminal pursuits such as drug selling and property crimes – were shown to be the strongest predictors of daily access to lucrative crime opportunities. Note that the reverse association may also be true: the more access to lucrative criminal opportunities, the higher the willingness to teach, mentor, and collaborate in criminal endeavours. In this vein, Tremblay and Morselli (2000) argued that successful offenders are more likely to supply criminal temptations and opportunities to other occasional, less successful offenders. The social contagion for this aspiration to monetary success in crime is an important issue to be explored in future studies.

In contrast, a measure of the number of delinquent friends in adolescents' social networks was not shown to predict access to lucrative criminal opportunities. Beyond numbers, what matters first and foremost for lucrative criminal pursuits is a proved willingness and ability to collaborate with co-offenders. Future research efforts on peer influence would be wise to incorporate more detailed measures of co-offending which tap into the idea of social capital. Development in the analyses of adolescent networks (e.g.. Haynie, 2001, 2002) should prove to be a fruitful way forward for research on juvenile delinquency. Another area for future research using longitudinal research designs would be to predict the *development* of criminal social capital, net of criminal network size. The causal mechanisms underlying the development of criminal social capital should prove crucial to our understanding of the parallel development of persistent, successful criminal careers.

The combined positive effect of strain and social capital deserves attention[7]. Our findings are important because they suggest that, when comparing offenders with the same amount of

[6] As noted by one of the reviewers, anger is nonetheless a positive, marginal predictor of access to lucrative criminal opportunities, suggesting that an angry disposition is not inimical to lucrative criminal opportunities. In fact, the results suggest that anger may be a more powerful motivational factor in accessing lucrative criminal opportunities than a direct predictor of financial motivation to commit crimes.

[7] We are grateful to one of the reviewers for attracting our attention to a variety of hypotheses to further explain these findings.

criminal social capital, the more strained offenders have a higher likelihood of obtaining access to the most attractive criminal opportunities. But why is this so? One possibility is that adversity may have weakened access to legitimate opportunities in the labour market, and increased the search for illegitimate opportunities. The fact that we also control for strains experienced in school (a likely determinant of future job prospects) and "desire for money", suggests that this hypothesis may not be the right one. Another possibility would be that overcoming precocious family adversity – increasing resilience, in other words – may provide a key training background for coping with the uncertainties of criminal life (or coping with "criminal-related strains"). Strain may provide the stamina, determination, and resolve necessary to gain access to the more attractive and available criminal opportunities. Social capital may provide the ability to maintain, manage, and seek the social relationships that are necessary for steady and reliable access to such opportunities.

The current study has a few limitations that should be acknowledged. First, the study was based on self-reported data of young incarcerated offenders and faced accuracy and generalizability issues. The sample cannot be considered as representative of juvenile offenders in general, or other adolescents who are non-incarcerated. Future studies should try to replicate our findings with other types of adolescent populations. School-related strain, for example, may become more important for samples of adolescents recruited in secondary schools. Second, it should be noted that the initial purpose of the questionnaire was to assess recidivism among serious and violent offenders, not to test strain theory. In that sense, some of our measures are not ideal indicators of strain, and the number of items used could be considered as insufficient. By contrast, Agnew and White (1992) used 37 strain-related scales. Finally, we rely on cross-sectional data – causal mechanisms cannot be determined with accuracy. As mentioned above, we expect that increased access to lucrative criminal opportunities may produce feedback effects affecting relationships with co-offenders, but also with agents of social control.

Overall, our results offer support for the argument that adolescents who experience strain at home are more likely to have regular access to lucrative crime opportunities. The implications of this finding for crime prevention are important. They suggest that as a target for intervention, focusing on how adolescents spend their time may be just as, or more important than direct interventions aimed at controlling their emotions. In addition, the more time away from authority figures, the greater the likelihood that collaboration in criminal endeavours has a chance to be nurtured and developed. Early success in crime may further reinforce offenders' perceptions about the inefficiency of legitimate channels to achieve their monetary goals, and strengthen their criminal beliefs. Prosperous criminal careers are not created in a vacuum. They usually are nurtured early, making the analysis of variations in access to lucrative criminal opportunities and criminal success a key object of inquiry for studies in developmental criminology.

References

Agnew, R. (1985). A revised strain theory of delinquency. *Social Forces, 64*, 151-167.

Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology, 30*(1), 47-66.

Agnew, R. (1994). Delinquency and the desire for money. *Justice Quarterly, 11*(3), 411-427.

Agnew, R. (1999). A general strain theory of community differences in crime rates. *Journal of Research in Crime and Delinquency, 36*(2), 123-155.

Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency, 38*(4), 319-361.

Agnew, R. (2006). *Pressured into crime: An overview of general strain theory*. Los Angeles: Roxbury.

Agnew, R., & White, H. R. (1992). An empirical test of general strain theory. *Criminology, 30*(4), 475-499.

Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed.). Chicago: University of Chicago Press.

Bouchard, M., & Nguyen, H. (2010). Is it who you know, or how many that counts? Criminal networks and cost avoidance in a sample of young offenders. *Justice Quarterly, 27*(1), 130-158.

Cloward, R. A. (1959). Illegitimate means, anomie, and deviant behaviour. *American Sociological Review, 24*(2), 164-176.

Cloward, R. A., & Ohlin, L. E. (1960). *Delinquency and opportunity*. New York: Free Press.

Coleman, J. (1990). *Foundations of social theory*. Cambridge, MA: Harvard University Press.

Corrado, R. R., Cohen, I. M., Glackman, W., & Odgers, C. (2003). Serious and violent young offenders' decisions to recidivate: An assessment of five sentencing models. *Crime and Delinquency, 49*(2), 179-200.

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360-1380.

Haynie, D. L. (2001). Delinquent peer revisited: A network approach for understanding adolescent delinquency. *American Journal of Sociology, 106*(4), 1013-1057.

Haynie, D. L. (2002). Friendship networks and delinquency: The relative nature of peer delinquency. *Journal of Quantitative Criminology*, *18*(2), 99-134.

Lin, N. (2001). *Social capital: A theory of social structure and action*. Cambridge, UK: Cambridge University Press.

McCarthy, B., & Hagan, J. (2001). When crime pays: Capital, competence, and criminal success. *Social Forces*, *79*(3), 1035-1059.

Merton, R. K. (1938). Social structure and anomie. *American Sociological Review*, *3*(5), 672-682.

Merton, R. K. (1959). Social conformity, deviation, and opportunity structures: A comment on the contribution of Dublin and Cloward. *American Sociological Review*, *24*(2), 177-189.

Morselli, C., & Tremblay, P. (2004). Criminal achievement, offender networks and the benefits of low self-control. *Criminology*, *42*(3), 773-804.

Morselli, C., Tremblay, P., & McCarthy, B. (2006). Mentors and criminal achievement. *Criminology*, *44*(1), 17-44.

Osgood, D. W., Wilson, J. K., O'Malley, P., Bachman, J. G., & Johnston, L. D. (1996). Routine activities and individual deviant behaviour. *American Sociological Review*, *61*(4), 635-655.

Portes, A. (1998). Social capital: Its origins and applications in sociology. *Annual Review of Sociology*, *24*, 1-24.

Tremblay, P., & Morselli, C. (2000). Patterns in criminal achievement: Wilson and Abrahamse revisited. *Criminology*, *38*(2), 633-660.

Appendix:

Table 4: Correlation matrix

		1	2	3	4	5	6	7	8	9	10	11
1.	Gender (female = 1)	1.000										
2.	Age	-.210**	1.000									
3.	Ethnicity (Caucasian = 1)	-.026	-.057	1.000								
4.	Motivation for crime is money	-.148*	-.012	.087	1.000							
5.	Daily opportunities to make money from crime	.083	.014	.165*	.213**	1.000						
6.	School strain	-.154*	-.005	.198*	.063	.215**	1.000					
7.	Family strain	.174*	-.209	.078	.164*	.225**	.000	1.000				
8.	Anger	.048	-.071	-.037	.204**	.243**	.194**	.052	1.000			
9.	Delinquent friends	.050	-.119	-.062	.212**	.227*	.209**	.053	.311**	1.000		
10.	Social capital – drug supply	.046	.082	.032	.050	.297**	.213**	.053	.233**	.288**	1.000	
11.	Social capital – property crimes	-.158*	.018	.198*	.264**	.330**	.265**	.088	.121	.343**	.014	1.000

*p<0.05. **p<0.01. ***p<0.001

Note: Effect size reported; Cramer's V for categorical x categorical, Eta for categorical x continuous, Pearson's R for continuous vs. Continuous.