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# The Impact of Negative Family Environment and Depression on Running Away From Home Among Korean Adolescents

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## Abstract

Using general strain theory (GST), this study examines negative stimuli (poor relationship with family, parental child abuse, and poor parenting), with the mediating effect of negative emotion (depression), on the deviant behavior of running away from home. The current study used data from a 2009 Korean survey of 9,750 adolescent students in a structural equation model, to examine the possible mediating role of negative emotions. The research results showed that a poor relationship with family and parental abuse increases the level of depression. Also, the level of depression that was experienced by juveniles influenced the likelihood of running away from home. Therefore, this study supported the GST hypothesis of negative stimuli impacting juvenile delinquency with a mediating effect of negative emotion. This study suggests that it is important to remove negative stimuli in the family environment to reduce depression and running away from home.

## Keywords

running away from home, general strain theory, parental child abuse, poor relationship with family, depression

National surveys suggested that 6–7% of adolescents run away from home in the United States (Sanchez, Waller, & Greene, 2006; Tyler & Bersani, 2008). In Korea, this number was higher, 11% of middle- and high school students in a report produced by the Ministry of Gender Equality and Family, had run away from home at least once (Im, Baek, Kim, Hwang, & Ahn, 2014). Most runaways rarely stayed away from home for long periods, many stayed within 50 miles of home (Hammer, Finkelhor, & Sedlak, 2002), and had not been found to be a serious problem or harmful to the community (Y. Kim, Bang, & Park, 2006). Further, most eventually returned to their parents or guardian (Milburn et al., 2007). Yet while they were away from home, runaway juveniles were victimized and exposed to dangerous circumstances, and for some youths, returning home was not an option.

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Previous research showed an increase in the likelihood that juveniles might engage in illicit activities or high-risk behavior, as well as the possibility that they might be exploited or victimized by others while they are away from home (Chen, Thrane, Whitbeck, Johnson, & Hoyt, 2007; Kipke, Simon, Montgomey, Unger, & Iversen, 1997; Wagner, Carlin, Cauce, & Tenner, 2001). In a study of homeless Los Angeles youth, Petering (2016) looked specifically at correlations between running away from home and several negative or deviant outcomes and found over half of this sample was involved in gangs, through either membership or gang affiliation. Johnson, Whitbeck, and Hoyt (2005) reported that runaway adolescents had high rates of substance abuse problems such as alcohol abuse, alcohol dependence, and drug abuse.

Even though many studies found adolescents experienced problems when they had run away from home, few researchers sought to explain the reasons why adolescents ran away from home (Andres-Lemay, Jamieson, & MacMillan, 2005; National Runaway Switchboard, 2008; Safyer, Thompson, Maccio, Zittel-Palamara, & Forehand, 2004; Van der Ploeg & Scholte, 1997; Welsh, 1995). Those who did claimed that the most common reason was negative family environment. Among Korean youth, in a 2014 survey, almost 70% responded that the reason they ran away from home was a conflict with parents (Im et al., 2014). Using data collected from runaway youth in New York, Safyer, Thompson, Maccio, Zittel-Palamara, and Forehand (2004) found 41% of the adolescents attributed their runaway behavior to a poor relationship with their parents. Poor parenting practices and physical abuse increased the likelihood that a child would run away (Kurtz, Kurtz, & Jarvis, 1991; Matchinda, 1999; Tyler & Bersani, 2008; Tyler, Johnson, & Brownridge, 2008; Welsh, 1995). Both running away from home and negative family environment had been linked in research to depressive symptoms.

Depression was viewed as a mental health condition that prepares the individual to take multiple forms of corrective actions. Prior research that examined homeless and runaway youth, had looked at a variety of negative outcomes, and often found markers of depression to play a role in the youths' life. For example, Warf et al. (2013) found homeless young women ( $n = 60$ ) in their sample to have experienced higher rates of childhood sexual abuse, dependency, and psychiatric hospitalization than the general public. Many of their samples turned to survival sex in order to meet their basic needs on the streets. Further, those who were involved in survival sex were significantly reported more suicide attempts. In Petering's (2016) study of homeless Los Angeles youths, both affiliates of gangs and gang members were at increased risk of depression and post-traumatic stress disorder, compared to noninvolved homeless youth. Only homeless gang members, however, were at an increased risk of suicide, compared to nongang involved homeless youth (Petering, 2016). Tucker, Edelen, Ellickson, and Klein (2011) examined depression both before and after running away in their longitudinal study of 4,329 youths. Among this sample, poor family environment was found to be predictive of running away. Those who did run away were found later in life to be more drug dependent and more depressed than nonrunaway youths followed in this study. These outcomes were found even after controlling for a host of other factors that gave these authors confidence that it was running away that led to these negative outcomes in this sample. None of the outcomes varied by the number of times, the youth had run away from home. Finally, M. J. Kim, Tajima, Herrenkohl, and Huang (2009) conducted a longitudinal study ( $n = 457$ ), which found child physical and sexual abuse predicted running away, which in turn predicted higher levels of both delinquency and victimization.

Although prior research had linked negative family environment and depression to running away from home, and research had examined an array negative outcomes associated with running away from home, few studies had examined this issue using an Asian sample. Agnew's (1992) general strain theory (GST) proposed that strains experienced by the individual produced a negative emotion like anger or depression that prepared the individual to cope with the strain through acts of deviance or crime, when other prosocial avenues for coping were blocked. In the case of youth runaway

behavior, Agnew would suggest that the strain of a negative home environment produced a negative emotion, potentially, resulting in running away. The strain of running away from home could produce further negative emotions that could prepare the individual to perform criminal or deviant acts. Prior research presented in this section suggested that the use of Agnew's GST would be an appropriate theory to understand juvenile runaway behavior, and this was the general propose of this study. Additionally, this study would use this theory to understand running away from home using a Korean sample that was a population not usually represented in GST research (Lee, 2010; Yun, Kim, & Morris, 2014).

## Theoretical Background

Agnew (1992), in his GST, proposed that individuals who experienced strain also experienced negative emotions. The negative emotions prepared the individual for some form or corrective action or coping. Coping may include actions such as delinquency, crime, or running away from home.

Agnew (1992) indicated there were three types of strain: (1) failure to achieve goals, (2) extinction of positive stimuli, and (3) presentation of negative stimuli. First, Agnew defined "failure to achieve goals" as the blocking of the achievement of positively valued goals. This type of strain was similar to Merton's (1938) original work with strain theory, where strain was thought to occur when legitimate means to monetary or financial gain were blocked. For a juvenile, this type of strain might be the inability to procure an after school job.

The second type of strain was the removal of positive stimuli. This was the loss of something good. Several types of activities could belong to this form of strain. Examples include the death of a beloved grandmother who offered the youth love, attention, and guidance.

A final subtype was presentation of noxious stimuli. Agnew (1992) argued this was the presentation of something that the individual does not like. For a juvenile, common forms of noxious stimuli were parental child abuse, neglect, or maltreatment. In essence, negative relations with parents were thought of as a form of strain.

Agnew (2007) argued all strains were created equal. Some strains were linked to the negative family environment that included juvenile like parental rejection, child abuse, and other parenting issues. Agnew argued these were strains likely to result in crime and deviance. When juveniles were confronted with negative family environments, stress was the result (Tyler & Bersani, 2008; Tyler et al., 2008; Welsh, 1995). Agnew (1992) had explained that these strains evoked negative emotions (i.e., anger, frustration, and depression), and that these emotions prepared the individual to commit delinquent behaviors, as a way of coping with the negative emotion (Moon & Morash, 2012). That is, Agnew (2007) proposed that the effect of strain on coping (e.g., depression) that included running away was mediated by negative emotions.

Although Agnew (2007) emphasized anger as being the most important emotion that prepared the individual for criminal and deviant activity, depression had also been shown in research to be important in our understanding of deviant and criminal acts (Ostrowsky & Messner, 2005). For example, in a study of Icelandic youth, Sigfusdottir and Silver (2009) found their sample responded to negative life events or strain with both anger and depression. While both boys and girls were found to respond to these events with anger, girls were more likely to report depressive symptoms. Watts and McNulty (2013) found that childhood physical abuse was a robust predictor of later delinquency, which was mediated by depressive symptoms in their sample of adolescents. Finally, Piquero, Fox, Piquero, Capowich, and Mazerolle (2010) found that depressive symptoms, but not anger, were related to experiences of negative life events and strain in their sample of disordered eaters. Further, these researchers found that depressive symptoms were a stronger predictor than

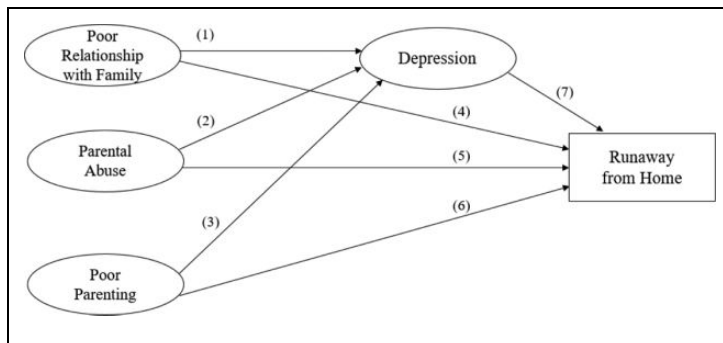
anger for the deviant behavior of disordered eating in both the full- and split-gendered models (Piquero, Fox, Piquero, Capowich, & Mazerolle, 2010).

Although studies over the past two decades (Chen et al., 2007; Milburn et al., 2007; Safyer et al., 2004; Tyler & Bersani, 2008; Tyler et al., 2008) had examined juvenile runaways, only a few studies had examined the delinquency of runaway juveniles using Agnew's (1992, 2007) GST. Agnew, Brezina, Wright, and Cullen (2002) explained that running away was used to escape from or reduce strain. Running away was considered an active behavior used to resist negative stimuli, as well as a factor influenced by negative emotion (Francis, 2014). Reid (2011) found that strain from caregivers or parents impacted the use of substances as well as running away from home. Kaufman's (2009) study, which examined the impact of serious strains on suicidal ideation and running away with mediating negative emotions of anger and depression, found support for GST. Francis (2014), in a study of Chicago youths, found that though the role of depression varied across gender and type of deviance, depressive symptoms played a large role in escapist and avoidance behaviors (running away, substance use, and suicidal behavior). This finding, Francis (2014) tells us, is consistent with Agnew's prediction that depression may be more likely to result in passive activities that could be running away from home, but it was not directly tested in this study.

Agnew's (1992) GST had been researched extensively in the United States, but it had only been tested a few times in other countries, Korea, for instance. Specifically, studies that used a Korean (11%) sample, which had a higher occurrence of runaways than the United States (6–7%; Im et al., 2014; Sanchez et al., 2006; Tyler & Bersani, 2008), were uncommon, especially those which utilize GST propositions (Lee, 2010). Lin, Dembo, Sellers, Cochran, and Mieczkowski (2014) argued for more studies testing criminological theories that utilized Eastern samples, especially emphasizing Agnew's (1992) GST. Lin et al. (2014) examined Agnew's (1992) GST with a sample from the United States and Taiwan. They found that U.S. youths were more likely than Taiwanese youth responded to negative life events and strain with anger. Lin et al. (2014) explained this could be due to cultural differences, where those youths who are raised in the Eastern tradition, are reluctant to show anger, and are more likely to self-attribute strain to themselves, rather than external sources.

While a few studies, like Lin et al. (2014) had utilized an Eastern sample in their research, few researchers had conducted a GST study using a Korean sample. For example, though not a test of GST, Chun and Springer (2005) examined the link between parental abuse and depression in their sample of 98 runaway youths in South Korea. Their findings revealed that both low self-esteem and parental abuse were related to increased levels of depression; however, the study did not examine deviant or delinquent outcomes. Despite the research describing family environment or poor parenting as the cause of coping that could include delinquent acts and running away from home (Andres-Lemay et al., 2005; Matchinda, 1999; Safyer et al., 2004; Tyler & Bersani, 2008; Tyler et al., 2008; Van der Ploeg & Scholte, 1997; Welsh, 1995) and research that used Agnew's (1992) GST explained that parenting problems increase negative emotion (Moon & Morash, 2012), studies examining the pathway between negative family environment and running away from home with a mediating effect of negative emotions are rare.

The purpose of this study was to provide a greater understanding and explanation of juvenile runaway, by examining negative stimuli with the mediating effect of negative emotion as hypothesized by Agnew's (1992) GST. Because we were not testing all parts of the theory (e.g., loss of positively valued family environment is not present in our data), our purpose was to provide a partial test of Agnew's GST. To our knowledge, no study had examined running away from home using GST propositions with a South Korean sample. The use of international samples in Agnew's GST research was important to our understanding of running away from home, as cultural differences may affect the applicability of the theory. Specifically, international samples had highlighted the importance of depression as a mediating variable in some deviant behaviors, yet studies that used samples from the United States often relied on, and found support for anger as the mediating emotion



**Figure 1.** Research model.

in GST research. Further, running away from home placed juveniles into a lot of negative and dangerous environments. They faced many problems that increased the likelihood that they might engage in high risk, or illegal behaviors, as well as increased their risk of being exploited or victimized by others. Therefore, it was important to understand what caused juveniles to run away from home. With regard to the negative emotion hypothesized by GST, this study examined the role that parental child abuse, poor parenting, and poor relationship with family (negative stimulation), played in the adolescents' delinquency while away from home, with depression being the mediating variable.

Informed from the previous literature and Agnew's (1992) GST, this study examined a number of hypotheses:

**Hypothesis 1:** A poor relationship with family increased depression.

**Hypothesis 2:** A poor relationship with family increased running away from home.

**Hypothesis 3:** A poor relationship with family increased running away from home through depression.

**Hypothesis 4:** Suffering parental child abuse increased depression.

**Hypothesis 5:** Suffering parental child abuse increased running away from home.

**Hypothesis 6:** Suffering parental child abuse increased running away from home through depression.

**Hypothesis 7:** Poor parenting increased depression.

**Hypothesis 8:** Poor parenting increased running away from home.

**Hypothesis 9:** Poor parenting increased running away from home through depression.

**Hypothesis 10:** Depression increased the running away from home.

Figure 1 provided a graphical presentation of all the hypotheses.

## Method

### Data

This study used the data from the Korean survey on the runaway of youth and children in 2009, which utilized a one-time cross-sectional design. The survey was conducted by the Korean National Youth Policy Institute (Baek & Bang, 2009). In order to collect the data, the Korean survey took a population of national secondary schools listed in the 2008 Statistical Yearbook of Education based on the following 12 regions: Seoul, Incheon, Daejeon, Gwangju, Daegu, Ulsan, Busan, Gyeonggi,

Chungcheong, Jeolla, Gangwon, and Gyeongsang. To calculate the ratio of students' population between the regions, the aggregate number of students was derived from the students' area of distribution within each region. Samples were collected in the following processes: regional distribution of students according to the proportion of sample size allocation by region, average number of students per class assigned to the regional sample size determined by a dividing extraction, scale proportional to the number of students in each school probability sampling to extract the surveyed schools, and extraction from one school to select one grade and investigate one class. The total sample size of 9,750 adolescent students was selected for this survey, 4,752 (48.7%) of which were female and 4,998 (51.3%) of which were male, born between the years of 1988 and 2000.

## Measures

Running away from home, the key variable in this study, was a single item that measured as "How many times have you ever run away from home so far?" Respondents answered open-ended responses (RUN). Specifically, the respondents were given a blank line and the opportunity to provide the number of times that they have run away from home so far.

The other variables were derived from Agnew's (1992) GST and include both negative stimuli and negative emotion. Negative family environment was measured using 13 items. Variables were then divided into three groups: poor relationship with family, parental child abuse, and poor parenting. Regarding poor relationship with family, there are 6 items: (1) "I think my family does not encourage me when I have troubles" (x1), (2) "I think my family does not share a lot with each other" (x2), (3) "I think my family does not give listen to my words well" (x3), (4) "I think my family is not interested to me" (x4), (5) "I think my family does not understand me well" (x5), and (6) "I think my family does not give me the power when I need" (x6). A latent variable, parental child abuse, has three observed variables: "My parents (caregiver) has hit me hard" (x7), "My parents threaten or throw things when they are upset" (x8), and "My parents insult or use abusive words to me"(x9). The last negative stimulus was poor parenting that had 4 items related to parental management: "My parents do not care even if I (1) smoke (x10), (2) sleep out (x11), (3) drink (x12), and (4) do not go to school without any reason" (x13). For each of the items, the responses were coded using a 4-point Likert-type scale that ranged from 1 = *strongly disagree* to 4 = *strongly agree*. Higher scores on the scale indicated more of the respective item.<sup>1</sup>

The mediating variable in this study was the negative emotion of depression, which was captured using 4 items: "I am nervous or too scared many times" (x14), "I feel too guilty" (x15), "I am unhappy, sad, and depressed" (x16), and "I have much worry" (x17). Respondents used a three-part Likert-type scale for each question, answer choices ranged from 0 = *never* to 2 = *very often*. Higher scores indicated more depression.

## Analysis Plan

Using data from the Korea National Youth Policy Institute (Baek & Bang, 2009), this study examined nine hypotheses to provide a partial test of Agnew's (1992) GST using structural equation modeling (SEM). An SEM, in general, was presented as broad class of statistical tests that included two parts: (1) measurement model and (2) latent measure model. The steps provided a gradual building process from descriptive statistics to the latent variable model.

The first step of the analysis involved the descriptive statistics including the mean, standard deviation, skewness, and kurtosis. This would provide information about the distribution of the data. Normality of the data would be determined by using skewness below 3 and kurtosis below 10 (Kline, 2016). If the data were nonnormal, they would pose a problem for the SEM process.

The second step was the conduction of bivariate statistics. Specifically, we conducted correlations between the measures that indicated running away from home, poor relationship with family, parental child abuse, poor parenting, and depression. The correlations provided information about the shared variation among these measures. If the measures shared too much variation they would be collinear, but if they did not they may reveal important links in the SEM process.

The third step was the presentation of the confirmatory factor analysis (CFA). A CFA was the measurement model. The purpose of the CFA was to determine if the measures showed discriminant and convergent validity if the factor loadings were strong (above .50), and if they had proper fit between the model and the data. Kline (2016) argued that factor loadings above .50 were large. Further, Kline argued that multiple goodness-of-fit indexes were necessary to properly determine model fit. Specifically, this study used several model fit criteria such as the  $\chi^2$  statistics, comparative fit indexes (CFIs), the root-mean-squared error of approximation (RMSEA) to determine goodness of fit, and the standardized root mean of the residual (SRMR). Schumacker & Lomax (1996) and Kline (2016) explained that the  $\chi^2$  should not be significant to indicate a properly fitting model. However, the  $\chi^2$  test was not the only test of the goodness of fit of research models because it was, potentially, sensitive to sample size (Kline, 2016). For instance, large samples (i.e., 200 or more) would make the  $\chi^2$  significant. Thus, other fit statistics (CFI, RMSEA, and SRMR) were necessary to determine if the CFA did fit the data. The goodness of fit was considered very good if the RMSEA was lower than .05, CFI are higher than .95, and the SRMR was below .08, the fit was deemed good (Hu & Bentler, 1999). To operationalize the CFA, we used SEM via AMOS (version 22).

The fourth step of the study was an examination of the nine hypotheses among the measures and latent measures using latent measure models via SEM operationalized by AMOS (version 22). In this step, the concern was about the hypothesized links between the latent measures and the model fit. While we examined the hypotheses, broadly, we were examining the mediational prowess of negative emotions, and negative family environment (poor parenting, poor relationship with family, parental child abuse), and running away from home. Generally, we were seeking to understand if negative family environment worked through negative emotions to influence running away from home (i.e., mediation) as predicted by Agnew (1992). To determine the adequacy of our models that address all of our hypotheses, we also examined the model fit, and we used the same indexes and standards that were used in the CFA.

## Results

### *Descriptive Statistics*

Table 1 presented the first step in the analysis. In order to determine the normality of the observed measures, this study analyzed descriptive statistics. Initially, the variable, running away from home, had that skewness of 3.49 and kurtosis of 11.29. These results indicated that the measure is not normal. After a squared root transformation, there were no longer problems of normality of this measure. At this point, any interpretations of the running away from home measure were considered the square root of the running away from home measure.<sup>2</sup> Skewness of all measures was less than 3, and kurtosis was less than 10, meeting Kline's (2016) thresholds for normality. The descriptive statistics for the remaining measures were presented in Table 1.

### *Bivariate Statistics*

The second step, as presented in Table 2, was the performance of the correlation analysis. The correlation matrix of observed measures showed that the measures shared suitable levels of variation. The correlation between all observed measures of poor parenting ( $x_1-x_{17}$ ) and the square root



**Table 1.** Sample Descriptive Statistics of Observed Variables.

Variables	Item		Standard		Minimum	Maximum	Skewness	Kurtosis
			Mean	Deviation				
Poor relationship with family	No encouragement	x1	1.79	.76	1	4	0.78	0.35
	No sharing	x2	1.97	.77	1	4	0.49	-0.13
	No listening	x3	2.02	.80	1	4	0.51	-0.16
	No interest	x4	1.88	.78	1	4	0.62	.00
	No understand	x5	2.04	.83	1	4	0.45	-0.38
	No sense of agency	x6	1.86	.78	1	4	0.69	0.17
Parental abuse	Hit	x7	1.35	.65	1	4	1.98	3.66
	Threaten	x8	1.31	.66	1	4	2.24	4.46
	Insult	x9	1.39	.72	1	4	1.85	2.68
Poor parenting	Do not care about smoking	x10	1.33	.64	1	4	2.05	3.91
	Do not care about sleeping out	x11	1.45	.79	1	4	1.72	2.04
	Do not care about drinking	x12	1.43	.74	1	4	1.68	2.00
	Do not care about school absence	x13	1.26	.61	1	4	2.68	7.15
Depression	Nervous	x14	.39	.60	0	2	1.29	0.60
	Feel guilty	x15	.33	.56	0	2	1.51	1.29
	Sad	x16	.40	.60	0	2	1.23	0.47
	Much worry	x17	.84	.71	0	2	0.24	-0.99
Running away from home		RUN	.08	.29	0	1.45	2.24	8.69

Note.  $N = 9,750$ , Running away from home was squared root in order to solve the problem of normality. The detail information of items presents in the Table 3.

of running away from home (RUN) was positively significant (.03 to 18,  $p < .01$ ). Except for two correlations, such as between x10 (My parents do not care even if I smoke) and x17 (I have much worry) and between x13 (My parents do not care even if I do not go to school without any reason) and x17 (I have much worry), all of observed measures were significantly correlated to each other. Two observed variables of poor relationship with family (I think my family does not understand me well [x5] and I think my family does not give me the power when I need [x6]) showed the strongest correlation in this table ( $r = .73$ ,  $p < .01$ ). This indicated a potential problem, but we retained the measures because of their relevance to our measurement of negative family environment.

## CFA

Step 3 was the conduction of the CFA. Using 17 items and potentially four latent measures—as presented in Figure 1, CFA was performed to determine if factor loadings were large and significant, and if the measurement model fits the data satisfactorily.<sup>3</sup> Table 3 presented the results of the CFA. Based on the goodness-of-fit criteria as mentioned in analysis plan, the  $\chi^2$  was statistically significant ( $\chi^2 = 215.8$ , degree of freedom [ $df$ ] = 113,  $p < .01$ ). Because the  $\chi^2$  was statistically significant, additional fit statistics were used to examine model fit. Overall, the model fit of this measurement model was good (CFI = .98, RMSEA = .04, and SRMR = .06). Table 3 also showed that the factor loadings were all statistically significant and large ( $\lambda > .50$ ). These results indicated that proper levels of convergent and discriminant validity were present with these data.

**Table 2.** Correlation Matrix of Observed Variables.

Observed Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. No encouragement (x1)	—																		
2. No sharing (x2)	.67**	—																	
3. No listening (x3)	.63**	.64**	—																
4. No interest (x4)	.59**	.57**	.63**	—															
5. No understand (x5)	.64**	.62**	.70**	.65**	—														
6. No sense of agency (x6)	.67**	.63**	.65**	.63**	.73**	—													
7. Hit (x7)	.22**	.18**	.21**	.19**	.19**	.20**	—												
8. Threaten (x8)	.25**	.22**	.25**	.22**	.25**	.24**	.63**	—											
9. Insult (x9)	.31**	.26**	.30**	.25**	.31**	.30**	.57**	.67**	—										
10. Do not care about smoking (x10)	.12**	.11**	.09**	.09**	.09**	.12**	.32**	.34**	.31**	—									
11. Do not care about sleeping out (x11)	.17**	.14**	.12**	.15**	.12**	.17**	.30**	.30**	.30**	.54**	—								
12. Do not care about drinking (x12)	.15**	.13**	.12**	.12**	.12**	.15**	.27**	.29**	.28**	.54**	.54**	—							
13. Do not care about school absence (x13)	.11**	.09**	.07**	.10**	.07**	.10**	.34**	.34**	.31**	.59**	.54**	.54**	—						
14. Nervous (x14)	.14**	.13**	.15**	.14**	.15**	.14**	.09**	.10**	.15**	.05**	.07**	.06**	.08**	—					
15. Feel guilty (x15)	.17**	.14**	.17**	.14**	.18**	.17**	.12**	.14**	.17**	.08**	.10**	.10**	.09**	.46**	—				
16. Sad (x16)	.26**	.25**	.28**	.26**	.31**	.29**	.14**	.16**	.21**	.06**	.09**	.10**	.09**	.41**	.41**	—			
17. Much worry (x17)	.17**	.20**	.22**	.16**	.25**	.21**	.04**	.08**	.13**	0.00	.04**	.07**	0.01	.40**	.37**	.47**	—		
18. Running away (RUN)	.13**	.12**	.12**	.10**	.14**	.13**	.12**	.13**	.15**	.18**	.16**	.16**	.12**	.03**	.08**	.09**	.08**	—	

Note. N = 9,750, poor relationship with family (x1 to x6), parental abuse (x7 to x9), poor parenting (x10 to x13), depression (x14 to x17), and running away from home (RUN). The detail information of items presents in the Table 3.

\*p < .05. \*\*p < .01.

**Table 3.** Measurement Model.

Latent Variable	Measure		Factor Loading
Poor relationship with family	I think my family does not encourage me when I have troubles	x1	.83**
	I think my family does not share a lot with each other	x2	.84**
	I think my family does not give listen to my words well	x3	.76**
	I think my family is not interested to me	x4	.81**
	I think my family does not understand me well	x5	.77**
	I think my family does not give me the power when I need	x6	.79**
Parental child abuse	My parents (caregiver) has hit me hard	x7	.80**
	My parents threaten or throw things when they are upset	x8	.84**
	My parents insult or use abusive words to me	x9	.74**
Poor parenting	My parents do not care even if I smoke	x10	.75**
	My parents do not care even if I sleep out	x11	.74**
	My parents do not care even if I drink	x12	.72**
	My parents do not care even if I do not go to school without any reason	x13	.78**
Depression	I am nervous or too scared many	x14	.63**
	I feel too guilty	x15	.62**
	I am unhappy, sad, and depressed	x16	.71**
	I have much worry	x17	.64**
$\chi^2$ Test of model fit ( $\chi^2$ ), $df = 113$			215.8
Confirmatory fit index			.98
Root-mean-squared error of approximation			.04
Standardized root mean of the residual			.06

Note.  $N = 9,750$ .

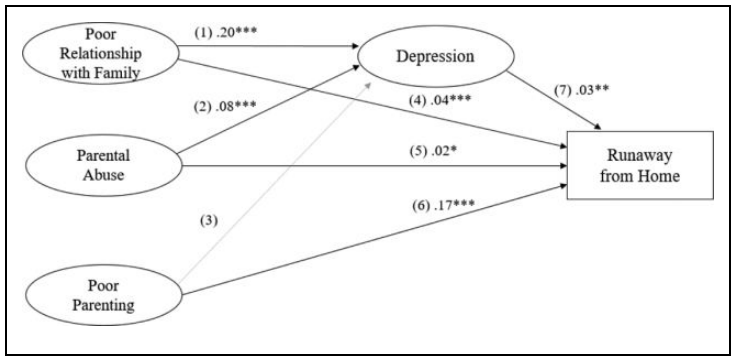
\* $p < .05$ . \*\* $p < .01$ .

## SEM

Step 4 presented the results that used SEM to simultaneously examine all of the nine hypotheses. We examined the fit between model and the data first. Specifically, we found the  $\chi^2$  was 233.3, the  $df$  was 126. In addition to the  $\chi^2$  statistic, other model fit statistics were examined that included: the CFI was more than .95, the RMSEA was .04, and the SRMR was below .06. Each of these model fit statistics indicated proper fit between the model and the data.

Since the goodness of fit of the research model was verified, the hypothesis of the study was examined next. We presented statistical significance and the standardized solutions of that could be read as  $\beta$  weights as in regression. Overall, this study supported all the hypotheses in this model except for Hypothesis 7 that poor parenting influences depression. Figure 2 shows summarized results of hypotheses.

Table 4 shows parameter estimates after the hypotheses testing. Poor relationship with family significantly increased depression of adolescents ( $\beta = .20, p < .00$ ; Hypothesis 1), poor relationship with family significantly increased the square root measure of running away from home among adolescents ( $\beta = .04, p < .00$ ; Hypothesis 2), parental child abuse significantly increased depression ( $\beta = .08, p < .05$ ; Hypothesis 4), parental child abuse significantly increased the square root measure of running away from home among adolescents ( $\beta = .02, p < .05$ ; Hypothesis 5), poor parenting significantly increased the square root measure of running away from home among adolescents ( $\beta = .17, p < .00$ ; Hypothesis 8), and depression significantly increased the square root measure of running away from home among adolescents ( $\beta = .03, p < .01$ ; Hypothesis 10). In this analysis, poor parenting was not found to be significantly related to depression. Finally, using SEM, this study



**Figure 2.** Model output summary. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 4.** Parameter Estimates.

Parameter	Estimates
Poor relationship with family → depression	.20 (.01)***
Parental child abuse → depression	.08 (.01)***
Poor parenting → depression	.02 (.02)
Poor relationship with family → running away from home	.04 (.01)***
Parental child abuse → running away from home	.02 (.01)*
Poor parenting → running away from home	.17 (.01)***
Depression → running away from home	.03 (.01)**

Note.  $N = 9,750$ . The numbers in parentheses refer to standardized coefficients.  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 5.** Direct/Indirect and Total Standardized Effects of Variables.

I.V	M.V	D.V	Direct	Indirect	Total Effect
Poor relationship with family	Depression	Run away from home	.043 (.096)	.005 (.011)	.048 (.107)
Parent abuse	Depression	Run away from home	.021 (.032)	.003 (.005)	.024 (.037)

Note. Parentheses are standardized effects. I.V. = Independent Variable, M.V. = Mediation Variable, and D.V. = Dependent Variable.

finds that depression has a mediating effect on running away from home. These results provided partial support for our test of Agnew’s (1992) theory.

Table 5 presented additional results that examined the remaining hypotheses. We found support Hypothesis 3. Specifically, we found that a poor relationship with family had an indirect effect on the square root measure of running away from home through depression (indirect effect = .01). Importantly, this indirect effect did not remove or reduce the direct effect of a poor relationship with family and the square root measure of running away from home (direct effect = .04). In addition, we found support for Hypothesis 6. The results showed that suffering parental child abuse had an indirect effect on the square root measure of running away from home (indirect effect = 0.00), but this did effect did not remove or dampen the direct effect of suffering parental child abuse on the square root measure of running away from home (direct effect = 0.20). These results provided partial support for Agnew’s (1992) theory. We note no statistical support was found for Hypothesis 9.

## **Discussion and Conclusion**

The purpose of this study was to examine the links between negative family environment (i.e., a poor relationship with family, suffering parental child abuse, and poor parenting), depression, and running away from home. This study would fill gaps in these literatures because it used a Korean sample. To be sure, few researchers examined the explanations for why adolescents ran away from home; the most common reasons cited have been negative family environment, parental child abuse, and a poor relationship with parents (Andres-Lemay et al., 2005; Safyer et al., 2004; Tyler & Bersani, 2008; Tyler et al., 2008; Welsh, 1995). While many current studies (Chen et al., 2007; Milburn et al., 2007; Safyer et al., 2004; Tyler & Bersani, 2008; Tyler et al., 2008) have dealt with runaways in the past two decades, hardly any studies examined the delinquency of runaway juveniles through GST. In particular, Korean studies have not often used GST to examine juvenile running away behavior (Lee, 2010); thus, this study filled an important gap.

Using Agnew's (1992) theory as a framework to organize these concepts, 10 hypotheses were derived. All but one of the hypothesis were supported in these data. A number of negative family environment latent measures had links with depression—a poor relationship with family and suffering parental child abuse. These links were consistent with Agnew's views. Importantly, poor parenting did not have a link with depression. We surmised the lack of significance was the poor parenting was not harsh enough to produce a correlation. In addition, we believed that the lack of significance was due to our measurement of the concept. With the lack of significance with poor parenting and depression, our results would be best viewed as partial support for Agnew's GST.

In addition to these results, we found that negative emotions (i.e., depression) were important. The results indicated that depression had a link with our measure of running away from home. This is consistent with Agnew's (1992) version of GST. In other words, the depression prepared the individual to run away from home. This result was not only consistent with Agnew's views, but it was also consistent with Lee (2010).

Agnew's (1992) GST had a mediational component. In general, Agnew proffered when an individual experienced strain, they would find a way to cope with the strain only after experiencing a negative emotion that prepared them for that coping mechanism. For this study, experiencing a negative family environment (i.e., poor relationship with family, suffering parental child abuse, and poor parenting) would increase depression and depression would increase running away from home (i.e., indirect effect). Our results provided information that indicated poor relationship with family and suffering parental child abuse did have an indirect effect on running away from home through depression. The issue with these results were twofold. First, the results indicated that the indirect effects were not strong enough to reduce or remove the direct effects between poor relationship with family and suffering parental child abuse and running away from home. Second, the results indicated that poor parenting did not have a link with running away from home through depression. Overall, these results provide partial support for Agnew's GST.

Because of the partial support for Agnew's theory, some policy implications are present. One is to provide parenting programming. This will reduce relationship issues and child abuse. To do this, however, these types of programs will have to be accepted culturally.

While these results made a contribution to the literature, they should be consumed within their limits. First, the measurement for running away from home was nonnormal. This created difficulty when interpreting the results. Our view was to acknowledge this and use the terminology square root of the measure running away from home. Second, the data were cross sectional. This prevented the study from taking on a predictive interpretation, rather the study was left with an interpretation around the structure of Agnew's (1992) theory. Third, our measurement was not traditional. In other words, established scales were not used to capture the information for the measures in this study.

While future research that uses different measures and longitudinal data will provide intriguing results, finding that partial support for Agnew's (1992) GST is important. In particular, revealing poor relationships with family and suffering parental child abuse have direct and indirect effects on running away from home are important results. Utilizing a Korean sample to make these revelations assists in making a contribution to the literature. Overall, these measures, in the context of GST, indicate that running away from home is complex and indirect.

In spite of several problems such as normality problems and the cross-sectional nature of the data (e.g. unclear time order), this study supported GST propositions that juveniles' running away from home behaviors are mediated by their negative emotions, and that the influence of strains directly affects their acts. Specifically, this study finds that family environment (parental child abuse and poor relationship with family) is important in explaining juveniles' running away from home. Juveniles running away is a serious social problem, they are exposed to deteriorating circumstance while away, which may increase their risk of victimization and involvement in illegal or deviant activity. They approach a lot of negative environments and face many problems. Our priority is to ensure that juveniles will not be placed in such environments. In order to do so, we need to not only focus on the effects of running away, like high-risk behavior and criminal involvement, but also the negative home environment that may have played a role in their running away from home. Future studies should focus on conducting a multimethod study (i.e., quantitative and qualitative data), specifically one which uses a different model to verify assumptions related to GST's negative emotion variables and crime and delinquency. Despite these limitations, we find support for GST's proposition that negative stimulation (negative home environment) increased the likelihood of negative emotion (depression), which further increased the likelihood of running away from home. In addition, this study would contribute as an examination that applies GST's assumptions to Korean runaway youths.

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### **Notes**

1. In the results, we referred to specific items as  $x_1 \dots x_{17}$  and RUN. Our presentation of this labeling system in the text and in the tables was designed to assist the reader.
2. We acknowledge that a square root transformation is not the easiest method to interpret. We consider the interpretation as the square root of running away from home as a method to ease interpretation.
3. Running away from home was not combined in this analysis because it was measured using a single item.

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# Can Situational Action Theory Explain the Gender Gap in Adolescent Shoplifting? Results From Austria

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## Abstract

Although shoplifting is one of the crimes with the smallest gender gap among all offense types, most studies still conclude that males steal from shops more frequently than females. The roots of the gendered distribution of shoplifting have not yet been satisfactorily explained. This work investigates whether situational action theory (SAT) can account for males' greater involvement in shoplifting compared to females and if the propensity–exposure interaction that is at the heart of the theory applies to both genders. Results from a large-scale student survey conducted in Austria suggest that SAT generalizes to both genders and that it is well suited to explain why males are more likely to shoplift than females.

## Keywords

situational action theory, shoplifting, juvenile delinquency, gender

## Key Research Questions

One of the few robust findings of decades of criminological research is that crime is committed more frequently by males than by females and that this gender gap increases with the seriousness of the offense (Junger-Tas, Ribeaud, & Cruyff, 2004; Moffitt, Caspi, Rutter, & Silva, 2001; Steffensmeier & Allan, 1996).<sup>1</sup> Compared to more serious property or violent crimes, higher proportions of female offenders are associated with milder forms of property crime, such as shoplifting (Bamfield, 2012; Steffensmeier & Allan, 1996). Indeed, shoplifting is often seen as a “pink-collar crime,” an offense committed predominantly by females. This is consistent with the stereotype that shopping is a female pursuit (or leisure activity) in many segments of society. However, contrary to this assumption, most studies report higher rates of shoplifting among males than among females (Bamfield, 2012; Blanco et al., 2008; Farrington, 1999; Klemke, 1992; Krasnovsky & Lane,

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1998; Piquero, Gover, MacDonald, & Piquero, 2005; Tonglet, 2002; Wittenberg, 2009). Nonetheless, some evidence suggests that this gender gap may be shrinking: Several recent studies have reported nearly equivalent shoplifting rates for males and females (Enzmann, 2010; Killias, Aebi, Herrmann, Dilitz, & Lucia, 2010; Marshall & He, 2010), while others even indicate that, especially in younger cohorts, rates among females may be beginning to surpass those among males (Wikström & Butterworth, 2006; Wikström, Oberwittler, Treiber, & Hardie, 2012).

Along with violence and vandalism, shoplifting is one of the most common forms of adolescent offending in contemporary European societies (Junger-Tas, 2012; Stummvoll, Kromer, & Hager, 2010; Wikström et al., 2012). It is therefore astonishing that it remains so vastly underresearched (Wittenberg, 2009). This, coupled with the fact that shoplifting appears to be on the rise in recent years, renders it an important topic for criminological inquiry. Although individual acts cause little harm<sup>2</sup> (Bamfield, 2012), they are so prevalent that overall shoplifting generates considerable economic harm. According to the Global Retail Theft Barometer (The Smart Cube: Checkpoint Systems, 2015) during 2014/2015, shoplifting cost the global retail market approximately US\$47 billion (0.5% of total sales) and the European market approximately US\$17 billion (0.4% of total sales). Just prior to this study—during 2010/2011—Austrian retailers suffered losses from shoplifting amounting to US\$310 million (0.6% of total sales; Centre for Retail Research, 2011). This rose to US\$539 million (or 0.7% of total sales) by 2014/2015 (The Smart Cube: Checkpoint Systems, 2015).

Shoplifting is of course not just a European issue. The United States, for example, experienced a similar cost of shoplifting to the European market: US\$13 billion in 2014/2015 (0.5% of total sales; The Smart Cube: Checkpoint Systems, 2015). And across 30 different countries, the International Self-Report Delinquency Study (ISRD-2; 2005–2007) showed that shoplifting was by far the most common self-reported property crime among 12- to 15-year-olds, with 17.3% of youths reporting having shoplifted at least once in their previous life (Marshall, 2013).

The lack of empirical attention to shoplifting, despite it being one of the most common crimes and associated with such large financial costs (Hindelang, Hirschi, & Weiss, 1981; Klemke, 1992), means that the overrepresentation of females among shoplifters compared to other types of offenders has received little empirical scrutiny (for an exception, see Hirtenlehner, Blackwell, Leitgöb, & Bacher, 2014, or Piquero et al., 2005). It has also been neglected in theoretical reflections and therefore remains largely unexplained, consistent with more general criminological shortcomings in explaining the gender dynamics of crime.

Scholars studying the relationship between gender and crime typically draw on the major criminological perspectives (e.g., control theories, general strain theory, differential association and social learning theories, routine activity theory, etc.; see, e.g., Alarid, Burton, & Cullen, 2000; Broidy & Agnew, 1997; Burton, Cullen, Evans, Alarid, & Dunaway, 1998; LaGrange & Silverman, 1999; Piquero & Sealock, 2004).<sup>3</sup> Most of these theories have been developed with male offenders in mind but assume that the causes of offending are the same for males and females. Available research generally supports this assumption, indicating that traditional theories apply equally well to male and female offending and the same factors predict male and female crime involvement (Agnew, 2009; Hubbard & Pratt, 2002; Moffitt et al., 2001; Wong, Slotboom, & Bijleveld, 2010). However, some studies report these factors have slightly different effects on males and females. For instance, some family and peer variables appear to be more closely related to female offending, whereas some individual and school variables appear more closely associated with male offending (Agnew, 2009; Steketee, Junger, & Junger-Tas, 2013; Svensson, Pauwels, Weerman, & Bruinsma, 2016; Wong et al., 2010). This is not surprising given the complexity and interactive nature of crime causation and the fact that many relevant factors are not evenly distributed between males and females.

For a theory to be gender adequate, it must not only explain crime equally well for males and females (the generalizability problem) but also explain why males commit more crime than females

(the gender ratio problem; Daly & Chesney-Lind, 1988). Research suggests that traditional criminological theories can explain significant portions but not all of the gender gap in offending behavior (Agnew, 2009). Controlling for key factors (e.g., self-control, social bonds, peer delinquency, and supervision) usually reduces the gender effect considerably but seldom to zero or insignificance (Junger-Tas et al., 2004; LaGrange & Silverman, 1999; Mears, Ploeger, & Warr, 1998; Piquero et al., 2005). In most studies, a nonnegligible part of the gender effect remains unexplained (Weerman, Bernasco, Bruinsma, & Pauwels, 2015, p. 4). Hence, none of these factors, or related theories, has proven perfectly effective in accounting for the gender divide.

It may be argued that the inability of scholars to fully explain both the similarities and differences in male and female offending reflects persistent shortcomings in traditional criminological theories. One significant shortcoming is a lack of integration of individual and environmental levels of explanation (Wikström, 2006). A growing body of research from across the behavioral sciences emphasizes the importance of person–environment interactions for understanding development and behavior (Belsky & Pluess, 2009; Blakemore & Choudhury, 2006; Ferguson-Smith, 2011; Lipina & Posner, 2012; Rutter, 2012; Simons, Burt, Barr, Lei, & Stewart, 2014; Wikström et al., 2012). Males and females differ on both fronts, that is, not only socioculturally (in terms of their environmental influences) but also biopsychologically (in terms of their personal characteristics and experiences). Gender is a proxy for both unmeasured biological characteristics and unobserved cultural processes. Ignoring either may leave criminological explanations of gender differences in offending short-sighted (Jessor, 1992; Thijs, van Dijk, Stoof, & Notten, 2015).

Another significant deficiency of major criminological theories is the lack of sufficiently detailed mechanisms by which key factors cause people to commit acts of crime (Wikström, 2006; Wikström & Treiber, 2016). Without a clear understanding of what moves people to offend, it will remain impossible to explain why males and females experience different imperatives.

Situational action theory (SAT; Wikström, 2004, 2006, 2010, 2012, 2014) proposes to address these shortcomings by integrating person-oriented and environment-oriented explanations of crime in a framework that details the mechanism through which people and environments interact situationally (at the point of action) to cause crime. According to SAT, crime happens when a person comes to see and choose crime as an action alternative. This perception–choice process is shaped by the interaction between a person’s crime propensity and his or her criminogenic exposure. So the centerpiece of the theory is the interaction between people and their social surroundings, which triggers a perception–choice process that directly governs action.

According to SAT, behavior is always the result of a perception–choice process comprising two stages: the perception of behavioral alternatives in response to a particular motivation and the choice of which alternative to pursue. SAT argues that perception processes are more important than choice processes for explaining why crime happens. This is the case because perception processes determine which action alternatives a person considers in relation to a certain motivation. SAT suggests that rules about right and wrong actions play a significant role in perception. People differ in what actions they think are right or wrong and how strongly they feel about doing the right thing (their personal morality). Places differ in what actions are defined (e.g., by law) as right or wrong and how strongly they indicate and enforce these rules (their moral context). Together, people’s personal rules and the rules of the setting they take part in determine whether or not they see crime as an action alternative.

The perception process (guided by personal morality and the moral context) not only determines which action alternatives are considered but also shapes the process of choice. If only one alternative is considered, the choice process is automatic or habitual. Automatic or habitual choice is often neglected in standard models of decision-making, but there is growing evidence of the importance of automatic or habitual behaviors in human action (Treiber, in press). Most decision-making models focus on choices between competing alternatives. SAT recognizes that these kinds of choices are

also prominent in criminal decision-making, but it does not adopt the common assumption that people evaluate their options rationally, based primarily on perceived costs and benefits (typically to themselves). Rather, SAT argues that people assess their options based on preferences, which may be associated with potential costs and benefits, but are constrained by their moral values.

Furthermore, SAT points out that controls (i.e., self-control and deterrence) are only relevant when people deliberate—more precisely: when they choose between competing alternatives including crime. In the case of habitual choices, people either do not recognize the need to exercise self-control (they see nothing wrong with the perceived action) or are unaffected by deterrents in the setting (they are not made aware that the perceived action is wrong). SAT defines self-control as an individual's ability to align his or her behavior with his or her moral values when faced with external pressures which tempt or provoke him or her to do otherwise (Wikström, 2004, pp. 16–17).<sup>4</sup> Self-control therefore comes into play when a setting's moral context encourages a person to see crime as an option in opposition to his or her personal morality. SAT defines deterrence as a setting's ability to align a person's behavior with the rules of the setting when his or her personal desires, commitments, or sensitivities lead him or her to consider doing otherwise (Wikström, 2008). Deterrence therefore comes into play when a person's morality encourages him or her to see crime as an option in opposition to the rules of the setting. Hence, controls are only conditionally relevant.

A person's overall tendency to see and choose crime as an action alternative is referred to as his or her crime propensity. It is determined by his or her personal morality and ability to exercise self-control. A setting's overall tendency to lead people to see and choose crime as an action alternative is referred to as its criminogeneity, and the nature and extent of time that people spend in criminogenic settings is described as their criminogenic exposure. Criminogenic settings include settings in which other actors (e.g., criminal peers) facilitate the perception of crime as an action alternative because they convey moral norms which are inconsistent with the law (e.g., encourage shoplifting), as well as settings that foster choosing crime because they present low detection and sanction risks (e.g., lack monitoring). At its core, SAT posits that the likelihood that a person will commit offenses depends on the interplay between his or her crime propensity and his or her criminogenic exposure. The theory argues that the impact of exposure to criminogenic settings depends on an individual's propensity for crime: Those with higher crime propensity will be situationally vulnerable—exposure to crime-conducive settings may activate their tendency to see and choose crime as an option and thereby have a significant effect on their behavior—while those with a lower crime propensity are situationally resistant and do not see crime as an option even when exposed to crime-conducive settings.<sup>5</sup>

An application of SAT to gender differences in crime involvement would suggest males' higher levels of offending could be explained by their having higher crime propensities (i.e., greater susceptibility to criminogenic environments), greater exposure to criminogenic environments (i.e., more frequent activation of crime propensities), or both, leading them to see and choose crime as an option more frequently, albeit through the same causal process. Thus, SAT would not suggest that male and female offending requires different explanations. According to Bunge (2004), to explain means to identify the mechanism or process that brings about a particular effect. SAT clearly maintains that the perception-choice process triggered by the interaction between crime propensity and setting criminogeneity is the same for males and females. This does not, however, preclude the fact that males and females may come to acquire different crime propensities and experience different criminogenic exposure, owing to a variety of developmental and social factors.

Research testing various theoretical perspectives has generally supported the contention that males exhibit more personal characteristics and experience more environmental influences conducive to crime involvement than females, while evidence that those factors exert different influences on males and females remains weak (Agnew, 2009; Moffit et al., 2001; Weerman et al., 2015). With one exception (Weerman et al., 2015), SAT has not been used to study the relationship between

gender and crime, although it may provide further insights. The present article therefore seeks to further explore SAT's potential to account for the gender ratio and the generalizability problem which previous criminological theories and inquiries have been unable to adequately explain. It draws on the example of adolescent shoplifting, using a large-scale student survey from Austria as empirical foundation.

The first research question is whether the gender gradient of adolescent shoplifting can be explained by propositions derived from SAT. This study examines to what extent crime propensity, criminogenic exposure, and their interaction, which are key to SAT, can account for males' greater involvement in shoplifting than females'. The employed data also enable us to investigate whether, with regard to shoplifting, a high crime propensity converges more often with elevated criminogenic exposure among males than females.

The second research question addresses the generality of the theory. It has been argued (Moffitt et al., 2001) that males' disproportionate crime involvement can result from their more frequent exposure to key influences (the differential exposure hypothesis) as well as from their greater susceptibility to the deleterious impact of those influences (the vulnerability hypothesis). SAT would contend that due to the interactive nature of the causes of crime both may be true, but that the causes of crime, and the causal process linking them to crime, will be the same for males and females. Therefore, we will investigate whether the crucial explanatory factors—and especially their interplay—apply equally to both male and female shoplifting. Thus, we investigate whether SAT is valid for both males and females and therewith adolescent shoplifting generally.

## **Review of Existing Research on SAT, Gender, and Crime**

A cause can be defined as “an entity (event, condition) that . . . has the power to initiate a causal process that produces a particular effect” (Wikström, 2012, p. 57). According to SAT, the causal process that brings about criminal action is the perception–choice process, through which a person comes to see and choose crime as an action alternative, which is triggered when an individual with a certain criminal propensity encounters a setting with a certain criminogeneity. Thus, a person's crime propensity and criminogenic exposure are the interactive causes of his or her criminal conduct.

Gender is not regarded as a genuine cause of crime in SAT, not even as one of the causes of the causes. The state of being male or female (socially or biologically) is not causally effective; it does not move an individual to commit an act of crime. Instead, gender is described as an attribute or marker that may be related to characteristics or experiences relevant in crime causation, such as crime propensity and criminogenic exposure (Wikström, 2007, 2012). Since gender is associated with the causes (and the causes of the causes) of behavior, it is predictive of criminal conduct without being a cause itself.

Nevertheless, an alternative approach may be to consider gender as one among many causes of the causes (Gangl, 2010).<sup>6</sup> Gender certainly has the potential to shape processes and relationships that influence both an individual's crime propensity and his or her criminogenic exposure. For example, gender can affect processes of social and self-selection that shape people's activity fields. This has consequences for the kind and extent of moral education and cognitive nurturing they receive, and therewith also for their development of different crime propensities. Gendered selection processes can result in differential exposure to contexts in which these propensities may be expressed. Biological characteristics can have an impact on how males and females respond to different experiences, and the cumulative effects of these experiences can lead to differences in desires, commitments, sensitivities, and preferences. So, mediated by a variety of biological, developmental, and social factors and processes (e.g., genetic endowment, socialization, controls, routine

activities, and social networks), gender may be part of a complex causal chain underlying individual behavior and therewith gender differences in crime involvement.

But despite gender differentials in the distribution of crime propensity and criminogenic exposure, SAT would argue that females with high crime propensity and criminogenic exposure will be just as likely to offend as males with similar levels and that males with low crime propensity and criminogenic exposure would be just as likely to not offend as females with similar levels; it is their propensity and exposure, not their gender, that determines, and can explain, their crime involvement.

Research on the gendered distribution of the factors affecting crime propensity and criminogenic exposure supports these assertions. Numerous studies have found that females, compared with males, have stronger personal morals (Mears et al., 1998; Piquero et al., 2005; Svensson, 2004; Weerman & Hoeve, 2012) and higher levels of self-control (Gavray, Vettenburg, Pauwels, & Brondeel, 2013; Hirtenlehner & Blackwell, 2015; LaGrange & Silverman, 1999; Marshall & Enzmann, 2012). Females also tend to perceive greater risks of being detected and punished (Grasmick, Blackwell, & Bursik, 1993; Hagan, 1989; Hirtenlehner et al., 2014; Piquero et al., 2005), acquire fewer criminal friends (Mears et al., 1998; Moffitt et al., 2001; Piquero et al., 2005; Weerman & Hoeve, 2012), and spend less time hanging out with their peers (Bottcher, 2001; Mears et al., 1998; Weerman & Hoeve, 2012). The former attest to differences in their crime propensities, the latter to differences in their criminogenic exposure.

To date, only one study has directly analyzed these gender differences and their relation to crime within the SAT framework. Using longitudinal data from adolescents attending schools in The Hague (the Netherlands), Weerman, Bernasco, Bruinsma, and Pauwels (2015) investigated to what extent SAT's key components of crime propensity and criminogenic exposure are equally related to crime involvement among males and females and can explain the gender ratio in crime involvement.

Results showed that the effect of gender on delinquency is substantially reduced when core indicators of propensity (morality, self-control) and exposure (unsupervised peer activities, association with rule-breaking peers) are entered as control variables into Tobit regression models. The fact that a small significant gender effect remains may be due to a failure to include the propensity–exposure interaction into the explanatory models, which means that this study can only be regarded as a partial test of SAT's potential to address the gender ratio problem. Findings also demonstrated that the effects of the employed predictor variables do not differ between males and females, indicating that SAT is applicable to both genders.

In a series of studies, Pauwels (2012, 2015; Schils & Pauwels, 2014) also tested SAT's applicability to the generalizability problem. Drawing on data from adolescents in Belgium, Pauwels and colleagues investigated the interplay between crime propensity and criminogenic exposure within subgroups of males and females from native and migrant backgrounds. The common finding from these works was that SAT's propensity–exposure interaction emerges within all subgroups, indicating that the postulated interaction dynamics are invariant across gender (and ethnicity).

These studies provide support for SAT's ability to explain offending by males and females (the generalizability problem) and partial support for its ability to explain differences in crime involvement between males and females (the gender ratio problem). In this study, we will explore whether this holds true in the case of adolescent shoplifting and if a full test of SAT, which includes the propensity–exposure interaction, can fully account for gender differences in theft from shops.

## **Method**

### ***Data***

The data come from the Austrian Adolescent Shoplifting Survey, a school-administered online survey of 2,911 students in the seventh and eighth grade, conducted in two Austrian provinces

**Table 1.** Sample Composition.

Characteristic	Unweighted Data (%)	Weighted Data (%)
Sex		
Males	52	50
Females	48	50
Age		
12 years	19	21
13 years	43	43
14 years	32	30
15 or more years	6	6
Grade		
Seventh class	50	50
Eighth class	50	50
Province		
Upper Austria	58	49
Lower Austria	42	51

Note.  $N = 2,911$ .

(Upper and Lower Austria) in 2011. The majority of participants were 13 and 14 years old. Males and females are equally represented in the sample (see Table 1).

Sampling followed a multistage procedure. At Stage 1, a random sample of 50 schools from Upper Austria and 42 schools from Lower Austria was selected.<sup>7</sup> This sample was disproportionately stratified by school type. At Stage 2, a random selection of one seventh- and one eighth-grade class per school was taken. At Stage 3, all students in the selected classes were included. This yielded a final sample size of 2,911 students (86% of the original sample due to absences and refusals).

Design weights are applied to this data set to adjust for unequal selection probabilities resulting from the disproportionate sampling plan. Prior to statistical analysis, this design weighting was complemented with a poststratification of the data.<sup>8</sup> The latter was based simultaneously on province, grade, and gender. Hence, the sample is fully representative of the population with respect to these characteristics. The composition of the sample is reported in Table 1.

The survey was conducted online during class time, when each class was led to the schools' computer room to complete the survey under the instruction of trained interviewers. Teachers were present to ensure discipline, but the interviewers made certain that the teachers could not see the answers provided by the students.

## Measurement

**Shoplifting.** Shoplifting frequency was measured by the question "How many times have you taken something from a shop without paying for it in the last 12 months?" In total, 5.1% of the respondents reported having shoplifted at least once during the year before the survey; a proportion close to the 1-year prevalence rate of 6% reported by Austrian participants of the ISRD-2 study (Stummvoll et al., 2010).<sup>9</sup>

**Propensity.** In line with SAT's contention that a person's morality and his or her ability to exercise self-control are the key factors that shape an individual's crime propensity, Z-scores of subscales for these concepts were summed to create a composite measure for a respondent's propensity to shoplift.

To assess shoplifting-relevant morality, an index variable was generated that combines 3 items tapping into the perceived wrongfulness of theft from shops and feelings of guilt and shame about

shoplifting. A sum score merging moral beliefs and moral emotions was constructed by adding up the three Z-standardized item values (Cronbach's  $\alpha = .71$ ).

The ability to exercise self-control was measured with an abridged version of the Self-Control Scale utilized by Wikström and colleagues (2012), which builds on the inventory developed by Grasmick, Tittle, Bursick, and Arneklev (1993). The 6 employed items tap particularly, but not exclusively, into the impulsivity and risk-taking dimensions of the construct that are most consistent with SAT's conceptualization of self-control and which have been shown to be most predictive of criminal behavior (Arneklev, Grasmick, Tittle, & Bursik, 1993; Vazsonyi, Pickering, Junger, & Hessing, 2001; Wikstrom & Treiber, 2007). Responses on a four-category scale were summed to form a total score (Cronbach's  $\alpha = .63$ ).

Morality and the ability to exercise self-control are correlated with  $r = .35$  ( $p \leq .001$ ).

**Exposure.** In accordance with SAT's idea that people's exposure to criminogenic settings is determined by the moral context of the environment to which they are directly exposed and the deterrent quality of the settings in which they take part, Z-scores of subscales for these constructs were added up to generate a composite measure of a respondent's shoplifting-related exposure.

The moral context of the settings our respondents encounter was determined by their level of exposure to criminal peers. Underlying this is the assumption that adolescents who associate on a regular basis with friends who demonstrate and advocate theft from shops are more frequently faced with shoplifting-permissive settings. It has been shown that adolescents spend much time in the company of friends of the same age (Warr, 2002; Wikström et al., 2012). They also spend more time in shops with their friends. Research has established that adolescent shoplifting is typically a group phenomenon, with co-offending being the rule not the exception (Farrington, 1999; Wikström et al., 2012). So the more time young people spend in the presence of peers who hold favorable definitions of shoplifting, the more often they will be confronted with moral settings in which the perception and choice of shoplifting are encouraged. In brief, because friends, whether mentally or physically present, can signal and enforce certain moral norms, close bonds to peers who encourage criminal conduct may serve as an indication of increased exposure to crime-conducive moral contexts.<sup>10</sup>

Perceived moral support of shoplifting among friends was assessed by 2 items. Respondents' perceptions about both their friend's moral beliefs about shoplifting and the proportion of friends perceived to be involved in shoplifting recently were used as an indicator of the moral context of shoplifting-relevant settings. The 2 highly intercorrelated items ( $r = .55$ ) were summed and coded, so that higher values reflect more criminogenic peers, providing a proxy for greater exposure to weak moral contexts.

The deterrent character of shoplifting-relevant settings was operationalized as the product of the perceived certainty of detection and the expected sanctioning severity. Both items ( $r = .22$ ;  $p = .000$ ) were multiplied and coded so that a high value indicates weak deterrence.

Involvement with shoplifting-prone peers and perceived deterrence are highly correlated,  $r = .81$  ( $p \leq .001$ ). Respondents who have more crime involved friends perceive less deterrence.

**Gender.** Females were coded 0, males were coded 1.

The concrete wording of the utilized items can be seen from Appendix Table A1.

Table 2 provides descriptive statistics and correlations for all measures employed in the ensuing analyses.

### **Analytic Plan**

Crime frequency measures are normally analyzed with negative binomial regression models (Hilbe, 2011). These models take account of the skewed and discrete nature of an overdispersed



**Table 2.** Correlation Matrix.<sup>a</sup>

Variables	1	2	3	4
1. Shoplifting frequency	1.00 (.88)			
2. Propensity	0.24*** (.32)	1.00		
3. Exposure	0.28*** (.32)	0.53***	1.00	
4. Gender (male)	0.07** (.09)	0.17***	0.22***	1.00
Arithmetic mean/standard deviation	0.19/1.43	−0.04/1.64	−0.02/1.63	0.50/0.50

Note. Correlation with logged shoplifting frequency is given in parentheses.

<sup>a</sup>Product-moment correlation coefficients.

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

incidence variable. SAT's emphasis on interactive relationships, however, requires a rejection of this procedure. Recent methodological studies (Ai & Norton, 2003; Berry, DeMeritt, & Esarey, 2010; Bowen, 2012; Karaca-Mandic, Norton, & Dowd, 2012) suggest that the established practice of testing interaction effects by adding product terms to the model equations does not perform well in nonlinear models such as logistic or negative binomial regression analyses. Nonlinear models confound two types of interaction: a model-inherent coefficient variation resulting from the specific form of the employed link function (i.e., from the multiplicative nature of the model) and the interaction that is captured by a product term. Both types of interaction can cancel each other out, which implies that a significant product term is neither necessary nor sufficient for claiming interaction (Berry et al., 2010; Bowen, 2012).

In view of these problems, this work relies on linear regression analyses to examine the hypothesized interdependencies (Aiken & West, 1991). The extremely skewed distribution of the shoplifting frequency variable certainly violates key assumptions of the linear regression model (multivariate normal distribution and homoscedasticity), but this is partially defused by log transforming it. Logarithmic transformations of the dependent variable help to alleviate skewness and heteroscedasticity, but they unfortunately also reduce the power to establish interactions (Russell & Dean, 2000). Therefore, and given that nonexperimental survey research is generally riddled with difficulties in detecting interaction effects (McClelland & Judd, 1993), any findings supporting the existence of interaction relationships while employing log-transformed response variables are particularly impressive.

All regression models were fit using Stata Version 14 (StataCorp, 2015). Predictor variables were Z-standardized before computing the multiplicative interaction terms (Aiken & West, 1991). Due to the nonnormal distribution of the dependent variable—the skewness of logged crime frequency amounts to 6.33—clustered robust standard errors were employed (Hannon & Knapp, 2003). Robust standard errors provide wider confidence intervals, which correct for the heteroscedasticity of the residuals. The clustering takes the nesting of students in classes into account, which would otherwise imply a serious underestimation of the standard errors and an overestimation of the significance levels.

Additionally, the propensity–exposure interplay is graphically depicted in interaction diagrams. For these charts, the predictor variables were dichotomized at the median for illustrative purposes.

## Results

### Gender Ratio Problem

The gender gradients of the included concepts conform to expectations. The well-known gender gap in delinquent behavior can also be found for adolescent shoplifting: 7.3% of the males report

**Table 3.** Gender Differences.

Variables	Males	Females	$p$ ( $\alpha$ Error)
One-year prevalence of shoplifting	7.3%	2.8%	.000
One-year frequency of shoplifting ( $\emptyset$ )	+0.29	+0.09	.001
Propensity (Z-score; $\emptyset$ )	+0.14	-0.19	.000
Exposure (Z-score; $\emptyset$ )	+0.21	-0.23	.000
High propensity and high exposure	42.2%	22.9%	.000

**Table 4.** Predictors of Log-Transformed Shoplifting Frequency.<sup>a</sup>

Variables	Model 1		Model 2		Model 3	
	B	T	B	T	B	T
Gender (male)	.06***	4.22	.01	0.50	.01	1.14
Propensity			.05***	3.44	.03*	2.35
Exposure			.08***	4.89	.06***	3.55
Propensity $\times$ Exposure					.08***	4.73
Determination coefficient $R^2$	.009***		.140***		.236***	

Note. The predictors propensity and exposure are Z-standardized; the interaction term represents the product of the standardized predictors.  $B$  = unstandardized regression coefficient;  $T$  =  $T$ -value.

<sup>a</sup>Linear regression analyses with clustered robust standard errors.

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

having committed at least one act of shoplifting in the last 12 months, compared to only 2.8% of the females ( $p = .000$ ). The average annual shoplifting frequency of males significantly exceeds that of females (Table 3).

As regards the explanatory factors, males exhibit both a higher level of criminal propensity and more exposure to criminogenic settings. This observation is consistent with the differential exposure hypothesis but does not provide a full test of SAT's argument. SAT actually implies that males are more involved in crime than females because for them high crime propensity and strong criminogenic exposure converge more frequently. In line with this proposition, data show that among males a high propensity for shoplifting combines with an elevated shoplifting-conducive exposure nearly twice as often as among females (42.2% vs. 22.9%;  $p = .000$ ). The risk of facing this, particularly criminogenic propensity-exposure combination, is 1.84 times higher for males compared to females.

The significance of the gender difference in shoplifting activity is also confirmed by linear regression models predicting log-transformed shoplifting frequency. Model 1 in Table 4 demonstrates that males are more likely to shoplift than females. This gender effect vanishes as soon as explanatory variables derived from SAT are introduced into the analyses. Controlling for the main effects of crime propensity and criminogenic exposure suffices to explain away the gender gradient (Model 2 in Table 4). Additionally, including the propensity-exposure interaction—the multiplicative term capturing the dependency of the environmental effect on an individual's propensity to shoplift—does not change the picture (Model 3 in Table 4). In total, the unstandardized gender coefficient drops from 0.0611 to 0.0125, which equals a reduction by 80%. These findings suggest that SAT clearly has the potential to account for the gender divide in juvenile shoplifting.

The last model can also be read as a partial test of SAT's power to explain adolescent shoplifting, controlling for gender. It becomes apparent that propensity and exposure are significantly related to offending as is their interplay. The postulated propensity-exposure interaction is accorded significance: Criminogenic exposure increases shoplifting particularly when the

**Table 5.** Predictors of Log-Transformed Shoplifting Frequency Differentiated by Gender.<sup>a</sup>

Variables	Females				Males			
	Model 1		Model 2		Model 1		Model 2	
	B	T	B	T	B	T	B	T
Propensity	.04**	3.03	.04***	3.59	.06*	2.51	.02	1.05
Exposure	.05***	3.25	.04***	3.81	.11***	4.04	.09**	2.86
Propensity × Exposure			.09***	3.86			.08***	3.28
Determination coefficient R <sup>2</sup>	.108**		.275***		.154***		.221***	

Note. The predictors propensity and exposure are Z-standardized; the interaction term represents the product of the standardized predictors. B = unstandardized regression coefficient; T = T-value.

<sup>a</sup>Linear regression analyses with clustered robust standard errors.

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

propensity to shoplift is high. Exposure seems to be somewhat more influential than propensity, but in essence, it is their interaction that counts. The product term exhibits the highest *t*-value, indicating that the interaction contributes most to the explanation of the response variable. This conclusion is also supported by the fact that including the multiplicative term raises the proportion of explained variance from 14% to 24%. In all, the observation that the impact of exposure to crime-conducive settings depends on the level of crime propensity—with criminogenic exposure predicting shoplifting activity especially among individuals with high crime propensity—provides firm support for a core proposition of SAT.<sup>11</sup>

### Generalizability Problem

To assess whether the postulated effect dynamics are invariant across gender, separate regression analyses were conducted for females and males. For both female and male respondents, log-transformed shoplifting frequency was regressed on crime propensity, criminogenic exposure, and their interaction (Model 2 in Table 5). The results reveal considerable homogeneity across subgroups. The presumed interplay of propensity and exposure is evident for females and males. The corresponding interaction term turns out to be significant among both genders: Females and males with a high propensity to shoplift are more affected by shoplifting-conducive exposure than their low-propensity counterparts. In other words, the effect of exposure to criminogenic settings on young people's shoplifting activity is stronger for those with a high crime propensity, and this finding applies to both female and male respondents.<sup>12</sup>

Figure 1 gives the respective interaction diagrams. It can be seen that shoplifting-related exposure makes a difference when the propensity to shoplift is high but not when the propensity is low, and that this is the case both among females and males.

A detailed inspection of the group-specific regression results reveals that SAT's explanatory power is slightly greater for females' shoplifting delinquency. The proportion of explained variance is 28% for female and 22% for male (logged) shoplifting frequency. This difference is too small to warrant deeper conclusions.

A comparison of the gender-specific regression models hints at slight differences in the conditional first-order slopes. To assess whether the regression weights of propensity, exposure, and their interaction vary significantly across gender, a three-way interaction model was estimated (Table 6). This model includes all possible two-way interaction terms (Gender × Propensity, Gender × Exposure, Propensity × Exposure) and the corresponding three-way interaction term (Gender × Propensity × Exposure). Its results show that neither the simple propensity or exposure effects nor

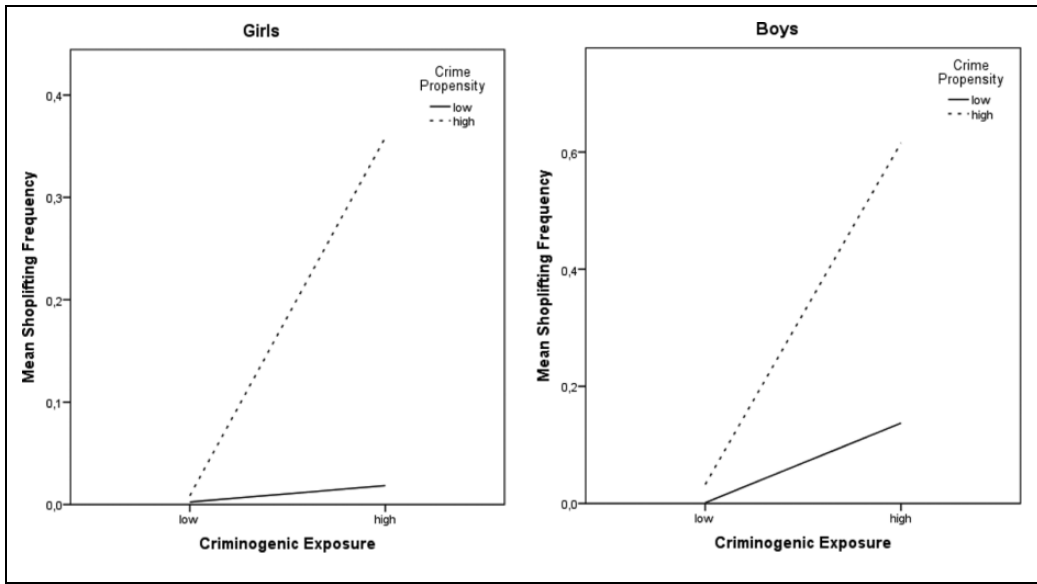


Figure 1. Interaction diagram (Propensity and exposure are dichotomized at the median).

Table 6. Generalizability of the Predictors of Log-Transformed Shoplifting Frequency.<sup>a</sup>

Variables	B	T
Gender (boy)	.02	1.32
Propensity	.04***	3.59
Exposure	.04***	3.81
Propensity × Exposure	.09***	3.86
Gender × Propensity	-.02	1.26
Gender × Exposure	.05	1.62
Gender × Propensity × Exposure	-.01	0.39
Determination coefficient R <sup>2</sup>	.241**	

Note. The predictors propensity and exposure are Z-standardized; gender is included as raw score. B = unstandardized regression coefficient; T = T-value.

<sup>a</sup>Linear regression analysis with clustered robust standard errors.

\*p ≤ .05. \*\*p ≤ .01. \*\*\*p ≤ .001.

the impact of the propensity–exposure interaction differ significantly between female and male respondents.<sup>13</sup> This observation once again backs the generalizability assumption.

### Sensitivity Analyses

The previous analyses are based on a linear modeling approach. Linear regression maximizes the chances for detecting significant interaction effects but entails the risk of taking floor or ceiling effects for interaction (Osgood, Finken, & McMorris, 2002). Besides, as outlined in the methodological section of this article, skewed crime frequency measures violate crucial assumptions of ordinary least squares (OLS) regression models, which may result in biased standard errors and test statistics.

To assess whether the findings are robust in a nonlinear framework, the linear models were reestimated as logistic regression analyses. Binary logistic regression was selected for the sensitivity analyses, because for this technique, a special procedure for examining (total) interaction effects is available—the so-called INTEFF procedure developed by Ai and Norton (2003). Remember that in nonlinear models, the form of the function that links the dependent variable to the linear combination of the independent variables (often the log or the logit) forces the marginal effect of each predictor variable to be conditional on the value of each predictor in the model, rendering a significant product term neither necessary nor sufficient for claiming interaction (Berry et al., 2010; Bowen, 2012). Drawing on partial derivatives, INTEFF computes specific total interaction effects for each observation in a data set, which are then averaged and equipped with standard errors. These total interaction effects combine both the model-inherent interaction that stems from the form of the employed link function and the interaction associated with the introduction of a product term.

Since Ai and Norton (2003) have implemented their procedure only for models with binary response variables, examining the robustness of the findings gained in a linear context was carried out by means of a series of logistic regression analyses. For this purpose, shoplifting frequency had to be dichotomized to a prevalence measure, with 0 indicating the absence of any acts of shoplifting in the year preceding the survey and 1 denoting the involvement in at least one act of shoplifting. Owing to the low prevalence of shoplifting in the sample (5.1%) and the fact that only 1% of the respondents reported five or more acts of shoplifting, this categorization results in little loss of information.

Appendix Tables A2 and A3 give the results of the logit analyses. In essence, the findings of the OLS models are replicated. Boys are more likely to be involved in shoplifting than girls. The gender effect loses its significance as soon as crime propensity and criminogenic exposure are added to the models. The INTEFF procedure provides firm evidence of interaction<sup>14</sup>: The impact of exposure on the prevalence of shoplifting is significantly greater among individuals of high crime propensity. And last but not least, this pattern of interaction emerges both among males and females. In all, these findings demonstrate that SAT can successfully deal with both the gender ratio and the generalizability issue regarding adolescent shoplifting delinquency.

## Conclusions

One of the core findings of previous criminological inquiry is that males commit more crime than females (Steffensmeier & Allan, 1996). Knowledge about the causes of this gender gap has remained scarce, however. Although numerous theories have been applied to the gender difference in criminal involvement (Agnew, 2009), none has proven to be capable of entirely accounting for the male crime surplus. This is true also for the gender gradient of adolescent shoplifting, which—surprisingly in light of the prevalence of the crime—has not received much empirical attention.

The present study examines both SAT's potential to explain why males are more likely to shoplift than females and whether the key concepts of the theory relate similarly to male and female shoplifting. Regression models based on survey data from nearly 3,000 Austrian adolescents suggest that SAT can successfully deal with both the gender ratio and the generalizability issue regarding adolescent shoplifting.

Descriptive results show that males commit more acts of shoplifting than females. Entering shoplifting propensity and shoplifting-related criminogenic exposure, as well as their interaction, into regression equations reduces the gender effect by 80% and renders it insignificant. The absence of any significant gender gap after controlling for these variables supports SAT's explanation of why males are more involved in shoplifting than females.

Gender-specific analyses reveal that SAT not only helps to explain the gender effect but is also valid for males and females. Among both male and female respondents, a significant

propensity–exposure interaction emerges; the effect of criminogenic exposure grows when propensity for crime increases. This interaction effect does not differ between males and females; for both genders, exposure to shoplifting-conducive settings affects shoplifting frequency particularly among individuals with a high propensity to steal from shops. Male and female adolescents with a low propensity to shoplift appear to be more resistant to criminogenic influences from the environment.

These findings also provide strong support for SAT in general. Leaving gender aside, the hypothesized interplay of crime propensity and criminogenic exposure accounts for young people's shoplifting, adding further evidence to the conclusion that SAT is a general theory of criminal conduct (Wikström, 2006).

In sum, our results provide more evidence for the differential exposure hypothesis than they corroborate the vulnerability hypothesis. The causes of shoplifting delinquency are distributed unevenly between the genders, but their relationship to shoplifting is by and large the same for males and females. Males report higher levels of criminal propensity and criminogenic exposure than females, which means they spend more time in criminogenic contexts to which they are more susceptible. It is this more frequent convergence of crime-driving personal and environmental factors among males that explains their heavier involvement in shoplifting; the impact of this particularly criminogenic propensity–exposure combination is identical for male and female adolescents.

As with all research, there are some methodological limitations of this study that must be addressed.

First of all, the cross-sectional nature of the present work implies problems for establishing causality. The outcome variable (shoplifting frequency in the year preceding the survey) dates from before the employed predictors, which is standard operating procedure for this kind of study and is discussed in detail elsewhere<sup>15</sup> (Wikström et al., 2012, pp. 129–131). However, there is little reason to assume that prior offending creates specific types of interaction between the utilized explanatory factors. Furthermore, the main objective of this study is to tackle the gender divide in shoplifting, and gender may certainly be regarded as a very stable characteristic that is not subject to change over time.<sup>16</sup>

Limitations also result from our measurement of SAT's central concepts. The fact that our measure of shoplifting-related morality combines cognitive beliefs with the emotions of guilt and shame is certainly a strength, at least compared to other tests of SAT which often draw solely on moral beliefs (e.g., Haar & Wikström, 2010; Svensson & Pauwels, 2010). However, our measure of the ability to exercise self-control only partially reflects the concept as defined in SAT. The employed attitudinal self-control measure is strongly influenced by the Grasmick, Tittle, et al.'s (1993) scale, which was developed to capture self-control in the sense of Gottfredson and Hirschi (1990) and at best depicts the ability to withstand current temptations and provocations. Certainly, it is not an exact operationalization of the capability of resisting situational incentives or external pressures to act against one's own personal morals (Wikström & Treiber, 2016). Future research testing SAT without doubt needs measures of self-control that are more in line with the definition of the concept within the theory.

Another weakness is our incomplete measure of exposure to shoplifting-conducive settings. Although potent enough to account for the gendered nature of adolescent shoplifting activity, it nevertheless fails to fully capture the level of shoplifting-related criminogenic exposure. The amount of time spent in shops or the presence (or absence) of people other than peers is not included in our operationalization. This deficiency may lead us to underestimate the explanatory contribution of shoplifting-relevant exposure. On the other hand, it is well known that, due to projection bias and false consensus effects, indirect measures of peer delinquency tend to overestimate the influence of delinquent friends on respondents' behavior (Rebellon & Modecki, 2013).

Besides, association with delinquent peers is a justifiable, but somewhat atypical measure of the moral context and therewith exposure to criminogenic settings. Other studies testing SAT have relied on lifestyle risk (e.g., Svensson & Pauwels, 2010; Wikström & Butterworth, 2006) or time spent in settings with low collective efficacy (e.g., Wikström, Ceccato, Hardie, & Treiber, 2010; Wikström et al., 2012) as a measure of criminogenic exposure. The employed scales of lifestyle risk usually include involvement with delinquent friends as one empirical indicator among others. Nevertheless, neither does our measure of exposure capture the amount of time respondents spend together with crime-prone peers in specific shops nor does it provide a really situational analysis of setting criminogeneity and the commitment of acts of shoplifting. Beyond all doubt, the space-time budget (Wikström et al., 2012) represents a more promising approach to tapping into the situational nature of criminal activity. The space-time budget provides a detailed hour-by-hour measure of criminogenic exposure that allows to overcome the deficiencies of generalized survey measures of exposure to high-risk environments. Measuring exposure and action at the same point in time are key to adequately testing SAT.

It is also true that our measure of deterrence is not located at the situational level. Decontextualized generalized perceptions of detection risk may capture more the respondents' overall sensitivity to risk than they depict their exposure to settings with varying deterrent capacities (Wikström, 2008). Generalized risk perceptions do not allow to relate the deterrent quality of a specific setting to the behavioral response. Hence, it remains open to what extent deterrence perceptions are shaped by exposure to certain settings and whether an individual refrains from offending due to the deterrent character of a given setting. These are issues that should be addressed in future inquiries on SAT.

And, of course, owing to experiential (Saltzman, Paternoster, Waldo, & Chiricos, 1982) and selection effects (Matsueda & Anderson, 1998), the cross-sectional nature of our study and with this the temporal ordering of the concepts become especially problematic in the case of peer delinquency and perceived sanction risk.

Finally, it remains unclear to what extent our findings generalize to other crimes. Juvenile shoplifting differs from other offenses in the sense that it is an instrumental crime that is often committed in groups, normally causes little damage, and satisfies common adolescent goals (Klemke, 1992).<sup>17</sup> Whether our results are also valid for more serious types of crime is a question for future research.

Overall, our findings support the assertions of SAT that gender is related to crime propensity and criminogenic exposure and their intersection, and that these factors can explain male and female offending equally well, while at the same time accounting for the skewed gender ratio in crime involvement. The next question we must ask is "Why are there gender differences in crime propensity and criminogenic exposure?" The complex causal chain between gender and crime propensity or criminogenic exposure marks a worthwhile field for future research. In this article, we have tested SAT's situational model, but the theory has been enriched with developmental and social models to explain the emergence of people and settings and the processes of selection which bring them together (Wikström, 2005; Wikström & Treiber, 2016). Exploring these processes in relation to gender may provide further insights into existing differences in and the (causes of the) causes of male and female patterns of crime involvement. Svensson, Pauwels, Weerman, and Bruinsma's (2016) initial test of gendered socialization processes may represent a good starting point.

In a broader sense, the reported findings suggest that integrative theories comprising both personal and environmental factors (and especially their interaction) are more effective in explaining the gender ratio of criminal behavior than traditional one-sided theories. The major criminological perspectives which often emphasize either person- *or* environment-oriented influencing factors often fail to *fully* account for the relationship between gender and offending (Agnew, 2009). Usually they can explain parts but not all of the gender gap in juvenile delinquency (Weerman et al., 2015). Hence, for obvious reasons, it will make sense to examine how successful other theories focusing on

person–environment interactions—such as Wright, Caspi, Moffitt, and Silva’s (2001) life-course model of interdependence or Hay and Meldrum’s (2016) life-course self-control theory—can address the gendered nature of adolescent shoplifting or juvenile delinquency in general.

## Appendix

**Table A1.** Measures.

Shoplifting	How many times have you taken something from a shop without paying for it in the last 12 months? (___ times)
Morality	How wrong is it to steal a music CD from a shop? ( <i>very wrong</i> = 1, <i>wrong</i> = 2, <i>a little wrong</i> = 3, <i>not wrong at all</i> = 4) Would you feel guilty if you stole something from a shop? ( <i>yes, very much</i> = 1, <i>yes, a little</i> = 2, <i>no, not at all</i> = 3) If you were caught shoplifting and your parents found out about it, would you feel ashamed? ( <i>yes, very much</i> = 1, <i>yes, a little</i> = 2, <i>no, not at all</i> = 3)
Self-control	I often act on the spur of the moment without stopping to think. I often try to avoid things that I know will be difficult. I lose my temper pretty easily. When I am really angry, other people better stay away from me. I often take a risk just for the fun of it. Sometimes I find it exciting to do things that are dangerous. ( <i>strongly agree</i> = 4, <i>mostly agree</i> = 3, <i>mostly disagree</i> = 2, <i>strongly disagree</i> = 1)
Moral context	Most of my friends think it is okay to take something away from a shop without paying for it. ( <i>strongly agree</i> = 4, <i>mostly agree</i> = 3, <i>mostly disagree</i> = 2, <i>strongly disagree</i> = 1) How many of your friends stole something from a shop in the last 12 months? ( <i>none</i> = 1, <i>a few</i> = 2, <i>most of them</i> = 3, <i>all</i> = 4)
Deterrence	Do you think there is a great risk of getting caught if you steal a CD in a shop? ( <i>no risk at all</i> = 3, <i>a small risk</i> = 2, <i>a great risk</i> = 1, <i>a very great risk</i> = 0) Do you think you would be in great trouble if you got caught shoplifting? ( <i>no trouble at all</i> = 3, <i>a little bit of trouble</i> = 2, <i>much trouble</i> = 1, <i>very much trouble</i> = 0)

**Table A2.** Predictors of Shoplifting Prevalence.<sup>a</sup>

Variables	Model 1		Model 2		Model 3	
	B	Z	B	Z	B	Z
Gender (male)	0.99***	4.25	0.34	1.38	0.31	1.30
Propensity			0.72***	5.30	0.87***	5.88
Exposure			1.11***	7.45	1.22***	6.07
Propensity × Exposure (INTEFF)					0.02***	4.47
Pseudo R <sup>2</sup>	.027***		.339***		.340***	

Note. The predictors propensity and exposure are Z-standardized; the interaction term represents the product of the standardized predictors. B = unstandardized regression coefficient; Z = Z-value.

<sup>a</sup>Logistic regression analyses with clustered robust standard errors.

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



**Table A3.** Predictors of Shoplifting Prevalence Differentiated by Gender.<sup>a</sup>

Variables	Females				Males			
	Model 1		Model 2		Model 1		Model 2	
	B	Z	B	Z	B	Z	B	Z
Propensity	1.07***	5.66	0.92***	4.16	0.59***	3.84	0.87***	5.41
Exposure	0.94***	6.79	0.68**	3.17	1.16***	6.07	1.34***	5.71
Propensity × Exposure (INTEFF)			0.02***	3.33			0.01***	4.49
Pseudo R <sup>2</sup>	.361**		.366***		.307***		.312***	

Note. The predictors propensity and exposure are Z-standardized; the interaction term represents the product of the standardized predictors. B = unstandardized regression coefficient; Z = Z-value.

<sup>a</sup>Logistic regression analyses with clustered robust standard errors.

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

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### Notes

1. We use the concept of “gender” rather than “sex,” because in this article we write in a sociological tradition and do not focus on biological differences between males and females.
2. For example, in Germany, 50% of all incidents of shoplifting reported to the police in 2011 involved stolen goods worth less than €15 (Bundeskriminalamt, 2012).
3. Theories explicitly focusing on the gendered nature of criminal activity are rare (e.g., Hagan, 1989; Hayslett-McCall & Bernard, 2002; Messerschmidt, 1993; Steffensmeier & Allan, 1996).
4. Situational action theory’s (SAT) conceptualization of self-control is similar to that of Hay and Meldrum (2016, p. 7) who define trait self-control as capability “of overriding immediate impulses to replace them with responses that adhere to higher-order standards that typically follow from values, social commitments, and interests in long-term well-being.”
5. Some of the core insights of SAT have already been anticipated in Klemke’s (1992, p. 112) *Sociology of Shoplifting*: “When a vulnerable individual is exposed to social influences (...) that make shoplifting attractive, there is a greater likelihood that shoplifting will be (...) chosen.”
6. Gangl (2010, p. 38–39) makes it very clear that nonmanipulable factors such as gender and race have causal significance because they place individuals into socialization patterns and opportunity structures.
7. To achieve this net sample of 92 schools, 115 schools registered by the provincial supervisory school authorities were contacted (80% participation rate).

8. The results reported in this article remain stable when the unweighted data are used.
9. With sampling being based on Grades 7–9, the Austrian International Self-Report Delinquency–2 study draws on a nearly equivalent age-group.
10. Although many characteristics of a setting can contribute to its moral context, one key element is certainly the type of people present in the setting. “[Y]oung people’s exposure to criminogenic settings is dependent on the places they frequent and with whom they . . . frequent them” (Wikström, 2009, p. 257). Although a setting’s moral context is also shaped by other people (e.g., sales staff or adult customers), in the case of young people, peers can be regarded as particularly influential (Warr, 2002).
11. Regression models utilizing untransformed shoplifting frequency as the response variable yield substantively identical results.
12. A replication of the analyses with untransformed shoplifting frequency as dependent variable provides substantively identical results.
13. Fitting the three-way interaction model with untransformed shoplifting frequency as the response variable provides substantively identical results.
14. INTEFF was conducted with Stata Version 14 (StataCorp, 2015).
15. Using lag periods of 1–2 years between measures of propensity and exposure and acts of crime, which is the norm in longitudinal criminological research, is equally problematic, given the perception–choice process being tested occurs over a matter of seconds not years.
16. We are well aware that in singular cases, the gender identity of an individual may change over the life course.
17. Studies on the motivation underlying juvenile shoplifting have found three main driving factors: financial reasons, excitement, and group-related motives (Farrington, 1999; Klemke, 1992). Obtaining thrill and impressing friends through shoplifting activity may be regarded as instrumental motives among adolescents.

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# Consolidation of Police and Fire Services in the United States

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## Abstract

More than 100 municipalities across the United States have consolidated their police, fire, and emergency medical services into a single, consolidated agency. Typical reasons for such consolidation are to reduce costs or improve efficiency. As initial reasons to consolidate change or diminish, some agencies have deconsolidated, but many remained consolidated. In this work, we use perspectives of contingency theory and institutional theory of organizations to explore why agencies may remain consolidated. Using a mixed-methods approach, we first recruited two expert panels of consolidated agency leaders and others knowledgeable about consolidation and deconsolidation across the United States. From these experts, we gathered insight into a broad range of issues related to public-safety consolidation. We then conducted a series of seven case studies among communities chosen for their location and community features, interviewing agency executives and line staff as well as local officials. We found contingency theory helps explain why many of these agencies consolidate. We also found, as institutional theory would predict, that many conformed to standards of other bodies or even created their own “cultural” standards. This work highlights the importance of both theoretical perspectives in assessing the growth and persistence of these agencies.

## Keywords

police, fire, public-safety consolidation, contingency theory, institutional theory

## Introduction

In recent years, local governments have struggled to maintain public-safety services. Five years after the “Great Recession,” most U.S. municipalities had not returned to their prior revenue and employment levels (House, 2013). Such problems persisted for police and fire services, the second largest category of expenditures for U.S. local government (U.S. Census Bureau, 2015). A recent

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Police Executive Research Forum (PERF, 2014) survey found three in four U.S. police agencies expect continuing budget cuts and force reductions.

In the face of such challenges, many local police agencies have implemented hiring freezes, layoffs, furloughs, or even disbandment (Office of Community Oriented Policing Services, 2011; Melekian, 2012; PERF, 2010; Wilson, Dalton, Scheer, & Grammich, 2010). Others have explored differing modes of service delivery, greater sharing of services with other communities, contracting for services, and merging of agencies (Chermak, Scheer, & Wilson, 2014; Wilson, Weiss, & Grammich, 2016; Wilson & Grammich, 2012, 2017).

One approach that has grown in the recent years is consolidating police, fire, and emergency medical services into a single “public-safety” agency. There are now more than 130 such agencies in the United States; about one in four of these have been established in the past decade (Wilson, Hollis, & Grammich, 2016). While less documented elsewhere, consolidated public-safety agencies have also been extant in Canada, Germany, Japan, and the United Kingdom (International Association of Fire Fighters and International Association of Fire Chiefs, n.d.; Morley & Hadley, 2013; Rosen, 2010). Indeed, in the United Kingdom, the Cameron (2015) government has called for “police, fire and ambulance services to work more closely together to save money and improve their effectiveness.”

While the number of such agencies is growing, several have deconsolidated over time (Wilson & Grammich, 2015). Among reasons cited for deconsolidation has been the need for greater specialization, particularly in growing areas or those with significant homeland-security duties, the failure to reflect changing community characteristics, and the need for administrative streamlining. Such deconsolidations pose a question for consolidated agencies: Why do they persist?

This article explores why communities have maintained consolidated public-safety agencies. It explores the extent to which two types of organizational theory—contingency theory and institutional theory—may explain the origins and persistence of consolidated public-safety agencies. We review seven communities that consolidated their police and fire services between the 1950s and 1980s. The decades since in these communities provide a sufficient time period to explore the challenges such agencies have faced, including, for some, protracted transition periods. The lessons of this work can help communities that have adopted, or are considering, the model understand how it may best function.

We begin with a review of previous research on the origins and operations of public-safety agencies and their place within the context of research on police organization. We then summarize our methods for this research, including our approach to selecting and exploring our case-study communities and what we learned from them. We conclude with lessons from our case studies for other communities and police organization research, suggesting directions for future work.

## **Literature Review**

### *History and Forms of Public-Safety Consolidation*

Public-safety consolidation dates back to ancient Rome, when city watchmen executed both firefighting and law enforcement duties (Morley & Hadley, 2013). In the 19th-century Britain, special constables provided both police and fire services; this practice persisted until World War II, when, faced with the fire bombings of the war, Parliament nationalized and separated police and fire services (International Association of Fire Fighters and International Association of Fire Chiefs, n.d.). Similarly, both Germany and Japan had consolidated police and fire service until after World War II, when the Allies, deeming such a combination undesirable, reorganized and separated police and firefighting activities (International Association of Fire Fighters and International Association of Fire Chiefs, n.d.).

Yet, the British government is again exploring consolidation to improve government efficiency and effectiveness (Cameron, 2015). In Hampshire, county council officials first explored administrative consolidation of police, fire, and rescue services in response to cuts in national government subsidies and increased demands for social services (Lloyd, 2014). A firefighters' union expressed concern about sharing of facilities with police, particularly for firefighter training (BBC, 2014). Nevertheless, as of early 2016, the county government was pursuing further consolidation of these services, with the national government seeking to make consolidation easier elsewhere (Streatfield, 2016).

In North America, a consolidated agency for police and fire services first appeared in Quebec in 1857 (International Association of Fire Fighters and International Association of Fire Chiefs, n.d.). Within the United States, consolidated agencies first appeared in the early 20th century (Matarese, Chelst, Fisher-Steward, & Pearsall, 2007). U.S. communities considered consolidation for its perceived efficiency and cost-effectiveness (Ayres, 1957). Organized labor and firefighters resisted it on the grounds that consolidating police and fire services would lead to inadequacies in both services (Bernitt, 1962; International Association of Fire Fighters and International Association of Fire chiefs, n.d.; Wall, 1961).

Interest grew with citizen demands for more and better services without tax increases (Berenbaum, 1977). Those supporting public-safety consolidation posited that it leads to more contact of officers with the public, better response times, better career opportunities for officers, and cost-effectiveness; those opposing it raised concerns such as extensive training requirements, inapplicability to larger jurisdictions, and apprehension about individual positions (Crank & Alexander, 1990; Farr & Daniel, 1988; Lynch & Lord, 1979; Wilson, Weiss, & Grammich, 2016.).

### *Organizational Theory and the Consolidation of Police and Fire Services*

Organization theory—particularly contingency theories (Donaldson, 1995; Maguire, 2003) and institutional theories (Crank & Langworthy, 1992, 1996; Meyer & Rowan, 1977; Zucker, 1987)—offers insights into why communities may consolidate their police and fire agencies and maintain such consolidation. Police scholars have frequently drawn upon these theories to examine many police organization issues. Some works have even combined insights of both these theories in exploring topics such as disbanding of police agencies (W. R. King, 2014), racial profiling (Miller, 2013), and community policing (Wilson, 2006).

Contingency theory holds that organizational characteristics such as size, age, task variety, and environment determine structure and activities. Contingencies are characteristics or events that depend on one another. Managers help the organization adapt to its environment through better-fitting structures (Donaldson, 1995). Organizations seek to fit their “structure to the task contingency to yield operational effectiveness” (Donaldson, 1995, p. 27), “adapt[ing] to their environments by adopting an internal organizational structure that fits their contingency factors (e.g., strategy), which in turn fit the environment” (Donaldson, 1995, pp. 29–30). When an organization’s structure does not fit its environment, it will fall into “misfit,” and the organization will subsequently work “to restore effectiveness and performance” (Donaldson, 1995, p. 33) or to restore “fit.” Altogether, contingency theory suggests that communities may consolidate police and fire services if the transition would improve the delivery and successfulness of services. As noted earlier, and as we will see in case studies, increasing effectiveness and efficiency of services is a common motivation for consolidation. Contingency theory has been applied to policing issues such as community policing (Maguire, Uchida, & Hassell, 2015; Morabito, 2008, 2010), homeland-security preparedness (Haynes & Giblin, 2014), police misconduct (Eitle, D’Alessio, & Stolzenberg, 2014), police responses to human trafficking (Farrell, 2014), drug arrest rates (Eitle & Monahan, 2009),

mandatory arrest policies (Eitle, 2005), development of crime analysis units (Giblin, 2006), and campus law enforcement agency operations (Paoline & Sloan, 2003).

Institutional theory holds that public-safety agencies may develop in response to their institutional environment. An organization's institutional environment may be shaped by its regional characteristics or external entities such as professional organizations. Formal organizational structures may also come to reflect rationalized institutional rules (Meyer & Rowan, 1977). Put another way, institutional theory suggests police organizations need to conform to rules or even to foundational "myths" of sanctioning organizations. Similarly, organizational forms and behaviors may "take the form that they do because of prevailing values and beliefs that have become institutionalized" and that are "recognized as valued natural communities where self-maintenance becomes an end in itself" (Crank & Langworthy, 1992, p. 346). As we will see in our case studies, public-safety organizations may evolve to conform to the standards of sanctioning bodies, such as those of the Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA<sup>®</sup>) and the Commission on Fire Accreditation International (CFAI). Some may even develop their own "culture" and norms which they consider in choosing among new applicants so as to maintain the "valued natural communities" they have developed.

Institutional theory has been applied to issues such as community policing (Burruss & Giblin, 2014), homeland-security practices (Burruss, Giblin, & Schafer, 2010), intelligence-led policing (Darroch & Mazzerole, 2013), minority hiring and promotion (Gustafson, 2013), arrests of the mentally ill (Morabito, 2007), hate crime law enforcement (R. D. King, 2007), and gang units (C. M. Katz, 2001).

To explore the extent to which contingency and institutional theories of organization may explain the consolidation of police and fire services, we conducted in-depth case studies of seven agencies. All these agencies have similar levels of consolidation. In contrast to agencies that may have only "nominal" consolidation of administrative functions, in which only administrative functions may be shared, all these agencies have cross-trained public-safety officers who perform both police and firefighting duties. They also have a single chief of public safety and fully merged administrative functions (for more on levels and types of public safety consolidation, see Wilson & Grammich, 2015, and Lynch & Lord, 1979). They do, however, differ in how they approach their daily tasks. We turn next to our methods, including how we selected our case study communities.

## **Methods**

We sought to gather rich detail about the issues communities face as they consider and implemented consolidation of public-safety services. Using a mixed-methods approach, we undertook three tasks.

First, we recruited two expert panels to discuss public-safety consolidation. Using a semistructured discussion protocol, we asked about a broad range of issues, including impetus for change, transition processes and cultural change, fire suppression, mutual aid, provision of mutual services, medical services, first-line supervision, conflicts of interest, efficiency and outcomes, and community policing. We held the first panel in February 2012 in Grand Rapids, Michigan, with 12 mid- to senior-level police, public-safety, and accreditation officials knowledgeable about public-safety consolidation in Michigan, where the public-safety model is most prevalent (Wilson, Hollis, & Grammich, 2016). We held the second panel in March 2012 in Dallas, Texas, with nine current and former police, fire, and public-safety chiefs and directors knowledgeable about consolidation and deconsolidation across the United States.

Second, we conducted a series of case studies of communities that have consolidated their police and fire services. We developed a diverse sample of communities that varied by location and community features. For each, we interviewed line staff across functions, public-safety executives,

and local officials. Our case-study communities were Aiken, South Carolina; Ashwaubenon, Wisconsin; East Grand Rapids, Michigan; Glencoe, Illinois; Highland Park, Texas; Kalamazoo, Michigan; and Sunnyvale, California. Table 1 summarizes characteristics of these communities. These communities range in population from 8,000 to more than 140,000, and in area from 2 to 25 square miles. Uniform Crime Report (UCR) Part I Crime rates in 2012 ranged from 648 to 5,771 per 100,000 residents. Three of the seven agencies have CALEA accreditation; nationwide, 20–33% of police agencies with 25 to 300 employees (the range for all our case-study agencies) have such accreditation (Cordner & Gordon, 2011). One of the case-study communities, Glencoe, has CFAI accreditation; nationwide, only about 200 fire departments have received this accreditation (CFAI, 2014).

Finally, to complement the primary data collection, we reviewed existing information about public-safety consolidation. This included information about the case-study communities specifically and about public-safety consolidation and police organizational theory generally. Existing resources on public-safety consolidation are few and vary greatly in methodological rigor, but they help provide additional context for our data and lessons.

## Findings

For each location, we present information on background characteristics, origins of consolidation, and reasons why consolidation may have persisted. In earlier similar research (Wilson & Grammich, 2015), we explored the reasons why consolidation has failed. We found in many deconsolidation communities that while some contingencies may have led to consolidation, these contingencies later changed or institutional norms ultimately spurred deconsolidation. Here, we will see continuing contingencies, or even evolving institutional norms, have led to maintenance of consolidation.

### *Aiken, South Carolina*

Aiken, in upstate South Carolina, expanded rapidly in the 1950s after a federal government nuclear reservation, the Savannah River Site, was built to develop materials for nuclear weapons. It first considered public-safety consolidation in 1960, but the police and fire departments did not merge until 1970. To achieve integration of police and fire services in the 1970s, the department consolidated administrative functions, had police officers attend firefighter training, and had firefighters attend basic law enforcement training.

Support of local leaders was vital to the transition. A former official told us, “When you first do this, there is going to be both positive and negative stories on the local television station and in the local newspapers. Everybody needs to know upfront that this isn’t going to be easy, but you need to stay with the plan, support the plan . . . Staff knew what the program was: they could accept the change or seek employment elsewhere.”

In the 1980s and 1990s, the city grew significantly due to expansion of the Savannah River Site. As it grew, the public-safety department achieved several milestones. These included CALEA accreditation and an improved fire-services rating, creation of a special-response team, upgraded training facilities, and opening of two additional public-safety stations. In 2013, the department had 135 full-time employees (89 sworn) and 33 part-time, seasonal, or volunteer workers. Anderson, South Carolina, with a 2010 population of 26,686, had a police force of 147 police personnel (95 sworn) as well as a firefighting force of about 60 personnel (City of Anderson, 2012, 2014) at the time of our research.

Aiken public-safety officers respond to a variety of crimes and emergencies. While its UCR Part I Crime rate was highest among the communities we considered, it was lower than that for Myrtle

**Table 1.** Characteristics of Public Safety Consolidation Case-Study Communities.

Community	Total Population, 2010	Land Area, square miles	Persons per square mile	% <18 years	% 65+ years	% Single-race non-Hispanic White	% 25+ Years With Bachelor's Degree	Per-Capita Income (2012 Dollars)	Home-Ownership Rate, %	UCR Part I Crimes per 100 K Population, 2012	CALEA <sup>®</sup> CFAI
Aiken	29,524	20.7	1,426	19.6	21.9	65.5	44.5	32,312	67.8	5,771	Yes
Ashwaubenon	16,963	12.4	1,369	21.2	14.6	89.1	27.6	31,204	62.8	4,086	No
East Grand Rapids	10,694	2.9	3,650	31.6	9.7	94.3	76.6	52,893	91.1	648	No
Glencoe	8,723	3.7	2,224	31.6	14.4	92.0	84.1	99,036	93.1	1,073	Yes
Highland Park	8,564	2.2	3,823	26.8	17.2	91.6	81.5	122,811	82.3	2,829	Yes
Kalamazoo	74,262	24.7	3,009	20.5	9.4	65.6	32.3	18,402	46.3	5,050	No
Sunnyvale	140,081	22.0	6,371	22.4	11.2	34.5	56.9	45,636	46.3	1,898	No

Note. CFAI = Commission on Fire Accreditation International; CALEA = Commission on Accreditation for Law Enforcement Agencies. Uniform Crime Report (UCR) Part I crimes are murder and nonnegligent manslaughter, forcible rape, robbery, aggravated assault, burglary, larceny theft, and motor vehicle theft. CALEA<sup>®</sup> and CFAI columns indicate whether agencies have received accreditation from these organizations. Adapted from U.S. Census Bureau (2014); Federal Bureau of Investigation (2013); CALEA<sup>®</sup> (2010); CFAI (2014).

Beach and Anderson, the South Carolina cities closest to it in population. Aiken has suffered relatively few structure fires: less than one weekly in 2011. Equipped public-safety officers can, a former official said, handle more typical small fires: “If you get five or six public-safety officers on a fire early, then you can put out a lot of them, and won’t need a bigger response.” Rescue and emergency medical service calls were more common for which the city relied on county efforts.

New public-safety officers in Aiken have undergone police, fire-fighting, and emergency medical services training. The department has provided training to its personnel throughout the year, including more than 14,000 hr in 2010. The department has also sought to manage cultural issues that may arise. Police officers and fire fighters, the former Aiken public-safety official said, “have different personalities” and may also have different levels of fitness and education in some communities. One way the department has avoided cultural conflict, the former chief said, has been to emphasize developing its own officers rather than hiring those from elsewhere who may be “ingrained” in other ways. “We hire those that we teach and teach them what we want them to learn,” he said.

The persistence of the public-safety model in Aiken may be attributable to both contingency and institutional influences. The agency has provided police and fire services with fewer personnel than a nearby comparable community and has maintained a lower crime rate than South Carolina cities of its size, thereby keeping in “fit” with what may reasonably be expected of an agency in its area. The agency has also grown with its community. At the same time, the agency has conformed to institutional norms, such as those promulgated by CALEA, and also sought to develop its own “culture,” differing from that of police and firefighter agencies, through its hiring.

### *Ashwaubenon, Wisconsin*

Ashwaubenon borders Green Bay and partially includes two of the city’s most notable landmarks: Lambeau Field, home of the Green Bay Packers football team, and Austin Straubel Airport. Ashwaubenon has about one sixth the population and one fourth the area of Green Bay. Brown County, which includes both Ashwaubenon and Green Bay, has a 250,000 population.

Public-safety services have evolved over time in Ashwaubenon. Ashwaubenon organized a volunteer fire company in 1942, adding a second station following rapid population growth in the 1960s. In 1967, Ashwaubenon contracted with the county for a dedicated sheriff’s department officer, adding another one in 1977. In 1973, Ashwaubenon added emergency medical and rescue services, staffed first by volunteers and later by a small number of professionals.

In 1979, the village merged the fire company and the rescue squad. At that time, there was growing support for the village to form its own police department as well. Visits to public-safety departments led village officials to consider its own consolidated agency to offer police, fire, rescue, and emergency medical services. The idea drew some criticism, particularly among those doubting the same personnel could perform all tasks. The chief of the volunteer fire department, however, countered by saying, “If you have a butcher in a packing plant who is also a volunteer fireman, he has to be proficient at both jobs” (Village of Ashwaubenon Department of Public Safety, 2013).

After 6 months of study, the village board voted unanimously in February 1980 to implement a public-safety department. By August 1981, the public-safety department had its own dispatch center, equipment, and 22 full-time public-safety officers. (The village terminated its contract for sheriff’s deputies after the public-safety department completed its first year of service.) The department grew with the population of the village. In 2014, it had 55 employees, of whom 50 were sworn officers and 22 were certified paramedics.

Comparable nearby municipalities in the area have relied on a variety of mechanisms for police and fire services, including merged departments. Allouez (which in 2010 had a population of 13,975) recently merged its fire department with that of Green Bay (Village of Allouez, 2013a). Bellevue (14,570 population) and Howard (17,399 population) have relied mostly on paid on-call

firefighters (Village of Bellevue, 2013; Village of Howard, 2015a). All three contracted with the Brown County Sheriff's Office for law enforcement services (Village of Allouez, 2013b; Village of Bellevue, 2015; Village of Howard, 2015b).

Ashwaubenon public-safety officers responded to nearly 20,000 calls for service in 2012. Of these, nearly one third dealt with traffic offenses. Most crime in the village was relatively minor. Public-safety officers also responded to 67 fire calls, of which only 8, or less than 1 per month, were for building fires. The department has participated in the Mutual Aid Box Alarm System (MABAS) with 18 other communities and Straubel Airport.

Most Ashwaubenon public-safety officers have attended a Wisconsin law enforcement academy prior to joining the department. All must have at least 60 semester hours of college credit. Some have voluntarily sought fire service certification. Wisconsin mandates 24 hr of annual training for police personnel and 18 hr for fire personnel as well as 12 hr for emergency medical technicians and 48 hr of refresher training for paramedics every 2 years. In 2012, Ashwaubenon paid US\$25,000 for police overtime training, US\$13,500 for fire overtime training, and US\$16,500 for emergency medical technician overtime training.

Ashwaubenon has shown a mix of contingency and institutional influences on its public-safety organization. The department evolved to provide police and fire services to its growing community but was able to turn to other communities providing service in nontraditional ways before establishing its own public-safety model.

### *East Grand Rapids, Michigan*

East Grand Rapids, part of the Grand Rapids metropolitan area, was established as a village in 1891 and incorporated as a home-rule city in 1926. Its size at the time of our study was about one twentieth the size and population of Grand Rapids. East Grand Rapids established its public-safety department in 1985 by combining its police and fire departments into one organization (City of East Grand Rapids, n.d.).

The city initially considered consolidation in the 1960s to improve police and fire services. The ultimate transition took time, even after the council approved it in the 1980s. Yet once older personnel had retired, a department leader said, the department, and its employees, succeeded in developing a "public-safety culture" independent of previous police and fire cultures in the city, under which "Firefighters never ha[d] to deal with the personalities that police do, and [we]re always seen as heroes. Police have had to deal with more of the positive and the negative."

Each day, the department leader said, public-safety officers realize they are "going to get a police assignment, a fire assignment, and a medic assignment." Each of the 29 sworn personnel has been trained in law enforcement, firefighting, and medical first response. The department has not qualified all its public-safety officers as emergency medical technicians because the vast majority of its medical service calls have not required such expertise. Altogether, the department leader said, the agency has been one of "generalist specialists." Personnel receive annual training in areas such as weapons qualification, fire strategies and tactics, medical first aid, precision driving, hazardous materials, and patient assessment (City of East Grand Rapids, 2011).

Most service calls have been for traffic enforcement activities (City of East Grand Rapids, 2011). East Grand Rapids has relatively little crime; indeed, it has the lowest crime rate among the communities we studied. It has also had few fire calls, averaging less than 200 such calls per year, with only a handful being for building fires. Most fire service calls have been for false or unfounded alarms, downed utility wires, carbon monoxide alarms, or smoke investigations. The lack of fire calls, and the ability to prove firefighting skills, a department leader told our focus group, may have reduced acceptance of the agency by local fire departments.

City officials have claimed that consolidation helped them improve efficiency. While 40 police and fire personnel once provided service to East Grand Rapids, 30 sufficed in 2014. Another somewhat larger municipality in the Grand Rapids area, Grandville (population 15,596 in 2010), had 28 police officers and a firefighting force of six full-time firefighters and nearly 30 paid on-call firefighters (City of Grandville, 2012a, 2012b). East Grand Rapids officials have contended that consolidation helps it respond to complex incidents. For example, the leader noted that an incident in which a person was pinned under another vehicle would typically have required three agencies to respond—police to maintain traffic, fire to remove the vehicle, and emergency medical services to provide medical response to the victim—but public-safety officers arriving on such a scene can immediately assume the necessary positions.

The department leader also claimed that public-safety consolidation benefits community policing. He said, “[H]av[ing] people trained in different levels” and tasks can ensure the department is ready to respond to many different types of situations with many types of personnel. He recounted, “We had a day with a lost child that we had all guys out on the street, even in an engine, looking . . . I can’t think of any negatives” for community policing.

While the East Grand Rapids consolidation represented a response to a contingency, specifically the need to improve police and fire services, institutional influences may be stronger in the department’s maintenance. These have been evident in both the length of the transition and in the development of a public-safety “culture,” independent of previously existing police and firefighting cultures in the city.

### *Glencoe, Illinois*

Glencoe is a highly affluent, residential lakefront community in north suburban Chicago. At the time of our research, its per-capita income was nearly 4 times the national level and the second highest among the communities we reviewed. Its home-ownership rate was the highest among the communities we studied. Its characteristics have been comparable to neighboring Winnetka (population 12,187, per-capita income US\$102,187).

Glencoe was incorporated in 1869. It became the first community in Illinois to adopt the council-manager form of government in 1914 (Village of Glencoe, 2015). It first considered combining its police and fire departments in 1953 in order to “more efficiently use the time and abilities of personnel in both departments to handle duties that would complement each of the individual service areas” (Harlow, 1994, p. 25). The first efforts toward consolidation trained police officers and firefighters to learn the duties of both positions—making Glencoe the first Illinois community to cross-train police and firefighters. The department integrated paramedic services in 1974. By the early 1980s, integration was virtually complete, and the department devised common branding for all public-safety vehicles. Glencoe received its first CALEA accreditation in 1994. In 2004, it became the first community to be accredited by both CALEA and the CFAI.

In 2013, the department had 42 full-time employees, including a director, a deputy chief, seven lieutenants, and 24 public-safety officers. Winnetka had a police force of 27 sworn officers and 13 civilian employees as well as a fire department with 24 career personnel (Village of Winnetka, 2015; Winnetka Police Department, 2013)—or more than one and one half times the combined number of combined police and fire staff for a population a bit more than one and one third times the size of Glencoe.

Glencoe has had a low crime rate. As a result, relatively few of its calls are for criminal offenses or arrests. In 2011, nearly 18,400 of its 21,138 calls were for other police matters besides criminal offences or motor vehicle accidents; 2,084 of its calls were for fires or emergency medical services.

All sworn employees of the department have been trained and certified as police officers and firefighters. About half the staff has also been certified as paramedics, and a few members have been



certified as fire engineers. The department has used a quarterly rotation system; officers may work on patrol or in station.

Glencoe has participated in MABAS with 18 other fire departments. Because its personnel respond to fire calls in three adjacent communities, they have acquired far more firefighting experience than they would if they had been limited to responses in their own community.

In fiscal year (FY) 2013, the Glencoe Department of Public Safety had a budget of US\$7.6 million, with a per-capita cost of US\$864. Of this budget, US\$6.7 million was spent on personnel; by function, police work accounted for US\$5.3 million of the budget. Winnetka had an annual budget of US\$11.3 million for its police and fire services, with a per-capita cost of US\$929 at the time of our research.

By providing police and fire services at a lower cost than its neighbors, the Glencoe Department of Public Safety has responded to the contingency that municipalities face of providing such services efficiently. Yet institutional influences have been evident in Glencoe, both in the department's pursuit of CALEA and CFAI certification and in the village's history of adopting good government initiatives.

### *Highland Park, Texas*

Highland Park, surrounded by the cities of Dallas and University Park, is about 3 miles north of the Dallas city center. Like Glencoe, Highland Park is a wealthy community, with a per-capita income more than 4 times that of the nation and 5 times that of Texas. It is somewhat comparable to University Park (population 23,068, per-capita income US\$69,075).

Incorporated in 1913, the town initially sought to have a single agency provide police and fire services, with a town marshal in charge of both. When it hired a police chief from Dallas in the 1920s, it developed separate police and fire departments. These departments remained separate until 1977 when the town council voted to consolidate them with emergency medical services in a public-safety department (Fant, 1990).

The transition to a fully consolidated agency took 15 years to implement. It was not complete, a department leader told our focus group, until the last "single-discipline" person from the previously separate police and fire functions retired. From its inception, the department provided incentive pay for cross-trained personnel (Fant, 1990). At the time of our study, it assigned personnel to 24-hr shifts followed by 48 hr off-duty. On each shift, an officer spent 8 hr on patrol and 16 hr in station.

As of 2013, the department had 69 total personnel and 54 sworn personnel; of its 54 sworn personnel, 48 were also paramedics. Altogether, Highland Park has had more than six public-safety officers per 1,000 persons—more than double the 2.9 police and firefighters combined per 1,000 persons that University Park had.

The department first received CALEA accreditation in 1988. It has not pursued complete police and fire accreditation in all specialties, a department leader told our focus group, because it has offered few opportunities for specialization.

The department has sought to build a unique culture that blends an individualistic police culture and a firefighter culture more focused on teamwork but has faced challenges maintaining it. "There is a cultural difference between police and fire in station life," a department leader told our focus group. "Firefighters can step right in because they've lived in a station. But police officers don't know how to handle it. Those kinds of things are difficult to adjust to. The most difficult transition is taking an officer from a major city or a very rural department . . . Our officers have to be able to be individualistic on the street but part of a team in the station."

The agency, a leader said, has worked "with a PhD in axiology to help with hiring and ranking candidates by 18 different characteristics" deemed critical to service in a public-safety department. "In our situation," he said, "there are people who don't want to do both, but they self-select away

from our department, or we do that for them . . . It is reasonable to expect [candidates will] be better at some job tasks than others, but they can be competent at all” tasks.

The department has required applicants to have a 4-year college degree, because previous applicants without such a degree had difficulty completing all department training. Training has remained a challenge, particularly maintaining certification and having personnel participate in regional special weapons and tactics (SWAT) team training. The department has had a sergeant whose sole duties have been to manage training. New personnel have needed 2 years before they are fully qualified for police, fire, and emergency medical services duties.

The department has answered about 12,000 calls for service each year. Traffic citations are the most common call for service, followed by home or business checks, and community contacts. Part I crimes have accounted only for about 200 calls annually, while mobile intensive care unit responses have accounted for about 400 calls and fire responses have accounted for about 600 calls annually.

Public-safety consolidation in Highland Park has not been, as claimed elsewhere, as a means to save money: the agency’s annual costs have been about US\$1,000 per capita. Nevertheless, the community’s affluence, stable finances, and desire for public-safety officers to arrive quickly and know what to do regardless of the situation have all led to continued support for the model. “What sells it in our community,” a department leader said, “is that somebody who arrives at their door in two minutes knows what to do regardless of the situation.”

The organizational influences on Highland Park appear to have been relatively unique among the communities we study. The contingency it has fulfilled, answering the demand for public-safety officers able to handle the widest possible range of scenarios, contrasts with that in most communities for lower cost services. The department has also made considerable efforts to conform to institutional influences, from employing an axiologist to help select among applicants to achieving CALEA accreditation that most agencies of its size do not have.

### *Kalamazoo, Michigan*

Kalamazoo comprises nearly one fourth the population of its namesake metropolitan area. Originally settled by fur traders, and experiencing 19th-century growth as an agricultural and paper manufacturing center, the city experienced growth and decline in the pharmaceutical and automotive industries in the 20th century (City of Kalamazoo, 2013). The population of the city has decreased 13% since 1970, while its per-capita income at the time of our study was less than two thirds the national level.

To operate more efficiently, the city’s police and fire departments merged in 1982, with officers trained in police and firefighting duties. An official for the department told our focus group, “The city manager was the impetus behind it. He pushed the idea because we were in very extreme financial straits.”

Prior to the merger, the city had 160 police officers and 140 firefighters. Yet, an official told our focus group, “We had seven or eight police officers on a shift, but more firefighters [on a shift], even though crime was very high.” Upon implementation of the merger, the city eliminated 21 positions largely through incentives for early retirement. Nevertheless, the official noted the department has managed to put more officers on patrol: “Now we staff 10 in the fire stations and, depending on the time of day, we’ll have 18 public-safety officers on the road . . . The biggest benefit was getting more people on the streets.”

Since the merger, staffing levels have fallen short of initial projections. “The first studies said we’d need 356 public-safety officers,” an official said, “but it was never close to that level. The highest was perhaps 270, [or] 280.” In 2013, the department had 243 public-safety officers.

All Kalamazoo public-safety officers have 4-year degrees as well as Michigan Police-Officer, Firefighter I and II, and Medical First Responder certifications. Kalamazoo has used a private

ambulance company for emergency medical services. It has dispatched officers to assist on emergency medical services calls but recently stopped dispatching fire trucks for such calls because of the cost of doing so.

Calls for police service are the most frequent among the department's types of calls, perhaps in part because of Kalamazoo's relatively high level of serious crime. Kalamazoo has had the second highest crime rate of the seven communities we examined, a rate of about 1.5 times that for the nation. Kalamazoo reports about 90,000 calls for service annually. Its approximately 1,800 fire calls are divided into four categories—working, cooking, vehicle, and outdoor trash or grass—of roughly equal numbers.

Kalamazoo may present the clearest case among our case studies of contingency theory influences on the origins and persistence of a public-safety department. The agency quickly consolidated when the city was in a financial crisis and has remained in “fit” with the community and its contingency for efficient service by finding the model to require even less manpower than originally projected.

### *Sunnyvale, California*

Sunnyvale is the seventh most populous city of the San Francisco Bay area. It is one of the cities comprising Silicon Valley and headquarters to several large firms, including Yahoo! Inc.; it also hosts major facilities for several aerospace and defense companies (City of Sunnyvale, 2013). In addition to its residential population, businesses draw more than 50,000 workers from beyond city limits.

Sunnyvale incorporated in 1912 and soon organized a volunteer fire department (City of Sunnyvale, 2005). In 1914, the city established five departments, including a Department of Public Health and Safety with both police and fire services. Sunnyvale continued its combination of paid police officers and firefighters through the 1940s (City of Sunnyvale, 2005). Adoption of a new city charter in 1949 and hiring of a city manager led to discussion of how to improve public safety, particularly fire safety. The city council considered creating a separate fire department, but the city manager favored a department of public safety for fiscal reasons.

The new Department of Public Safety, created in 1950, included several police officers who became public-safety officers and several newly hired public-safety officers (City of Sunnyvale, 2005). Altogether, about two dozen public-safety employees served a city that had grown to a population of nearly 10,000 across 6 square miles.

The department grew as the city did. By 2013, it had 198 sworn personnel, 81 support personnel, and more than 50 volunteers serving more than 140,000 persons across 22 square miles. It has required police, fire, and emergency medical technician training of all recruits. Officers on police duties have worked four 11-hr days followed by four off-days and must complete an additional nine days of training each year. Fire operations personnel have worked a traditional 24-hr shift schedule. Over time, the department has adopted many innovations in police and fire services evolving elsewhere (City of Sunnyvale, 2005). These have included a SWAT team, a crisis-negotiation team, a mobile field force, canine and emergency medical dispatch units, and a hazardous materials response team.

Sunnyvale has had a relatively low crime rate, particularly for a city its size. In addition to having the third lowest crime rate among the seven communities we considered, in 2012, it had the lowest crime rate among the 13 California cities between 140,000 and 160,000 in population. It has received a large number of fire service calls, more than 7,000 each year. Only 2% of these calls were for fires, while more than two thirds were for emergency medical services. These numbers have been comparable to other Bay Area fire agencies.

In FY 2015, the department had a budget of US\$79 million, including US\$29 million for police field operations, US\$26 million for fire field operations, and US\$19 million for special operations (with the remainder going for administrative and other costs). In FY 2012, its per-capita public-safety costs of US\$519 were below those for nearby cities of Palo Alto (US\$950), Mountain View (US\$688), and Santa Clara (US\$662; Sunnyvale Department of Public Safety, 2012).

Because of the department's long history as a "public-safety" agency, it has recently faced little challenge, a leader told us, in developing an appropriate "culture." This, he said, is because of the age and reputation of the department; all candidates "are interviewed knowing they'll be public-safety officers." He acknowledged some cultural considerations in hiring, noting, "Many believe you can make a police officer a firefighter, but it's more difficult to make a firefighter a police officer. Police officers are used to taking charge individually while firefighters are used to working in a team environment led by a company officer who provides direction." This has led the department to seek candidates who are flexible.

Contingencies appear to have been at the heart of the Sunnyvale consolidation and its persistence, both from the city's need to upgrade its fire services at the time of the agency's origin to its ability to provide police and fire services in recent years at a lower per-capita cost than neighboring agencies. Nevertheless, some institutional influences on the agency appear to have been evident as well. These have included its fostering of a public-safety "culture" that blends both the individualism of police officers and the teamwork of firefighters.

## Discussion

Willis and Mastrofski (2011, p. 317) found contingency theories to be "the dominant theoretical perspective on the processes leading to the emergence and spread of innovations in police organizations" but suggested that institutional theories can explain whether an organization later "prosper or suffers" (p. 318). Our case studies show some evidence of this in consolidated public-safety agencies as well. These agencies typically originated in the need to provide services that had been lacking or to provide such services more efficiently. Over time, some of these agencies also conformed to institutional norms, such as those of accreditation agencies for police and fire agencies, or even developed their own institutional values and beliefs that the agencies deliberately maintain.

Rather than viewing these communities as having origins in contingency influences and maintenance through institutional influences, we might best view them on a continuum with contingency influences at one end and institutional influences at another. On such a continuum, Kalamazoo may provide the clearest example of contingency influences among the agencies we have studied. It adopted the public-safety model in a time of constrained resources and has kept it as the city's population has continued to decrease. It adopted the model more quickly than the other agencies we have considered. It has found the model to be even more effective than anticipated, with manpower levels falling below both what was projected and what the city previously had in police and fire departments combined. At the same time, Kalamazoo has conformed to some institutional standards and influences. It has required 4-year degrees as well as police officer, firefighter, and medical first responder certification of its officers. The presence of so many other public-safety departments in Michigan may also have provided institutional support for the Kalamazoo agency.

Sunnyvale offers another relatively clear example of consolidation in response to contingencies. The agency originated in response to the need to provide firefighting services to a growing city. It has stayed in "fit" with its community in several ways. It continues to provide its services at a lower cost than its neighbors incur. It has developed capabilities needed for a rapidly expanding metropolitan community. It has achieved a lower crime rate than other California cities of its size. At the same time, the adoption of capabilities used by other agencies may have been a response to

institutional influences as well. The department's concern with hiring applicants who can support a public-safety "culture," or can work between individualistic police norms and firefighting teamwork norms, may have also reflected institutional concerns unique to public-safety agencies.

Ashwaubenon provides another example of consolidation in response to community need but one that may have conformed to some institutional influences at its inception as well. The department evolved in response to the need to provide police and fire services to its community. Yet it took several years to form and was completed only after local officials visited other public-safety departments and learned how these models could be applied to their village. The many different forms of provision for police and fire services in the Green Bay area may have also helped promote institutional acceptance for a public-safety agency in Ashwaubenon.

Aiken also shows some evidence of responding to a continuing contingency. This is perhaps most evident in its provision of police and fire services at a lower per-capita cost than a nearby comparable community and in its maintenance of a lower crime rate than other cities of its size in its state. That is, the agency has kept in "fit" with its community by responding to a common demand for better public safety at a lower cost. At the same time, institutional influences on the organization have been evident as well. The agency sought to achieve CALEA certification and to improve its fire services rating, conforming to both police and fire standards of outside institutions. It also sought to develop its own public-safety "culture" and officers who are sensitive to such a culture and its blend of police and fire cultures.

East Grand Rapids also shows some evidence in responding to contingencies, particularly in the efficiencies its agency claims, providing police and fire service with fewer personnel than a comparable community. Yet institutional influences on the agency may have been stronger. These may be evident in the three decades the city required from initial consideration to implementation of the idea and particularly in the long time it took to develop a public-safety "culture" and the efforts the department makes to maintain that culture and its values. East Grand Rapids, like Kalamazoo, can also draw institutional lessons and support from the large number of public-safety agencies in Michigan.

Glencoe offers more evidence of institutional influences. Its desire to more efficiently use resources reflects some contingency influences as does its provision of police and fire services at a lower per-capita cost than in a neighboring community. Nevertheless, the desire for efficiency in a community that is highly affluent and that has led the way in other elements of professionalization in government, such as when it became the first Illinois municipality to adopt a council-manager form of government, suggests some institutional influences as well. Glencoe has continued to respond to institutional influences, as it did when becoming the first community to achieve accreditation from both the CALEA and the CAFI.

Highland Park may offer the clearest example of institutional influences on the public-safety organization among the communities we study. Although interrupted, its tradition of public-safety consolidation dates to its origins. The community took many years to fully implement the current model for its professional public-safety workers who slowly replaced single-discipline police and fire workers. Highland Park has fostered a public-safety "culture" among recruits, employing an axiologist to help select them. It has achieved CALEA accreditation to conform to police institutional standards and trains its officers to provide any police, fire, or emergency medical service needed at any given time anywhere in the town. The agency has responded to at least one contingency but, from a historical perspective of public-safety agencies, has turned it on its head, spending more per capita than other agencies to provide the greater service its residents have demanded.

## **Conclusion**

Our research finds evidence for both contingency and institutional theories in explaining the origins and sustainment of consolidated public-safety agencies. Like Wilson (2006, p. 108), who

“illustrated the utility of combining contingency and institutional theories in an integrated open systems framework,” we find that relying only on contingency or institutional theory may oversimplify the complexity of these agencies and their environment. These agencies appear to have interacted with their environments as open systems (D. Katz & Kahn, 1966; Lawrence & Lorsch, 1967; Thompson, 1967), responding to both task and institutional demands. Future research could consider the value of integrating open-systems theories in explaining the form and function of these organizations.

The most important lesson for policy makers in this research may be that the circumstances traditionally leading to consolidation may not sustain such agencies. Indeed, in our case study analysis of communities that have undergone deconsolidation (Wilson & Grammich, 2015), we describe how several communities that consolidated their public-safety agencies were later unable to correct “misfit” of these agencies and ultimately deconsolidated. The agencies we describe here have maintained “fit” over time. Several have done so by continuing to deliver the savings and efficiencies envisioned from the start. Yet all have had to respond to institutional influences, including influences traditionally cited as reasons not to consolidate or even to deconsolidate. This provides some support for Willis and Mastrofski’s (2011) contention that contingency theories are critical to explain the adoption of “innovation” in police organizations but that institutional theories determine whether an organization later “prosper or suffers” because of it. Perhaps most intriguing is how these agencies, most of which originated in response to task demands, work, as other organizations have done (C. M. Katz, 2001; Suchman, 1995), to promote or create their own “culture” of standards to promote their legitimacy.

This study is limited by the weaknesses of a case study method. Case studies permit us to explore in depth the reasons these agencies consolidated and maintained consolidation. Nevertheless, the small number of communities we explored limits the number, strength, and generalizability of our conclusions. While we sought to create a purposive sample to illustrate the range of issues these agencies must address, our sample is not random. The level of detail available at each site also varied, further limiting the lessons we can draw. Other methods at these sites may reveal other lessons. Future research with a greater number of agencies can help formulate and test hypotheses on such agencies.

### **Authors’ Note**

The opinions contained herein are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice. References to specific agencies should not be considered an endorsement by the U.S. Department of Justice nor the authors. Rather, the references are illustrations to supplement discussion of the issues.

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