

## Does socio-economic disadvantage lead to acting out?

### A reinvigoration of an old question

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#### Abstract

*Research into socio-economic determinants of school deviance is inconclusive. Recently, scholars argued that economic deprivation, rather than SES background, affects delinquency. Using multilevel analyses on data of 9,174 students across 111 schools in 4 European cities (2013-2014), we investigate the association of SES and economic deprivation with school-deviant behavior. Furthermore, we study the role of academic self-efficacy. Lower-SES and deprived students might perceive goal blockage with regard to study-related goals, leading to deviant coping – that is self-efficacy as mediator – or self-efficacy might condition SES and deprivation effects – that is self-efficacy as moderator. Results showed that deprivation relates to school-deviant behavior. This association was not mediated, nor moderated, by academic self-efficacy. The relationship with SES was moderated by academic self-efficacy. We conclude that deprived and lower SES-students are prone to break school rules, the latter more so when feeling less competent at reaching academic goals.*

#### Introduction

Given the negative consequences of engaging in school-deviant behavior, including poorer grades (McEvoy & Welker, 2000), and dropping out (Newcomb et al., 2002), it is important to investigate whether socio-economic background factors are related to school deviance. An overrepresentation of socio-economically disadvantaged students among the deviant, namely, would instigate more social inequality in society. This notion that socioeconomic status is related to rule transgression is central to the strain/anomy theories (Agnew, 1985; Cohen, 1955; Merton, 1968), that hold that lower-SES individuals are predisposed towards delinquency as they are likely to perceive the realization of their goals being thwarted. However, few studies could empirically demonstrate the association between socioeconomic status and self-reported delinquency (Hindelang et al., 1979). Nonetheless, Agnew and colleagues (2008) clarified how anomy theory's position is congruent with the lack of empirical evidence regarding the socioeconomic status-crime relationship. They contended that not socioeconomic status per se, but rather experiencing economic problems is associated to delinquency (Agnew et al., 2008). While lower-SES individuals are more likely to experience economic hardship than their higher-SES counterparts, socioeconomic status and economic deprivation only partly overlap.

Few empirical studies have made this distinction between socioeconomic status and economic deprivation yet (Agnew et al., 2008). This also applies in educational literature, where most studies investigating socioeconomic precursors to school deviance have exclusively studied socioeconomic status as determinant (see e.g., Demanet & Van Houtte,

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2011; Heimer, 1997; Krohn et al., 1980). Parallel to the criminological studies, these educational studies offer mixed results (Blomme, 1988; Demanet & Van Houtte, 2011; 2014; Heimer 1997). Incorporating Agnew and colleagues' (2008) ideas in this literature, our first aim is to investigate the relative importance of socioeconomic status and economic deprivation in school deviance.

We furthermore aim to enlighten *why* and *under which conditions* socioeconomic status and economic deprivation are related to school deviance. In this contribution, we focus on self-efficacy beliefs (Agnew, 1995), which deal with how good someone thinks he/she is at reaching a certain goal. We argue that, for adolescents in a school context, their self-appraised proficiency to reach academic goals – that is, academic self-efficacy – is important for school-deviant behavior. Academic self-efficacy feelings might act in two ways. First, academic self-efficacy might play a mediating role, in which case lower-SES students and those experiencing economic problems perceive to be inefficient at reaching academic goals, which is why they respond with school-deviant behavior (Caraway et al., 2003). A second possibility is that self-efficacy moderates socioeconomic status and deprivation effects on school misconduct. In the latter case, effects are stronger for students with lower academic self-efficacy (Agnew, 1995).

In short, we address two research questions. First, we assess the net effects of socioeconomic status and economic deprivation on school deviance. Second, we investigate the role of academic self-efficacy in mediating or moderating eventual associations. Previous studies mostly remained confined to one national context – most often the US context (for exceptions, see Antonaccio et al., 2015; Lin et al., 2015; Sigfusdottir et al., 2012) – which led others to wonder whether GST's claims are appropriate for other contexts (Froggio, 2007). To account for this supposed context-specificity, we adopt a cross-national focus, investigating the research questions in four European cities.

## **Background**

### ***Deviance among the deprived***

According to Merton's (1968) anomie theory, individuals experiencing difficulties to attain socially valued goals through legitimate means are likely to turn to deviant behavior. As lower social strata individuals likely perceive such goal blockage, they are predisposed towards crime. Official records provided empirical evidence for this theory, showing that people from the lower social strata are overrepresented among offenders (Elliott & Ageton 1980; Hindelang et al. 1979). However, class differentials did only to a lesser extent show in self-reported measures (Elliott & Ageton 1980), which led some scholars to assume that the hypothesized class-crime relationship was actually a myth (Tittle et al. 1978). As a result, in the 1970s, anomie theories lost prominence.

Agnew (1985; 1992) revived the classical anomie theories with General Strain Theory (GST). GST essentially connects negative life events – called strains – to delinquency. More specifically, it appoints three sources of strain: (a) failure to reach positively valued goals, (b) removal of positively valued stimuli, (c) the presentation of negatively valued stimuli. Strained individuals experience several emotions, but anger is the emotion most likely to lead to deviance (Mazerolle et al., 2003). Several features condition whether strains eventually lead to delinquency, such as social control or delinquency among peers (Higgins et al., 2011). Many empirical studies support GST's assumptions (for a review, see Froggio, 2007). GST has been

used to explain several types of delinquency, including drug and alcohol use, and both violent and non-violent crimes (Agnew & White, 1992; Baron, 2004). Most of this research has been devoted to identifying the types of strain that associate most consistently to delinquency (see e.g., Paternoster & Mazzerolle, 1994), while others used GST as framework to study gender (Higgins et al., 2011), racial (Kaufman et al., 2008), or age differences in delinquency (Agnew, 2003).

Most studies have steered clear from the main concern of anomie theories, namely, whether socioeconomic status is associated with delinquency. Recently, Agnew and colleagues (2008; 2015) clarified GST's position on the SES-delinquency relationship. They decouple socioeconomic status – e.g., occupational prestige, educational attainment – from experiencing economic problems – economic strains resulting from the loss of valued goods or a lack of money (Agnew et al., 2008, p. 161). According to GST, the crucial factor invoking delinquency is economic deprivation (see also Tittle & Meier, 1990). This conceptual division between socioeconomic status and deprivation aligns with the plea of Halleröd (2006) to distinguish objective conditions of socioeconomic status from subjective perceptions of deprivation. In short, deprivation is relative, resulting from people's comparison to others' situation (Merton, 1968). People with a high socioeconomic status may experience economic deprivation, if they compare their own situation to that of counterparts who are even better off. In the same vein, people low in socioeconomic status may give up striving towards unattainable goals, and feel quite content with their situation (see also Agnew et al., 2008).

Studies confirm that economic strains contribute to delinquency (Cernkovich et al., 2000). Empirical research investigating the relative importance of socioeconomic status and economic deprivation is rather scarce (Agnew et al., 2008), but aligns with the deprivation argument (Agnew et al., 2008; Baron, 2004). Agnew and colleagues (2008) show that economic deprivation, rather than socioeconomic status, is related to self-reported delinquency and drug use. Baron (2004) uses an objective deprivation measure – unemployment – and subjective deprivation measures – relative deprivation and monetary dissatisfaction. Among these three, only monetary dissatisfaction was related to anger and criminal behavior. The scant empirical evidence supports the plea to focus on subjective relative deprivation.

### ***GST goes to school***

In a school context, delinquent behavior is often studied in terms of school deviance, which is defined as behavior that transgresses the school rules (Stewart, 2003). GST has been extensively applied to school deviance (see e.g., Demanet & Van Houtte, 2011; Higgins et al., 2011; Patchin & Hinduja, 2010; Van Houtte & Stevens, 2008). For instance, studies demonstrate that peer rejection (Higgins et al., 2011), the attended track (Van Houtte & Stevens, 2008), and SES and ethnic composition (Demanet & Van Houtte, 2011) are strains that connect to deviance.

Little research, however, studies the role of economic strains. Patchin & Hinduja (2010) did include an economic strain indicator, but as they embedded this in a composite measure, they did not determine its net effect. Nevertheless, some studies study class differentials in school-deviant behavior, but the evidence is mixed. Some scholars find that lower class students are more likely to commit deviant acts (Heimer, 1997; Willis, 1977). In a recent review of the literature, Piotrowska and colleagues (2015) conclude that, among adolescents, antisocial

behavior is consistently related to lower socioeconomic status. Kelly (1975) found that SES was negatively associated with school expulsion, skipping school, and smoking cigarettes, but positively linked to smoking marijuana, shoplifting and drinking alcohol. However, some studies found higher SES-students to be more likely to commit school-deviant behavior (Demagnet & Van Houtte, 2011; 2014), while others found no relation between SES and delinquency at all (Blomme, 1988; Krohn et al., 1980).

Most of these previous studies have utilized socioeconomic status measures, including parental income and education (Heimer, 1997), or occupational background (Demagnet & Van Houtte, 2011). Several studies on adolescents' general delinquency demonstrate that relative deprivation is more important than socioeconomic status (Bernburg & Krohn, 2003; Bernburg et al., 2009; Bjerck, 2007). For instance, deprivation leads to delinquency and violence only when adolescents actually *feel* relatively deprived (Bernburg et al., 2009). As such, with regard to school deviance, deprivation might be more influential as well. To the best of our knowledge, no study has investigated the relative importance of socioeconomic status and economic deprivation in school-deviant behavior.

### ***The role of self-efficacy***

GST does not expect socioeconomic status or economic deprivation to affect delinquency directly, nor in every condition. First, the theoretical explanation for the strain-delinquency relationship stresses the role of goal blockage (Agnew, 1985; 1992; Merton, 1968). It is straightforward to operationalize goal blockage through self-efficacy – that is, whether people feel competent to reach certain goals (Bandura, 2001). Self-efficacy is empirically related to deviant behavior as strain theory predicts. For instance, adolescents low in self-efficacy are more likely to use alcohol or drugs and to engage in delinquency (Chung & Elias, 1996; Finn & Frone, 2004; Schulenberg et al., 1995). Moreover, self-efficacy is lower among students from lower SES-families (Bandura et al., 1996). As such, we could straightforwardly hypothesize that self-efficacy feelings mediate the relationship between SES and school deviance. Given Agnew and colleagues' (2008) predictions that deprivation affects goal blockage, furthermore, we might expect self-efficacy to mediate the supposed association between economic and school deviance as well. Self-efficacy is a very general concept, and it is important, when assessing self-efficacy beliefs, to specify the task or goal to which the beliefs apply (Bandura, 2001). Agnew (1995; 2001) expects adolescents to value above all the attainment of short-term goals as peer popularity and good grades. Therefore, in this study we focus on the role of academic self-efficacy – that is, whether students perceive to be competent in school-related tasks (Caraway et al., 2003).

As discussed above, several factors condition whether an individual will respond to strain with delinquent coping (Froggio, 2007). Strain theorists see self-efficacy as one of those factors (Agnew & White, 1992; Froggio, 2007). Individuals high in self-efficacy are expected to feel more confident of reacting to strain with non-delinquent coping. Such a viewpoint is consistent with social cognitive theory (Bandura, 1982), which holds that people with high self-efficacy persist longer in the face of difficulties. Hence, it is possible that self-efficacy beliefs moderate, rather than mediate, SES and deprivation effects on school-deviant behavior. Previous studies on the moderating role of self-efficacy mostly used very general measures of self-efficacy, gauging whether respondents feel in control of their environment (Agnew & White, 1992), or

whether they perceive to be able to carry out their plans (Baron, 2004). Given the importance of educational goals for youngsters, as specified above, we will investigate the role of academic self-efficacy in moderating SES and deprivation effects on school deviance.

### ***The current study***

We set three research hypotheses:

*H1: Economic deprivation relates more strongly to school-deviant behavior than socioeconomic status.*

*H2: Academic self-efficacy mediates associations between respectively socioeconomic status and economic deprivation, and school-deviant behavior.*

*H3: Academic self-efficacy moderates associations between respectively socioeconomic status and economic deprivation, and school-deviant behavior.*

Scholars voiced concerns that the bulk of research testing GST has been carried out in the US. Therefore, it would be unclear whether GST applies to other contexts (Froggio, 2007). Some other contexts have been studied, including Taiwan (Lin et al., 2014), Ukraine (Antonaccio et al., 2015), China (Bao et al., 2007) or Belgium (Van Houtte & Stevens, 2008). Comparative work has been undertaken as well, showing that GST is applicable in most European countries (Sigfusdottir et al., 2012; but see Botchkovar et al., 2009). Given the novelty of the research questions on school-deviant behavior, it seems important to investigate them cross-nationally.

## **Methods**

### ***Data***

We used data from the International Study of City Youth (ISCY), a large-scale international study carried out in 14 cities around the world ([www.iscy.org](http://www.iscy.org)). For the current study, we used the European data of the baseline survey. To ensure maximum cross-national comparability, we limited the analyses to the cities which administered the baseline survey in the 2013-2014 school year: Barcelona (Spain), Bergen (Norway), Ghent (Belgium), and Wroclaw (Poland).

The general sampling approach was to use a two-stage stratified cluster design. First, schools were sampled, in which a sample of students in the modal grade for 15-year olds was selected. The selected students filled out an online questionnaire in class, supervised by their teacher, and in some cities by members of the research team. Across the four cities, 9,174 students across 111 schools took part in the baseline survey.

### ***Measures***

#### ***Outcome***

We used a school-misconduct scale consisting of five items (inspired by Stewart, 2003). Students were asked how often they had performed deviant acts during the school year, such as skipped a class without permission, been given a detention, or been late for school. Answers ranged from *Never* (coded 0) to *5 or more times* (coded 4). A scale was constructed by summing answers across these items. Missing values were imputed through mean item imputation, but only if students answered validly to at least three of the five items. The Cronbach's alpha of 0.72 ( $N=6.350$ ) confirmed the reliability. The scale ranged from 5 to 20 (Mean=8.48; SD=3.38). As is common (Crosnoe, 2002; Stewart, 2003), the school misconduct scale was significantly skewed to its lower end (1.33;  $SE=0.026$ ).

**Table 1: Univariate characteristics**

Variables	%	M	SD	Cronbach's Alpha	N
<i>Dependent variable</i>					
School misconduct		8.48	3.38		8,810
<i>City distribution</i>					
Barcelona	23.10%				9,174
Bergen	23.40%				
Ghent	25.70%				
Wroclaw	27.90%				
<i>School level</i>					
SES composition		54.83	13.37		111
Gender composition		0.5	0.15		111
Ethnic composition		0.13	0.17		111
School size		82.65	43.35		111
<i>Student level</i>					
SES		57.52	22.26		8,593
Economic deprivation		1.71	0.8		8,593
Academic self-efficacy		8.57	1.72		8,803
Age		15.34	0.65		8,905
Gender					8,897
	Girl	49.90%			
Migrant					8,874
	Migrant	10.70%			

*Individual-level independent variables*

Socioeconomic status was measured by parental occupation, or, if unemployed, their last occupation. If both parents worked, we used the highest ranked occupation as the SES of the family. As is common in comparative social research (Bol & Van de Werfhorst, 2011), we coded the occupational status according to the International Socio-Economic Index (ISEI; see Ganzeboom & Treiman, 1996). The resultant measure ranged from 11.56 to 88.96, with a mean of 57.52 (SD=22.26; see Table 1). There were some differences between cities ( $F=130.63$ ;  $p<.001$ ), with Bergen having the highest (65.25; SD=18.19), and Barcelona having the lowest mean SES (51.96; SD=23.48).

Following other studies (e.g., Bernburg et al., 2009), economic deprivation was measured by asking students to report on the financial problems of their parents. More specifically, students indicated their agreement with the statement ‘My parents often do not have enough money to make ends meet’. Answers were on a 4-point scale (0=*Strongly disagree*; 4=*Strongly agree*). This measure can be seen as an economic strain indicator, as students expressing financial hardship at home are likely to be confronted with negative economic stimuli (see Agnew et al., 2008, p. 161). The mean was 1.71 (SD=0.80), and again differences arose between the cities ( $F=178.35$ ;  $p<.001$ ), with Bergen having the lowest mean (Mean=1.46; SD=0.727), and Barcelona the highest (Mean=2.01; SD=0.851). The correlation between SES and economic deprivation ( $r=-0.250$ ,  $p<.001$ ) shows that the two constructs are negatively correlated, but don’t overlap.

Academic self-efficacy was measured by a scale (inspired by Finn & Frone, 2004), consisting of three items (for instance ‘I am confident of doing well in school’). Answers were on a 4-point scale (0=*Strongly disagree*; 4=*Strongly agree*). Cronbach’s alpha was .76 ( $N=8,720$ ), which confirmed the scale’s reliability. Answers were summed to a scale, and we imputed missing values with mean imputation if the respondent had less than two of the items in the subscales missing. The mean of the academic self-efficacy scale was 8.57 ( $SD=1.72$ ).

Of the sample, 49.90% were female. Most respondents were 15 years old. Some students were a bit older, mostly because of a delayed educational career (Mean=15.34;  $SD=0.65$ ). All students born in another country than the one in which the survey was administered were regarded as first-generation migrants. In total, 10.7% of the respondents were born in a foreign country.

#### *School-level independent variables*

SES composition was measured by calculating the mean ISEI-score per school. The mean SES composition was 54.83 ( $SD=13.37$ ). The mean gender composition, measured by the proportion of girls in each school, was 0.50 ( $SD=0.15$ ). The mean ethnic composition, measured by the proportion first-generation migrants in each school, was 0.13 ( $SD=0.17$ ). School size ranged from 6 to 252 students, with a mean of 82.65 ( $SD=43.35$ ).

#### **Research design**

As the data have a nested structure – students are nested in schools, which are nested in cities – multilevel analysis was appropriate (HLM7; Raudenbush & Bryk, 2002). Given the low number of cities, however, it was impossible to include city-level random intercepts – that is, including the cities as a separate level. We followed previous comparative research (Bol et al., 2014) by including city fixed effects – that is, including dummy variables for each city at the school. A drawback of this method is that the main effects of city-level variables cannot be assessed, but it is possible to allow the SES and deprivation effects to vary between the cities (Bol et al., 2014, p. 1552). The city with the highest number of respondents, namely Wrocław, was chosen as reference category.

We start by estimating unconditional models – that is without specifying any determinant – to determine the proportion of variance in the outcome situated at each level. To answer the research questions, we assessed two sets of models. In a first set, we estimated whether SES and deprivation related to academic self-efficacy. This allowed to assess the mediating role of academic self-efficacy (H2), as a first step in demonstrating mediation is that the independent variables affect the hypothesized mediator (Baron & Kenny, 1986). We added interaction terms between the city dummy variables and deprivation and SES, to allow the SES and deprivation effects to vary between the cities. In a second set, school misconduct was the dependent. This measure was significantly skewed toward its lower end. We tested whether this affected our results. The same picture emerged whether we used linear or more complex, nonlinear models – more specifically, overdispersed Poisson models with constant exposure. For ease of interpretation, we present the linear multilevel results in this paper. We entered variables stepwise to the models. First, we estimated the net effects of SES and deprivation on school misconduct (H1). Again, we included interaction terms between the city dummy variables and the SES and deprivation measures. In the second step, we included academic self-efficacy in

order to test mediation (H2). A mediation is demonstrated when the inclusion of this measure affects or even nullifies the coefficients of SES and deprivation. In two final models, we included interaction terms between academic self-efficacy and respectively SES and deprivation, consecutively in the third and fourth models, to test moderation (H3).

We incorporated control variables to account for spurious relationships. At the individual level, we controlled for gender (0=boy; 1=girl), age, and being first-generation migrant (0= no migrant; 1=migrant). At the school level, we controlled for SES, gender, and ethnic composition, and school size (Demagnet & Van Houtte, 2011; Stewart, 2003). To ensure model stability, all variables but the dichotomous ones were grand-mean centered.

## **Results**

### ***SES, deprivation, and academic self-efficacy***

The unconditional 'null' model demonstrated that 7.02% of the variance in academic self-efficacy ( $\sigma^2=2.763$ ;  $\tau_0=0.208$ ;  $p<0.001$ ) was between schools. As such, multilevel analyses were warranted.

The results of the multilevel analyses (Table 2) showed that, in most cities, SES was associated with academic self-efficacy. In Wroclaw, Barcelona and Bergen, a higher SES associated with a higher academic self-efficacy ( $\gamma=0.009$ ;  $p<.001$ ). The standardized coefficient ( $\gamma^*=0.116$ ) pointed to a moderate association. In Ghent, the effect was virtually zero ( $\gamma=0.009+(-0.011)=-0.002$ ;  $p<.001$ ). In all cities, deprivation associated with lower academic self-efficacy (Barcelona, Ghent, and Wroclaw:  $\gamma=-0.372$ ;  $\gamma^*=-0.173$ ;  $p<.001$ ; Bergen:  $\gamma=-0.372+(-0.154)=-0.526$ ;  $\gamma^*=-0.245$ ;  $p<.001$ ). The standardized coefficients showed that deprivation was associated more strongly to academic self-efficacy than SES was. Moreover, the association between deprivation and academic self-efficacy was less variable across cities. As such, deprivation seemed more important for academic self-efficacy than SES.

### ***SES, deprivation, and deviance***

For school misconduct, the unconditional 'null' model showed that 22.38% ( $\sigma^2=9.401$ ;  $\tau_0=2.711$ ;  $p<0.001$ ) of the variance was situated between schools, again warranting the use of multilevel models.

Model 1 (Table 3) demonstrated that both socioeconomic status and deprivation were linked to school misconduct. First, SES was, in Wroclaw, negatively related to school misconduct ( $\gamma=-0.018$ ;  $\gamma^*=-0.119$ ;  $p<.001$ ). In the other cities, there was no or only a very small association between SES and misconduct (Barcelona:  $\gamma=-0.018+(0.020)=0.002$ ;  $\gamma^*=0.013$ ;  $p<.001$ ; Bergen:  $\gamma=-0.018+(0.014)=-0.004$ ;  $\gamma^*=-0.026$ ;  $p<.001$ ; Ghent:  $\gamma=-0.018+(0.018)=0.000$ ;  $p<.001$ ). Second, in all studied cities, deprivation associated with more school misconduct ( $\gamma=0.469$ ;  $\gamma^*=0.111$ ;  $p<.001$ ). These associations appeared to be congruent to the analyses on academic self-efficacy, as the deprivation effect was somewhat stronger than the SES effect, with the latter being only demonstrated in Wroclaw.



**Table 2: The association between economic deprivation, SES, and academic self-efficacy**

			Model 1
Intercept		$\gamma$	8.159***
		SE	0.075
<i>School level</i>			
City fixed effects (Ref cat: Wroclaw)			
Bergen		$\gamma$	0.751***
		SE	0.09
Ghent		$\gamma$	0.545***
		SE	0.095
Barcelona		$\gamma$	0.278*
		SE	0.110
SES composition		$\gamma$	-0.004
		SE	0.003
Gender composition		$\gamma$	-0.626*
		SE	0.263
School size		$\gamma$	0.001
		SE	0.001
Ethnic composition		$\gamma$	0.382
		SE	0.243
<i>Individual level</i>			
SES	Main effect	$\gamma$	0.009***
		SE	0.002
*Bergen		$\gamma$	0.004
		SE	0.003
*Ghent		$\gamma$	-0.011***
		SE	0.002
*Barcelona		$\gamma$	-0.001
		SE	0.003
Economic deprivation	Main effect	$\gamma$	-0.372***
		SE	0.049
*Bergen		$\gamma$	-0.154*
		SE	0.075
*Ghent		$\gamma$	0.099
		SE	0.065
*Barcelona		$\gamma$	0.118
		SE	0.073
Gender		$\gamma$	0.054
		SE	0.042
Age		$\gamma$	-0.071*
		SE	0.034
Migrant		$\gamma$	0.172*
		SE	0.077
<i>Variance components</i>			
	Intercept	$U_0$	0.082***
	Gender	$U_1$	0.035*

Note: The unstandardized ( $\gamma$ ) gamma coefficients are presented, with the standard errors (SE) and variance components U (when significant)

\*  $p \leq .05$ , \*\*  $p \leq .01$ , \*\*\*  $p \leq .001$

**Table 3: The association between SES, economic deprivation, academic self-efficacy, and school misconduct. Results of stepwise multilevel analyses**

			Model 1	Model 2	Model 3	Model 4
Intercept		$\gamma$	10.268***	9.958***	9.939***	9.942***
		SE	0.185	0.164	0.163	0.163
<i>School level</i>						
City fixed effects (Ref cat: Wroclaw)						
Bergen		$\gamma$	-2.399***	-1.965***	-1.947***	-1.943***
		SE	0.248	0.216	0.216	0.216
Ghent		$\gamma$	-1.403***	-0.996***	-0.963***	-0.963***
		SE	0.225	0.192	0.192	0.192
Barcelona		$\gamma$	-1.734***	-1.597***	-1.594***	-1.599***
		SE	0.283	0.241	0.239	0.239
SES composition		$\gamma$	-0.031**	-0.022*	-0.025*	-0.025*
		SE	0.012	0.01	0.01	0.01
Gender composition		$\gamma$	0.112	-0.356	-0.368	-0.373
		SE	0.467	0.367	0.363	0.362
School size		$\gamma$	-0.004*	-0.004*	-0.004*	-0.004*
		SE	0.002	0.002	0.002	0.002
Ethnic composition		$\gamma$	-0.370	0.228	0.291	0.284
		SE	0.684	0.597	0.592	0.593
<i>Individual level</i>						
SES	Main effect	$\gamma$	-0.018***	-0.013***	-0.011**	-0.011**
		SE	0.005	0.004	0.004	0.004
*Bergen		$\gamma$	0.014**	0.015**	0.013*	0.012*
		SE	0.005	0.005	0.005	0.005
*Ghent		$\gamma$	0.018**	0.012*	0.01	0.01
		SE	0.006	0.006	0.006	0.006
*Barcelona		$\gamma$	0.020***	0.02***	0.019***	0.019***
		SE	0.006	0.005	0.006	0.005
Economic deprivation	Main effect	$\gamma$	0.469***	0.274*	0.272*	0.285*
		SE	0.118	0.123	0.121	0.119
*Bergen		$\gamma$	0.036	-0.018	-0.011	-0.022
		SE	0.14	0.146	0.145	0.141
*Ghent		$\gamma$	-0.034	0.02	0.017	0.008
		SE	0.151	0.152	0.151	0.152
*Barcelona		$\gamma$	-0.176	-0.108	-0.107	-0.112
		SE	0.145	0.143	0.142	0.141
Gender		$\gamma$	-0.664***	-0.626***	-0.622***	-0.622***
		SE	0.081	0.08	0.079	0.079
Age		$\gamma$	0.487***	0.460***	0.462***	0.462***
		SE	0.068	0.067	0.067	0.068
Migrant		$\gamma$	-0.159	-0.08	-0.07	-0.071
		SE	0.131	0.109	0.107	0.107
Academic self-efficacy		$\gamma$		-0.519***	-0.518***	-0.518***
		SE		0.029	0.028	0.028
<i>Interactions</i>						
SES*Academic self-efficacy		$\gamma$			0.004	0.004***
		SE			0.001	0.001
Deprivation*Academic self-efficacy		$\gamma$				0.016
		SE				0.034

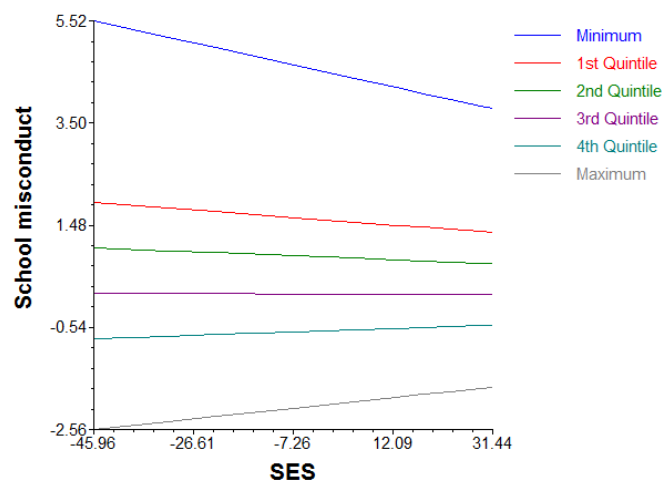
<i>Variance components</i>						
Intercept	U <sub>0</sub>	0.439***	0.317***	0.317***	0.317***	0.317***
SES	U <sub>1</sub>	0.0001*	0.0001*	0.0001*	0.0001*	0.0001*
Economic deprivation	U <sub>2</sub>	0.048*	0.039*	0.037*	0.037*	0.037*
Gender	U <sub>3</sub>	0.178***	0.197**	0.195**	0.193**	0.193**
Age	U <sub>4</sub>	0.117*	0.134*	0.135*	0.136*	0.136*
Academic self-efficacy	U <sub>6</sub>		0.038***	0.032***	0.032***	0.032***

Note: The unstandardized ( $\gamma$ ) gamma coefficients are presented, with the standard errors (SE) and variance components U (when significant) \*  $p \leq .05$ , \*\*  $p \leq .01$ , \*\*\*  $p \leq .001$

In model 2, we included academic self-efficacy. This did not affect the SES coefficient considerably. Academic self-efficacy in itself was significantly related to school misconduct ( $\gamma=-0.519$ ;  $\gamma^*=-0.264$ ;  $p<.001$ ). Moreover, including academic self-efficacy affected the economic deprivation coefficient slightly ( $\gamma=0.274$ ;  $\gamma^*=0.064$ ;  $p<.001$ ), although it remained significant. While a small part of the deprivation association could be ascribed to academic self-efficacy, the latter did not completely mediate the association between economic deprivation and school misconduct.

The interaction term in model 3 showed that academic self-efficacy moderated the SES-effect ( $\gamma=0.004$ ;  $p<.001$ ). Figure 1 presents the association between SES and school misconduct separately for several values of the academic self-efficacy scale (specifically, the minimum, first, second, third, and fourth quintiles, and maximum). These results showed that a lower SES only led to school misconduct for students low in academic self-efficacy. For students high in academic self-efficacy – specifically, those above the third quintile – a higher SES even associated with more school misconduct. In model 4, the interaction term between economic deprivation and academic self-efficacy was not significant (Model 4:  $\gamma=0.016$ ;  $p>.05$ ). Hence, academic self-efficacy did not moderate the effect of economic deprivation on school misconduct.

**Figure 1: The interaction effect between academic self-efficacy and SES. Results of multilevel analyses**



## Discussion

This study was guided by three hypotheses. First, we hypothesized that economic deprivation, rather than SES, is related to school-deviant behavior (H1). Moreover, we hypothesized that academic self-efficacy mediates SES and deprivation effects on school misconduct (H2), and that socioeconomic and deprivation effects on school-deviant behavior are conditional upon academic self-efficacy (H3). To incorporate concerns that GST might only apply to some national contexts (Froggio, 2007), we tested these hypotheses in a cross-national research design.

School-deviant behavior was more strongly and consistently linked to deprivation than to socioeconomic status. This complies with Agnew and colleagues' (2008) claim that economic strains are not directly captured by a socioeconomic status index. The results also support studies that show that subjective experiences of economic hardship are more important for rule-breaking than objective conditions of socioeconomic status (Bernburg & Krohn, 2003; Bernburg et al., 2009; Bjerk, 2007). Deprivation was related to academic self-efficacy as well. As self-efficacy can be seen as an indicator of goal blockage, this provides further empirical support for the claim that economic strains are important as a precursor to goal blockage (Agnew et al., 2008).

The lower academic self-efficacy among the economically deprived, however, cannot completely explain their proficiency to engage in school-deviant behavior (H2). It is likely that economic strains affect school deviance partly through other factors, perhaps most notably through socio-emotional features as frustration and anger, a pathway that has been identified by other research (Patchin & Hinduja, 2010). Conditions in the family context might also be relevant in this respect (Agnew et al., 2008; Wadsworth & Compass, 2002). For instance, adolescents living in economically deprived families are more subject to family conflict, which leads them to experience stress, and this would increase antisocial coping (Wadsworth & Compass, 2002). Broader socio-emotional factors may provide additional explanations for why adolescents react to economic strains with school-deviant behavior.

Furthermore, academic self-efficacy did not condition whether students react to economic strain with delinquent coping (H3). It is likely that some factor not accounted for here conditions delinquent coping as a reaction to deprivation. In GST, a host of conditioning factors are named – such as having delinquent peers or experiencing low social control (Agnew, 1992) – and it is possible that these are more important in conditioning the use of delinquent coping as a reaction to economic hardship than self-efficacy.

A lower SES was found to relate to lower academic self-efficacy. Contrary to previous studies on general delinquency (Agnew et al., 2008; Baron, 2004), socioeconomic status was still significantly related to school-deviant behavior with economic deprivation controlled for, although this only applied in Wroclaw. We argue therefore that, when a low SES limits students' chances for educational success, it may become a strain in its own right. This is consistent with myriad educational studies. For instance, the influential status attainment model (Sewell & Hauser, 1972) demonstrates that students of lower socioeconomic status families eventually expect to attain lower educational success and occupations than students from higher SES-families. In the field of education, then, as SES determines feelings of goal blockage, it may constitute a type of strain not captured by the purely economic type.

Whether students react to the strain of having a low SES with delinquent coping, moreover, depends upon their academic self-efficacy (H3). These results are consistent with GST, which holds that a high self-efficacy enables individuals to cope more effectively with strains (Agnew & White, 1992; Baron, 2004; Froggio, 2007), and social cognitive theory, that states that individuals with more confidence in their own competences persist longer in the face of difficulties (Bandura, 1991). We note one peculiar finding, namely that, for students high in academic self-efficacy, a higher socioeconomic status related to more school-deviant behavior. Given that students high in academic self-efficacy are more confident to reach their goals (Bandura, 2001), and that higher SES-students expect eventually to gain a higher position in the educational and occupational status hierarchy (Sewell & Hauser, 1972), it is possible that students high in both self-efficacy and SES feel to such extent confident of reaching their goals, that they perceive breaking the school rules to have few important negative consequences. If this reasoning is correct, these results are consistent with the view that students will commit deviant behavior if they feel there will be few negative consequences involved (Hirschi, 1969). Such an interpretation, moreover, complies with the possibility that issues of social control condition the relationship between economic strain and school deviance (Agnew et al., 2008).

The current study has several limitations. First, compliant to the approach taken by Agnew and colleagues (2008), we did not distinguish between different types of economic problems – such as economic hardship especially acute for lower class individuals versus the failure to buy luxury goods, which is a form of deprivation more common among higher class individuals (Agnew et al., 2008). Other research should distinguish between different types of economic strains to investigate their relative importance for deviant behavior at school. Second, we focused only on the relative role of economic deprivation and socioeconomic status, and therefore neglected other types of strain potentially relevant for students while at school. Strains more immediate to the school context – peer relationships, poor grades, or victimization (Patchin & Hinduja, 2010) – might be more important than strains related to family background. Therefore, future educational studies should assess the relative importance of economic and other types of strains. Third, due to the complex nature of the cross-national analyses, it was impossible to account for more than one potentially mediating or conditioning variable. Other studies on the link between economic strains and deviance should incorporate other variables, most notably, socio-emotional factors relating to anger or frustration, family-related characteristics, deviancy among friends, or social control (Agnew & White, 1992). Fourth, as we utilized cross-sectional data, we cannot make any causal statements. While it is unlikely that misconduct affects SES or deprivation at home, it is possible that school misconduct affects academic self-efficacy, rather than the other way around. While previous longitudinal research did support that self-efficacy affects delinquency (Carroll et al., 2009), we propose that future longitudinal studies replicate the analyses of the current study to validate our theoretical reasoning.

A last pertinent limitation concerns the cross-national analyses. Due to the limited number of cities in the sample, it was impossible to incorporate educational system features to explain differences across cities. We therefore call for additional cross-national research to specifically study why associations between socioeconomic status and school-deviant behavior are variable across educational systems. At this point, we may only speculate regarding the reasons for the variations between systems. It seems that socioeconomic status effects are

absent in Ghent and Barcelona, two systems that are tracked – that is, a situation in which students are taught an entirely different curriculum depending on their ability group (Van Houtte et al., 2011). We suspect the reason for this to lie in reference group theory (Merton, 1968). In short, the anomie and strain theories hold that, for strains to lead to delinquency, it is vital that individuals *feel* relatively deprived (Merton, 1968). Relative deprivation is the outcome of comparative reference group taking – that is, taking others as a yardstick to compare one’s own situation against. The choice of the reference group, among other factors, is determined by visibility (Richer, 1973), which means that students especially compare their own situation to that of others in their own school (see e.g., Demanet & Van Houtte, 2011; Van Houtte et al., 2011). In that regard, it is noteworthy that previous research found the practice of tracking to homogenize the SES composition of the schools (Dronkers, 2015). A consequence of this homogenization is that students will especially compare their own situation to that of similar others, and therefore feelings of relative deprivation – and also school misconduct – will be less prevalent among the lower SES-youth. Again, we should state that this reasoning is purely tentative at this moment, and future cross-national studies should investigate the role of the systems’ tracking regime.

The findings also have implications for educational policy makers. Given the important negative consequences of engaging in school-deviant behavior – including poorer grades and higher dropout chances (Newcomb et al., 2002) – the overrepresentation of the economically deprived among the deviant instigates social inequality in society. A crucial role seems to lie with school practitioners. Agnew (1992) holds that positive relationships with teachers, support from adults, and in general a higher school attachment may help students to cope with strains in a non-delinquent manner (Morash & Moon, 2007). Instead of disciplining these youth harshly, thereby deepening their negative relationship with the school environment, teachers developing positive relations to their deviant students may provide a more efficient way of dealing with erratic behavior. Moreover, there are programs designed to increase students’ bonding with the school environment (see e.g., Battistich et al., 2004). Such programs can help students under strain to use non-delinquent coping strategies. Furthermore, with regard to the socioeconomic status effect, policy makers should continue to ensure that their educational system diminishes, rather than reproduces social inequality. Relevant policy directions include lowering school selectivity and abolishing tracking (Bol et al., 2014; Gamoran, 2010). Moreover, the conditioning role of academic self-efficacy on the socioeconomic status impact demonstrates that the effect of one’s family SES can be attenuated. Thereby, we support the use of programs designed to empower students at school by ameliorating self-regulated learning strategies (Cleary & Zimmerman, 2004). Such programs may lead students to have educational success experiences, which increases their academic self-efficacy beliefs and may therefore counter the use of delinquent coping as a reaction to a low socioeconomic status.

## **Conclusion**

This study is unique in investigating the relative importance of economic deprivation and socioeconomic status in school-deviant behavior. We found support for the contention that economic problems, rather than socioeconomic status, lead to deviant coping. Academic self-efficacy did not explain this association, nor did it condition the use of delinquent coping as a reaction to economic strain.

We furthermore argued that, in a school context at least, socioeconomic status constitutes a type of strain in its own right. The choice to cope in a delinquent manner to this type of strain was conditional upon academic self-efficacy, and therefore it appears that a higher self-efficacy might buffer the association between socioeconomic status and school-deviant behavior.

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