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## Collective Crime as a Source of Social Solidarity: A Tentative Test of a Functional Model for Responses to Mass Violence

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**Abstract:** *According to a classic notion by Durkheim, crime can lead to a collective indignation that is expressed through collective displays of solidarity. However, it is also possible that collective crimes represent a decline of the social order and a loss of community. Using two cross-sectional data sets collected in Finnish communities that experienced tragic school shootings, this article provides a tentative test of these two competing hypotheses. We ask how the local communities respond to heinous crimes such as school shootings. We also ask if it is possible that concerns about crime can, at times, promote social cohesion. The results indicate that both models may be applicable; however, contextual factors appear to limit the generalizability of either model.*

**Keywords:** collective crime, emotional response to crime, fear of crime, functionalist model of crime, path analysis, school shootings, social solidarity

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### INTRODUCTION

Nordic countries have recently witnessed unexpected and extremely shocking violent events. Before Anders Breivik murdered 77 people in Utøya Norway in 2011, numerous people were killed in rampage school shootings in Finland. In November 2007, an 18-year-old man opened fire at the Jokela upper secondary school in Tuusula, killing eight students and staff members before committing suicide. In September 2008, another rampage school shooting occurred in the small town of Kauhajoki, an act portrayed as a copycat of Jokela. There, a 22-year-old

male student of hospitality management killed ten people before turning the gun on himself.

After these incidents, school shootings received extensive media coverage that raised intense public debates. Finnish governmental officials were forced to respond quickly to concerns about numerous issues ranging from school safety to gun laws. Officials also posited their concerns about weakened social ties and a sense of community (Ministry of Justice 2009; 2010). The perpetrators' violent videos and messages on the Internet posted prior to the murders raised national and international concerns about the contemporary social order

(Lindgren 2010). Such responses are understandable since some criminal events are most frightening. Heinous acts such as school shootings remind everyone that terror can strike even small and peaceful communities (Warr 2000).

As crimes stir public sensibilities, people are expected to respond in specific ways. Growing demands to tackle crime may lead to a self-perpetuating process of increasing crime-related concerns. Crimes committed by young offenders are often perceived as a deterioration of social order (Farrall, Jackson and Gray 2009; Ferraro 1995; Garland 2001; Jackson 2006; Lee 2001; Lee and Farrall 2008; Loader, Girling and Sparks 1998; Warr 2000). Public appraisals and news reporting may also influence how individuals assess the quality of local relationships and social trust (Farrall, Jackson and Gray 2009; Smolej 2011). Tragedies reflect unpredictable moral sensibilities, and people often become more suspicious towards certain individuals and social groups who do not appear to conform to commonly shared values (Lewis and Salem 1986). This process may even result in people altering and limiting their everyday routines (Farrall, Jackson and Gray 2009; Ferraro 1995; Garofalo 1981; Liska and Warner 1991; Warr 2000).

Undoubtedly, fear-inducing events such as school shootings have negative individual- and community-level consequences. However, according to the functionalist model of crime, responses to collective crimes may also promote an enhanced sense of belonging to the community (Liska and Warner 1991). This argument is largely based on Durkheim's classical thesis, which predicts that responses to crime result in heightened social solidarity (see also Roshier 1989). Durkheim ([1893] 1997:58, 61-63) asserts that "crime draws people to respond collectively in order to protect commonly shared values... locals stop each other in the street talking about what has happened... a common indignation is expressed... and sentiments are strongly felt because they are not contested." Criminal events, especially heinous criminal events, violate the collective morality, and social solidarity is expressed to reestablish and maintain a sense of unity and social order. Therefore, the collective sentiments of local residents who have been shocked by a collective crime should be observed to determine if these are first outrage that is followed by expressions of solidarity (Garland 1990). Although some researchers have used the functional model of crime to account for responses after tragic crimes (e.g. Hawdon, Ryan and Agnich 2010), empirical tests of this functionalist model remain insufficient (Ferraro 1995; Liska and Warner 1991; Smith 2008; Turkel 1979; Warr 2000).

The aim of this article is to analyze collective reactions after fear-inducing events. Few criminological analyses pay sufficient attention to the localized emotional responses to crime, and this lack of attention may be why studies often fail to identify the functional consequences that crimes can produce (Gray, Jackson and Farrall 2008).

The controversial functionalist model could thus highlight how collective crimes may bond members of community and increase social solidarity. These issues are addressed using two cross-sectional surveys that were collected from the small Finnish towns of Jokela and Kauhajoki six months after the school shootings that occurred in those localities. Although the time between the tragedy and the data collection could fail to adequately capture the immediate post-event indignation that Durkheim discusses, previous research indicates that solidarity after mass tragedies remains elevated for approximately six months after the event (see Collins 2004; Hawdon, Ryan and Agnich 2010). Therefore, while our data are not optimal, they were collected within the time that solidarity would likely have been elevated.

## **THEORETICAL CONSIDERATIONS: COLLECTIVE CRIMES AND SOLIDARITY**

Durkheimian theory is grounded in emotional resonance. People build commitments through emotions that constitute a sense of community after criminal events (Durkheim [1893] 1997; see also Garland 1990; Hutchison and Bleiker 2008). Expressions of moral emotions are present when people construct the meanings of criminal events, which can make them more attentive to local issues (Innes 2004). These individual assessments can combine into expressions of the collective consciousness as moral feelings, such as guilt and condemnation, can motivate people to communicate and connect with each other (Durkheim [1893] 1997; see also Cotterrell 1999; Turner and Stets 2005). "Collective sentiments [emotions and dispositions] to which crime corresponds... are strongly rooted within us" (Durkheim [1893] 1997: 37; see also Kivivuori 2008). This is the core of the functional hypothesis. Responses to crime contain symbolic expressions of collective values and morality. As crime ruptures the perceptions of the social world, the collective provides a way to contain and manage the threat. The expressive nature of social solidarity promotes healthy and cohesive collective consciousness. Social solidarity is, therefore, considered an emergent positive feeling and sense of belonging (Silbey 2002; Turner and Stets 2005).

However, crime-related concerns also vary within local settings. Although crime makes social characteristics more visible, collective violence does not affect all community members equally. Individuals draw diverse conclusions about neighborhood characteristics based on their social status, the strength of their social ties, and the time they have lived within the community (Farrall, Jackson and Gray 2009; Girling, Loader and Sparks 2000; Walklate and Mythen 2008). For example, gender is among the most robust factors associated with the fear of crime, and women typically express more fear of crime than men (Farrall, Jackson and Gray 2009; Ferraro 1995). Similarly, Oh and Kim (2009) find that the crime-

solidarity effect is most pronounced among the elderly as crime-related concerns among the elderly result in increased interactions with neighbors and an enhanced perception of social solidarity.

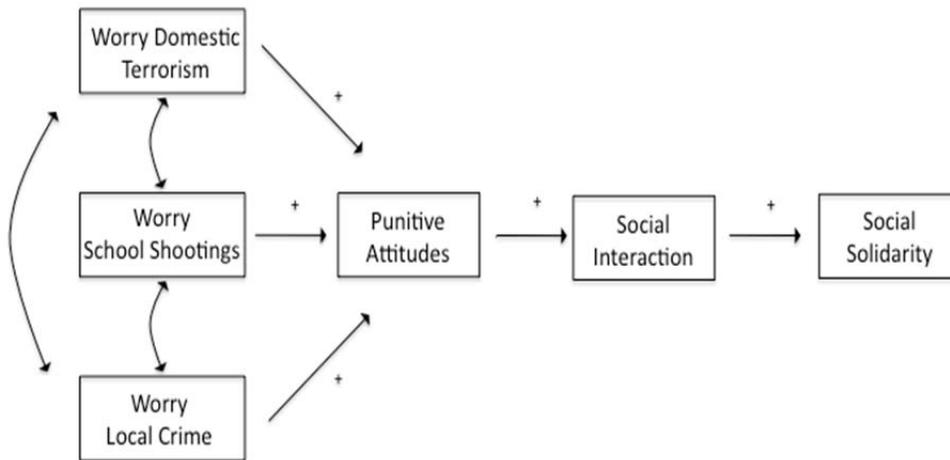
Yet, fear-inducing events may also disrupt social life and increase insecurities. People often view crime as a consequence of community disorganization (Lewis and Salem 1986), and the collective tragedy can become a symbol of community disorganization. As this occurs, the tragedy can enhance personal-risk perceptions (Ferraro 1995). In the aftermath of tragedy, the signs of community deterioration are, at times, perceived as confirmation of social and moral decay (Farrall, Jackson and Gray 2009; Ferraro 1995; Hirtenlehner 2008; Jackson 2004). Instead of acting as a collective catharsis and a source of solidarity, social responses to crime can actually perpetuate group divisions (Hutchison and Bleiker 2008).

Indeed, crimes are perceived through a mixture of individual explanations (Gabriel and Greve 2003), yet collective crimes may be different than routine crimes. Some crimes are definitely more condemned than others (Durkheim [1893] 1997; see also Collins 2004; Cotterrell 1999; Garland 2008), and school shootings are among the most condemned. These crimes have serious effects on young people and are offenses against both the wider community and the local authority. After crimes such as these, it is possible that commonly shared sentiments become expressed to repair the damage the collective suffered. Social solidarity may serve as a symbol that the collective and moral order are stable despite the criminal offence (Durkheim [1893] 1997). Social solidarity is generated and sustained through the social networks and give expression to collective emotions. It enables individuals to connect as members of community.

The solidarity producing effects of natural disasters, high-profile acts of terrorism such as those of 9/11, and, to a lesser extent, school shootings have been discussed (Barton 1969; Collins 2004; Drabek 1986; Fritz 1961; Hawdon, Ryan and Agnitch 2010; Hawdon and Ryan 2011; Turkel 2002). Similarly, the tendency for these high-profile tragedies to lead to policies that heighten fear within the community that potentially fragments the community has also been investigated (Addington 2002; Muschert and Peguero 2010). However, to date, empirical tests of the controversial functional hypothesis are limited (Farrall, Jackson and Gray 2009; Ferraro 1995; Liska and Warren 1991).

### THE PRESENT STUDY

The functionalist argument assumes that data can reflect the actual moral convictions of individuals in certain places and times (Cotterrell 1999; Smith 2008). The modified path model of linear equations, as indicated in Figure 1, is adapted from Liska and Warner (1991) to scrutinize the functional model of crime. First, the model focuses on crime-related concerns as an independent and exogenous variable; thus, we are assuming that the two school shootings heightened crime-related concerns, which previous studies suggests happened (see, for example, Nurmi 2012). Accepting this assumption, the model predicts that heightened crime-related concerns result in an increased punitive orientation toward crime. Next, a punitive orientation toward crime is predicted to increase social interaction within the community. Finally, increased social interaction should lead to amplified expressions of social solidarity. In sum, the linear equations represent how collective responses to crime should indirectly increase social solidarity.



Note: Drawn and modified from Liska & Warner (1991, p. 1443).

We acknowledge that our research design does not allow us to make any causal interpretations. First, we lack longitudinal data and therefore cannot verify the temporal ordering of the model's variables. Second, our measures are indirect. Our variables do not tap the likelihood of individually perceived risk and fear of victimization or the actual experienced episodes of fear (Farrall, Jackson and Gray 2009; Jackson 2004). Instead, the focus is on the latent associations of responses to crime and their correlation with social solidarity as expressed by individual attitudes of community members. Yet, neither community has high crime rates, and they were both shocked by these horrific crimes. We therefore assume that respondents associate these crimes with their local community and this association influences their perceptions of their local community, which the survey questions do explicitly measure. Moreover, with the local survey design, environmental influences on the responses to crime are controlled to some extent because respondents share the same physical and social environment (Jackson 2006).

## **METHODS**

Cross-sectional data were collected from the small Finnish towns that were affected by rampage school shootings in 2007 and 2008: Jokela and Kauhajoki, respectively. Jokela is located approximately 50 kilometers from the nation's capital and metropolitan area of Helsinki. It is a small town of approximately 6,000 residents (6,079 in the year 2008). Kauhajoki is in western Finland and approximately 350 kilometers from Helsinki. With a population of approximately 14,000 inhabitants (14,384 in the year 2009), it is a larger community than Jokela both in population and geographically.

The surveys used simple random sampling and were sent to local residents aged 18 to 74. Questionnaires, which included a self-addressed envelope and a cover letter explaining the request to participate and assuring anonymity, were mailed to 700 residents selected from the Central Population Register database. The data were collected in May–June 2008 (Jokela) and March–April 2009 (Kauhajoki). The overall response rate was 48% (330 completed and returned questionnaires) in Jokela and 47% (n=319) in Kauhajoki.

In Jokela, 48.3% of respondents were women and 51.7% were men. The mean age was 51.2 years (SD 13.6), with 15.6% being age 18 to 34, 42.3% age 35 to 54, and 42.1% between ages 55 and 74. Four out of ten of all respondents had lived in their current community for less than five years. This means that 60% of respondents had lived within the community for at least six years. The school shootings were a collective crisis: one-third of respondents (34%) reported that they were close friends or at least knew someone who died in the tragedy.

In Kauhajoki, 55.7% of the respondents were women and 44.7% men. The mean age of the respondents was 48.71 years (SD 15.01). In terms of age groups, 18.7% were aged 18–34, 39% between 35–54 years, and 42.3% were 55 years or older. Less than one-third (27%) reported they had lived at most five years in their recent home. Therefore we can conclude that roughly seven out of ten respondents had lived in the community at least six years. Also, like in Jokela, the school shootings touched the Kauhajoki residents as 18% were friends with, or who at least knew, someone who died in the shootings.

The response rates for both samples were below 50 percent; however, comparisons of the age and gender structure of the data to that of the Tuusula and Kauhajoki communities indicates that the samples represent the areas relatively well (Statistics Finland, 2010). Some of the socio-demographic distributions are slightly biased (54% male in Jokela and 45% male in Kauhajoki). In addition, we should emphasize that the representativeness of the Jokela data can only be evaluated against the larger surrounding municipality of Tuusula. In the data, 71% of the respondents are under the age of 60. In the Tuusula population aged 18–74, on the other hand, the proportion of residents aged 60 or below is 80.0 percent (Statistics Finland, 2012). Similarly, the Kauhajoki data can only be compared to both Finnish- and Swedish-speakers in the region. As a result, the official statistics available are not applicable here as such. Given this, the data are not weighted. Respondents' background characteristics by age and gender are presented in Appendix A.

## **Measures**

The analyses are based on four principal topics: 1) worries about crime, 2) punitive orientation toward crimes, 3) interaction with community members, and 4) social solidarity. The first three concepts are measured with single manifest variables, while the latter is measured as a latent construct. The variables used in the analysis and their frequency distributions are presented in Appendix B. Given that the measures employed in this study are sensitive and that the questionnaires were originally presented in Finnish, back translations were used to ensure consistency of meaning of the concepts.

In this study, the key emotional component to assess respondents' responses is crime-related worries. An intensity measure is applied to evaluate more general mental states, including subjective interpretations about the respondents' environment (Ferraro 1995; Jackson 2006). Respondents were asked how worried they were about a) the recurrence of school shootings and b) being attacked by a stranger in the neighborhood in the evening. These variables were measured using a five-point Likert scale (1= "being extremely worried", 5= "not worried at all"). We also include the item asking the extent to which respondents believed terrorism was a source of insecurity

in contemporary (Finnish) society since rampage shootings, like terrorism, are acts of severe targeted violence (Altheide 2009; Warr 2000). The responses for this item ranged from 1 (a very great extent) to 5 (not at all).

A punitive orientation toward crime is measured by asking respondents “what extent does soft sentencing of criminal offenders pose a threat to collective security.” Responses ranged from 1 “a very great extent” to 5 “not at all.” The item measuring interacting with communities members is “How often do you meet your neighbors?” The item is a four-point Likert scale ranging from 1 (on a daily basis) to 4 (hardly ever). This item taps general parochial social relations that have been shown to influence solidarity after tragedies (see Hawdon and Ryan 2011).

Social solidarity is measured as a latent construct by using the following five-point Likert items: a) “I am a proud member of the community”, b) “I feel I am a part of the community”, c) “I share the same values as my neighbors”, d) “My community is a good place to live”, and e) “People co-operate in my neighborhood.” The measure derives from Bacharach and Zautra’s (1985) sense of community scale. The latent variable of social solidarity is expected to capture individual emotional evaluations about their community and their sense of community (see Hawdon et al. 2010; Turner and Stets 2005). Confirmatory factor analysis (CFA) was used to assess the construct’s reliability. The reliability of social solidarity construct was tested for both a single and two-factor solution. In addition, latent construct invariance was assessed between the two localities and among socio-demographic groups based on gender and age. Due to the restrictions of sample size, age multi-group analyses were based on only two age groups (1= 18–50 years; 2= 51–74 years). A better fitting model was achieved by allowing the error terms between items (b) and (d) to correlate. This is justified since the two items are similar conceptually. Standardized measurement

weights for social solidarity ranged between .50 – .85, thereby supporting acceptable construct reliability.

**Analysis**

We first analyze zero-order correlations and the linear relationships among the topics of interest. We also present means and standard deviations as an overview of the study concepts. Second, standard multiple linear regression modeling is used to predict social solidarity six months after the school shootings in each of the two localities. Finally, as there is an assumption of the sets of linear equations underlying the functional model of crime, structural equation modeling (SEM) is used. The data are analyzed using AMOS 19 (Arbuckle 2010; Byrne 2010). Detailed modeling procedures are discussed in connection with the analyses.

**RESULTS**

The bivariate correlations among the measures are presented in Table 1. From Table 1, it is clear that the highest correlations are among the crime-related worry items. Although all three types of crime are distinct, people tend to associate them with each other. In other words, worries about the recurrence of school shootings correlate with the perceptions of street crime and domestic terrorism. Next, general parochial interactions correlate positively with ones perceptions of neighborhood. The more people are involved in interaction with neighbors, the more positive is their appraisal of social solidarity. Interestingly, worry about local crime correlates negatively with social solidarity, although the effect sizes are rather low. Especially in Jokela, school shootings may have a detrimental effect on collective trust. Conversely, worries about domestic terrorism are positively related to social

**Table 1. Zero-order Correlations among Topics of Interest**

Variable	Mean	SD	1	2	3	4	5	6
Social solidarity	2.45 (2.35)	.76 (.90)	-					
Social interaction	2.48 (2.82)	.94 (.94)	.27** (.36**)	-				
Punitive attitudes	2.16 (1.96)	1.09 (1.00)	.05 (.02)	.14* (-.03)	-			
Worry terrorism	2.47 (2.14)	1.20 (1.14)	.07 (.10)	.11* (-.04)	.33** (.32**)	-		
Worry local crime	3.46 (3.66)	1.12 (1.19)	-.18** (-.20**)	.11 (.11)	.26** (.14**)	.35** (.18**)	-	
Worry school shooting	2.88 (2.26)	1.26 (1.20)	-.15* (-.06)	.08 (-.01)	.25** (.29**)	.38** (.43**)	.41** (.38**)	-

Pearson correlation coefficients: \* p < .05; \*\* p < .01

Note: Kauhajoki data in parentheses

1 = ”Stronger social solidarity, worry about crime etc.” – 5 = ”Weaker social solidarity, worry about crime etc.”

solidarity, but the relationship is not statistically significant.

To model the variation in social solidarity six months after the school shooting tragedies, standard multiple regression analyses were conducted. By estimating the models separately, we can evaluate responses to crime

between the two localities. For visual and space reasons, only the final models are shown. Results from the multiple regression analyses are presented in Table 2, with unstandardized and standardized parameter estimates and 95% confidence intervals for the regression coefficients.

**Table 2. Regression Analysis for Responses to Collective Crime Predicting Social Solidarity**

Variable	Jokela		Kauhajoki	
	B	Beta	B	Beta
Social interaction	1.051*** (0.610; 1.493)	.262	1.678*** (1.174; 2.183)	.356
Punitive attitudes	0.207 (-0.188; 0.602)	.061	0.217 (-0.279; 0.713)	.050
Worry terrorism	-0.601** (-1.031; -0.172)	-.178	-0.849** (-1.289; -0.409)	-.222
Worry local crime	0.455* (0.069; 0.840)	.147	0.334 (-0.132; 0.799)	.098
Worry school shooting	-0.458* (-0.840; -0.075)	-.152	-0.088 (-0.555; 0.380)	-.024
Constant (Y Intercept)	11.491		9.117	
R <sup>2</sup>	.118		.187	

\* p < .05; \*\* p < .01; \*\*\* p < .001

Base (n=330) for Jokela; (n=319) for Kauhajoki

Note: Numbers in parentheses are 95% C.I. for unstandardized coefficients

1 = "Stronger social solidarity, worry about crime etc." – 5 = "Weaker social solidarity, worry about crime etc."

As expected, interacting with neighbors, or parochial relations, was the strongest predictor of social solidarity. The more people are involved in general parochial relations, the more positive is their attachment to their community. Looking at the crime-related items, they relate to social solidarity differently. First, worry about street violence decreases solidarity; however, worries about domestic terrorism are positively related to solidarity. In Jokela, this relationship is statistically significant. Third, increased worry about the recurrence of school shootings is negatively related to social solidarity. Again, according to the respondents of Jokela, school shootings apparently reflect the decline of community morality and order. Both multiple regression models were statistically significant ( $F_{5, 306} = 7.86$ ;  $p < .001$  in Jokela), and ( $F_{5, 290} = 12.90$ ;  $p < .001$  in Kauhajoki). The models account for 12 and 19 percent of the variance of social solidarity in Jokela and Kauhajoki, respectively.

#### **Emotional responses to collective crime: Assessment of the linear equation models**

The following indices were used to evaluate the hypothesized model: the chi-square test ( $\chi^2$ ), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Path coefficients were assessed for statistical significance at a 5 % level. Full

information maximum likelihood method (FIML) incorporates a mean structure of the data, which does not differ substantially from a complete data ML estimation. However, missing values are not imputed (Arbuckle 2010). FIML estimates are found to be efficient and unbiased (Enders and Bandalos 2001), and normal theory estimates also perform well with ordered categorical variables, even with moderate kurtosis and skewness. ML estimation is used because it is recommended when the sample size is less than 400 (Byrne 2010; Muthén and Kaplan 1985).

The  $\chi^2$  test is used as an absolute model fit test and to assess the discrepancy between the hypothesized and sample matrix (Hu and Bentler 1998). Yet, this measure is sensitive to sample size. With smaller samples, the statistic may lack power, and therefore it does not discriminate between good and poor-fitting models (Kenny and McCoach 2003). Approximate fit indices are developed to quantify the extent to which the hypothesized model accounts for the data. CFI compares the existing model with a 'null model', whereas RMSEA takes into account the error of approximation in the population. Cutoff values close to .95 and above for CFI, and .08 or below for RMSEA are recommended (Byrne 2010; Hu and Bentler 1998).

The hypothesized model fits the data moderately well. However, based on previous results from the zero-order correlations and multiple regression models (see Tables 1

and 2), model modifications were assessed. Using nested model comparisons and traditional chi-square difference testing ( $\Delta\chi^2$ ) two additional parameters were specified and estimated separately. Although post hoc model modifications should be approached with caution (Byrne 2010), they are justified here as criminal events may challenge the interpretations of the community's normative order and local responses reflect less predictable moral reliability (Farrall, Jackson and Gray 2009; Ferraro 1995; Lewis and Salem 1986; Warr 2000). After making these model modifications, a cross-validation strategy including invariance testing was assessed with multi-group, multi-model procedures. The modified model invariance was tested between the two localities and among gender and age, using the median as a cut-point for the latter.

The  $\chi^2$  test was statistically significant for both modified models, indicating the models did not have sufficient absolute fit. The relative fit indices, however, indicate the models had a moderate overall fit (Jokela =  $\chi^2_{(29)} = 65.40$ ,  $p < .001$ ; CFI=.95; RMSEA=.062) and (Kauhajoki =  $\chi^2_{(29)} = 91.14$ ,  $p < .001$ ; CFI=.93; RMSEA=.083). The linear equation models were invariant between the two communities based on the traditional  $\chi^2$  difference approach; however, the practical  $\Delta$ CFI approach revealed the invariance exceeded the traditional cutoff (Byrne 2010). Thus, the results drawn from the linear equation modeling are based on unconstrained models and presented separately in Figures 2 and 3.

**Figure 2. Emotional Responses to School Shootings in Jokela (Modified Model)**

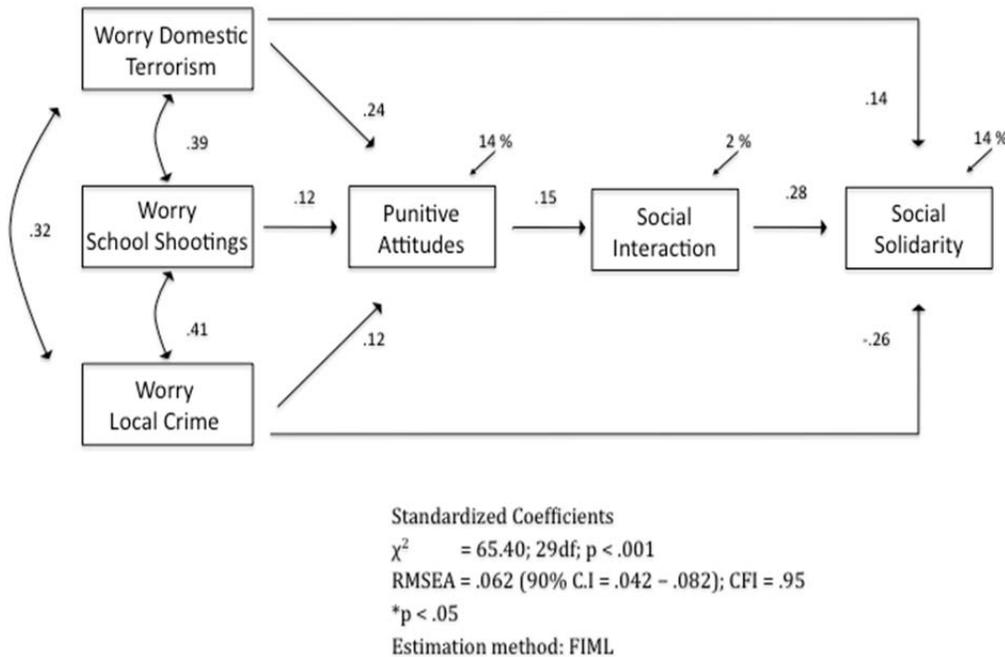
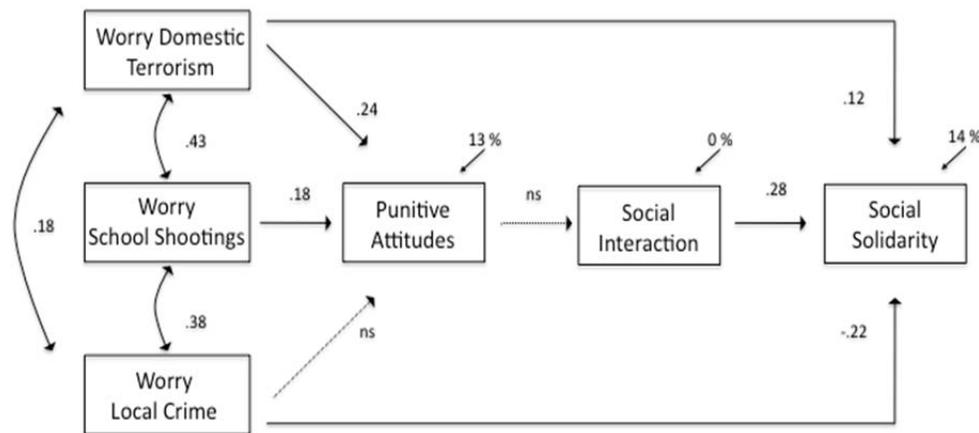


Figure 2 indicates that in Jokela the functional hypothesis appears applicable. That is, the collective response to a tragic event may bring people together. Specifically, concerns about school shootings and other crimes relate positively to a punitive orientation toward crime, which, in turn, positively relates to social interactions among neighbors. Then, increased interactions are positively related to solidarity. Thus, the positive chain of linear equations indicates that crime-related concerns result in increased perceptions of social solidarity. It is noteworthy that the structural weights were not invariant between genders, but age was multi-group equivalent. For some respondents, worries about the recurrence of school shootings are positively correlated with worries about domestic terrorism and worries about

local crime, which may reflect concerns over the decay of community solidarity. On the basis of invariance testing, women are more likely to make both conclusions than are men. Overall, however, the functional model appears to work as predicted in Jokela.

In Kauhajoki, however, the functional model in its precise form does not apply. As seen in Figure 3, not all of the hypothesized paths are statistically significant. While worries about school shootings are positively related to a punitive orientation toward crime, this orientation is not correlated with increased interactions with neighbors. Thus, the predicted linear change is not complete. When it comes to invariance testing among groups, measurement and structural weights were invariant among gender and age.

**Figure 3. Emotional Responses to School Shootings in Kauhajoki (Modified Model)**

## Standardized Coefficients

$$\chi^2 = 91.14; 29df; p < .001$$

$$RMSEA = .082 (90\% \text{ C.I.} = .062 - .101); CFI = .93$$

\*p &lt; .05

Estimation method: FIML

**DISCUSSION**

This paper analyzes the collective emotional responses to school shootings in Finland. We assert that criminological analyses should focus on emotional responses to crime, which occur in particular times and places. The obvious negative effects of crime may lead us to ignore the functional consequences the responses to these crimes may have (Gray, Jackson and Farrall 2008). According to the functional model of crime, the collective condemnation of crime can bond members of community. Drawn from Durkheim's classic insights, the argument is that collective crime produces a collective response against the infringement of strongly held norms, which latently promotes solidarity (Durkheim ([1893] 1997; see also Liska and Warner 1991). However, empirical testing of the model is rather limited despite the controversy it has created (Ferraro 1995; Liska and Warren 1991).

The school shooting tragedies in Jokela and Kauhajoki deeply disturbed both communities. These collective crimes resonated with community members and likely forced them to reflect about the moral order of their community. Our findings partially support the limited feasibility of the functional hypothesis (see Figures 2 and 3). School shootings appear to represent a type of crime that can provoke collective condemnation and resistance. Nevertheless, the predicted model only appears to apply in Jokela. Therefore, our findings do not support the

uniformity of the model of an all-embracing collective consciousness in the aftermath of a tragedy (Cotterrell 1999). There must be certain contextual and contingent conditions playing a vital role. Let us consider what these factors might be.

First, the way crimes are committed influences people's responses. In Jokela, the perpetrator was a young male student of a small local high-school and most of the victims were also local residents. Thus, the town was deeply shocked and viewed the attacks as an attack on their community as a whole by one of its own members (see Nurmi 2012; Nurmi, Räsänen and Oksanen 2012; Oksanen et al. 2010). In Kauhajoki, however, the perpetrator and most victims were "outsiders" and many did not consider it as affecting the town directly (Nurmi 2012). The collective processing of moral emotions, especially guilt, may enhance empathy and social solidarity (Turner and Stets 2005), and this may have occurred in Jokela. However, in Kauhajoki, the fact that the perpetrator was not originally from the community may result in the blame-assigning and guilt-invoking processes functioning differently. Criminal offenders are often perceived as outsiders and people distance themselves from crime and the outsiders who cause it (Ferraro 1995). This may have occurred in Kauhajoki. This is not to say that collective sentiments were untouched; however, our results do not indicate that the tragedy had a profound effect on community solidarity.

Second, in Jokela, the town's people were united by their shared negative experiences with journalists who approached survivors and victims' families in disturbing ways, but this did not occur after the Kauhajoki tragedy (see Ministry of Justice, Finland 2009). The presence of, and opposition to, some journalists' behaviors and tactics could have been the galvanizing force in Jokela. The more professional and protective approach used when reporting about the Kauhajoki tragedy may have, therefore, removed a critical element for the process.

Third, Jokela is a smaller community than is Kauhajoki, and crimes committed in smaller communities may influence the collective consciences more strongly (Durkheim [1893] 1997; Liska and Warner 1991). Emotional responses are elicited by the memories of events; therefore, even similar tragedies are interpreted in rather different ways (Scherer et al. 2004). Although Kauhajoki could best be described as a rural area like Jokela, it is a larger area and larger town. Our findings confirm earlier work that indicates that the collective weighs less heavily and does not determine individual reactions with the same strength in larger communities as compared to smaller ones.

Most importantly, however, the Jokela tragedy occurred before the Kauhajoki tragedy. Although school shootings had occurred in the United States, Germany, Canada, and elsewhere prior to these tragedies, school shootings were basically seen as an American phenomenon (see Hawdon et al 2012). After Jokela, these tragic events "became Finnish" instead of just American, but the Jokela tragedy was largely considered an isolated event. When the Kauhajoki tragedy struck, residents were likely forced to question their community and its ability to control its members. While a one-time tragedy may bond the community members in collective outrage and, eventually, solidarity, the reoccurrence of such horrific crimes is likely to lead to a questioning of the community's moral order.

These contextual factors may explain why the model applies in Jokela as expected but does not apply as expected in Kauhajoki. Nevertheless, we note most that since the modified model represents the data more accurately, the tragic events were followed by an increase in perceptions of neighborhood deterioration as well as an increase in perceptions of solidarity. Instead of purely producing social solidarity, our findings concur with the previous criminological research that fear-inducing events are associated with the perception of community decline and the deterioration of the social order (Farrall, Jackson and Gray 2009; Ferraro 1995; Jackson 2004; Lewis and Salem 1986).

Youth violence has a tendency to foster concerns about the erosion of authority. The media makes school shootings visible and publicizes them as a threat to a community and social life, thereby affecting personal and social attitudes (Girling, Loader and Sparks 2000; Jackson

2006). When school shootings are perceived as being committed by a "criminal other," as a form of domestic terrorism, and as a threat to the community, the responses to the crime unites people and solidifies the moral boundaries of the community. Conversely, when collective crimes are considered merely as local crime, people are likely to interpret crime as a sign of deterioration of moral values within their neighborhood.

### Study Limitations

Responses to crime may vary between time and place, and among social groups. Our study does not refer to the population most extremely affected by the tragedies, but rather we consider general responses to a collective crime. Due to the nature of this complex phenomenon, emotional responses to crime are abstractions from reality (Vanderveen 2008), and results are not an accurate count of unstable and temporal attitudes (Farrall et al. 2009; Jackson 2006). It also remains an open question to what extent social solidarity is an everyday affective phenomenon (Ben-Ze'Ve and Revhon 2004). Such emotions probably peak in commemorative rituals, which may well be performed only by a minority of residents (Durkheim [1893] 1997; Collins 2004). Survey data, on the other hand, is removed from the time and, possibly the place, of the fear-inducing events (Ferraro 1995). Perhaps the delay between the event and the collection of the survey data affects the structural weights, as the effect sizes remain rather low. Although the data were collected when levels of solidarity were still likely elevated, the time lapse would nevertheless probably weaken the effects. Estimating responses to collective crime soon after such tragedies could provide important information, but it is likely that doing so would infringe on the already traumatized local community.

In addition, although linear equation modeling is a powerful and comprehensive data-analytic technique, even well-fitting models are dependent on imposed restrictions. There are alternative models to those presented in Figures 2 and 3. Indeed, even Durkheim ([1893] 1997:25) stated that "it is not easy to say whether it is social solidarity that produces these phenomena (responses) or, on the contrary, whether it is the result of them." It is impossible for us to address the causal ordering of our variables since we lack longitudinal data. We are, therefore, limited to analyzing correlations among attitudinal variables, and the causal model we present is highly dependent on the assumptions of temporal ordering we make. Although our assumptions are theoretically grounded, they are, nevertheless, assumptions.

One could use integrative hierarchical linear models augmented with elements from social disorganization theory to better test the functional theory of crime. There, the neighborhood traits and the perceptions of social cohesion would be expected to explain the variation of fear

of crime (Farrall, Jackson and Gray 2009; Ferraro 1995). However, to do so would require more communities than are available for this analysis. In addition, Hirtenlehner (2008) has presented evidence supporting a generalized insecurity model, and this model may be a better explanation. The generalization thesis is grounded in the sociological “diagnoses” of a risk society and argues that as the risks and insecurities of society lose their conformation, public anxieties become a mixture of personal and social fears, a generalized threat, which then can be assessed within non-hierarchical model.

## CONCLUSIONS

Criminological studies may fail to identify the functional consequences of emotional responses to crime. School shootings undoubtedly disrupt the sense of security among the residents of the communities that experience them. Such collective crimes can generate strong emotions, and the violation of the collectively shared moral emotions may create a force that unites the community in an attempt to repair their damaged sense of security. When a collective consciousness is wounded, social solidarity may serve as a protective sign of healing (Durkheim [1893] 1997). However, it also implies that moral norms become reflected more intensely. For some, crime may symbolize failed informal social control within community, and instead of reaffirming the community, it may symbolize the need for that community to change through common responsibilities. Whereas others are perhaps prone to turn to state officials and demand that governmental officials act to preserve individual wellbeing and social order, others are likely to call for more individualistic or community-initiated responses (Cotterrell 1999; Smith 2008).

Collective crimes undoubtedly have an effect on the conditions of social trust, and to preserve that trust may require interventions to provide public space and time to broaden participation in social relations to foster common bonds (Hawdon and Ryan 2011). On the other hand, social interaction does not necessarily create cooperation. Fear-inducing events disrupt social life and serve as a sign of threat to the social order. Responses may follow by severely sanctioning those who fail to conform to the dictates of collective morality, as they are perceived as representational confirmation of community decay. As a consequence, the criminal event may limit what is morally acceptable (Durkheim [1893] 1997; see also Hutchison and Bleiker 2008). The more abstract the common consciousness becomes, the more scope it leaves for individual variations; whereas, the more intense the consciousness becomes, the more it may constrain individual expressions (Durkheim [1893] 1997).

Punitive orientations toward crimes can also be socially problematic. Social constructions that define particular groups as untrustworthy could hinder the

possibility of confronting violence as a larger societal issue. While public sensibilities are shadowed by the dramatic fallacies of heinous crimes, more ordinary forms of violence pass with relatively little notice. Shocking events may feed rash decisions, but systematic discussions and long-term solutions are most needed (Farrall, Jackson and Gray 2009; Silbey 2002). Although crime may create social solidarity and increase the sense of belonging, it also reflects how critical voices and anxieties are channeled. This temporary heightened solidarity may not, however, compensate for the long-term decrease in social trust and confidence in institutions that crime can cause.

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**Appendix A. Samples by Age and Gender**

Variable	Jokela (n=330)		Kauhajoki (n=319)	
	% n	Mean (SD)	% n	Mean (SD)
Gender				
Women	48.3 (157)		55.3 (172)	
Men	51.7 (168)		44.7 (139)	
Age		50.21 (13.59)		48.71 (15.08)
Age group				
18–34	15.6 (50)		18.7 (58)	
35–54	42.4 (136)		39.0 (121)	
55–74	42.1 (135)		42.3 (131)	
	60.1		73.0	

**Appendix B. Descriptive Statistics of the Study Variables**

Variable	1		5		Skewness	Kurtosis	
<b>Social Solidarity</b>							
(1= strongly agree – 5= strongly disagree)							
Proud member of community	26.9 (32.1)	31.3 (35.7)	31.3 (22.6)	7.8 (7.5)	2.8 (2.0)	.45 (.68)	-.33 (-.11)
Sense of belonging to community	19.3 (28.2)	35.1 (31.1)	27.6 (23.6)	14.3 (11.0)	3.7 (6.1)	.39 (.59)	-.53 (-.48)
Sharing values with neighbors	7.5 (16.8)	32.9 (32.7)	38.6 (28.2)	16.9 (15.9)	4.1 (6.5)	.23 (.34)	-.27 (-.63)
Community is a good place to live	46.8 (55.0)	37.0 (27.2)	11.9 (12.1)	2.8 (4.2)	1.5 (1.6)	1.29 (1.38)	1.79 (1.47)
People within community cooperate	7.7 (15.8)	22.3 (20.9)	38.1 (30.2)	23.5 (21.2)	8.4 (11.9)	-.02 (.02)	-.49 (-.92)
<b>Punitive Attitudes</b>							
(1= very much agree – 5= not at all)							
Soft sentencing for criminal offenders is a threat to collective security	34.3 (41.2)	31.5 (30.5)	20.7 (20.6)	11.4 (6.1)	2.2 (1.6)	.63 (.82)	-.50 (-.01)
<b>Worry about Domestic Terrorism</b>							
(1= very much agree – 5= not at all)							
Terrorism is a source of insecurity in contemporary (Finnish) society	27.9 (38.5)	24.1 (25.8)	25.7 (22.3)	18.0 (9.9)	4.3 (3.5)	.29 (.70)	-.98 (-.44)
<b>Worry About Local Crime</b>							
(1= very much worried – 5= not at all)							
Worried about street violence outside home within neighborhood	6.1 (6.9)	14.0 (9.1)	26.2 (24.2)	35.4 (30.5)	18.3 (29.2)	-.45 (-.65)	-.51 (-.38)
<b>Worry about School Shootings</b>							
(1= very much worried – 5=not at all)							
Worry about recurrence of school shootings	17.4 (34.9)	20.8 (25.5)	30.3 (24.5)	19.3 (9.1)	12.2 (6.0)	.07 (.65)	-.94 (-.46)
<b>Social Interaction</b>							
(1= on a daily basis – 4= not at all)							
Meeting neighbors	15.0 (8.2)	39.1 (29.8)	29.1 (33.1)	16.9 (28.9)	-	.13 (-.24)	-.88 (-.95)

Source: Finnish local surveys from Jokela (base n=330) and Kauhajoki (base n=319) were collected approximately six months after the school shootings in respective localities.

Note: Numbers in columns represent percentages, Kauhajoki data in parentheses.

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