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On the Actual Risk of Bystander Intervention: A Statistical Study Based on Naturally Occurring Violent Emergencies

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Abstract

Objectives: Bystander studies have rarely considered the victimization risk associated with intervention into violent, dangerous emergencies. To address this gap, we aim to identify factors that influence bystanders' risk of being physically victimized. **Methods:** We observed bystander behavior from video surveillance footage of naturally occurring violence in night-time economy settings, and data was analyzed with a logistic regression model. **Results:** Data shows that approximately one out of six interventions results in some type of victimization, typically with a relatively low degree of severity. The bystander's social group membership, the setting of the emergency, and the bystander's intervention type are estimated as risk factors for victimization. **Conclusions:** Previous research suggests that a bystander's social group membership with victims promotes intervention behavior. Our results expand the role of social group membership as being a factor that also influences whether the intervening bystander is victimized.

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Introduction

Recent evidence suggests that bystanders are more likely to intervene in emergencies they perceive as dangerous (Fischer et al. 2011). In these situations, the presence of others is not a source of responsibility diffusion, as the well-established bystander effect predicts (Darley and Latané 1968). Rather, additional bystanders are perceived as a potential resource of physical support which can facilitate intervention (Levine, Taylor, and Best 2011; Fischer and Greitemeyer 2013). The present study raises a question that might appear obvious in the light of these recent findings, but which so far has received scant attention. Given that the *perceived dangerousness* of the situation influences the likelihood of intervention, what, then, is the *actual risk* associated with bystander involvement in such high-danger emergencies?

We examine this question in the context of violent assaults in public places, that is, the type of high-danger emergency that motivated earlier scholars to study helping behavior and the impact of the bystander effect. Thus, Darley and Latané's (1968) pioneering bystander research was prompted by the report of the brutal murder of a young woman, Kitty Genovese, on a public street where 38 bystanders allegedly failed to intervene (note that the accuracy of this report is questionable, see Manning, Levine, and Collins 2007). However, although instigated by a real-life assault, bystander research has almost exclusively been carried out in laboratory-based, experimental settings. Because of this, bystander intervention and the associated victimization risk has rarely been studied in the context of actual violent behavior (Cherry 1995; Baumeister, Vohs, and Funder 2007). Sheleff and Shichor's (1980) decades-old call for research on the victimological aspects of bystander involvement has thus not been met, as reflected in Osswald et al.'s (2010:150) recent argument that "very little research has referred to prosocial behavior with high (social) costs for the actor (i.e., the person who helps). The reason for this seems obvious, as high-cost prosocial behavior is difficult to examine in a laboratory."

Recently, however, scholars across the fields of social psychology and the criminological study of guardianship have suggested how the ecological validity of the bystander field could be improved by a wider use of observational methods (Reynald 2009), including video-based observations (Levine et al. 2011). In this study, we follow these developments and explore video footage of bystander behavior in natural settings as a promising method to systematically observe the actual risk of bystander intervention.

While the reliability of self-reported accounts by offenders, victims, and witnesses of crime is known to be poor (Vrij, Hope, and Fisher 2014), the advantage of using video footage to study criminal and violent behaviors is that the researchers can unobtrusively observe and record real-life behaviors as they occur (Collins 2008; Lindegaard and Copes 2017). To our knowledge, this study is the first of its kind to apply video observational data to systematically examine the actual risk associated with bystander intervention.

Video observational data, while having a high ecological validity, also has a number of limitations. These include that CCTV data on criminal events can be biased towards positive (e.g., violently escalated) cases, given that the footage is only filed if part of a crime is reported to the police. Moreover, verbal sound is rarely recorded and the footage offers only limited information on the social sequence of events leading to the violent interaction. We will discuss the issue of sample-selection bias later, but here we would like to highlight that a methodological innovation of the current study is that we compensate for the two latter limitations by triangulating the video footage with police case file data. As illustrated by Weenink (2014), police case files offer insight into social aspects of violent encounters (e.g., verbal exchanges, social group ties), which is not easily caught on camera. Specifically, we draw on a sample of surveillance camera footage of naturally occurring violent crime that involves intervening bystanders, and each of these recordings is matched with a police case file.

The prevalence of bystander victimization in violent crime has rarely been examined. One exception is Planty (2002) who—based on data from the American National Crime Victimization Survey—concludes that bystanders present in violent incidents are in general not likely to be harmed or robbed. Furthermore, studies on bystanders with formal guardianship roles, like police officers and bouncers, have identified a number of risk factors for victimization.

First, higher risks have been linked with alcohol intoxication of the unruly persons that the guardian is attempting to control (Bierie 2015). Second, the bystander's gender might shape the risk, given Monaghan's (2003:22) observation that female bouncers "are less likely to attenuate violent situations." Belknap and Shelley (1992) offer a similar view in the context of female police officers, yet recent evidence questions the existence of such gender-difference in victimization among police officers (Rabe-Hemp and Schuck 2007). Finally, studies suggest that the type of intervention act influences the victimization risk.

Among police officers, van Reemst, Fischer and Zwirs (2015) show that aggressive types of involvement enhance the victimization risk, and studies on bouncers suggest that rule-enforcing behavior, where the bouncer enters into a direct conflict with an unruly bar patron, is riskier than situations where the bouncer intervenes in order to stop a conflict between bar patrons (Graham and Homel 2012; Geoffrion et al. 2015).

While the studies cited above have identified some of the risk factors for bystanders with a formal guardianship role, the factors shaping the victimization risk of bystanders enacting informal guardianship roles is much more understudied. Among the few exceptions are Hamby et al. (2016), who show that a bystander is more likely to be harmed or threatened in situations where the victim suffers a higher rate of injury. Further, a handful of studies have examined the negative consequences for children defending other children against bullies. For example, Pöyhönen, Juvonen, and Salmivalli (2010) suggest that a bystander's social status in the peer group may protect them from the possible negative consequences of defending behavior (e.g., revenge from the bully) (see also Meter and Card 2015).

This latter argument is line with the growing body of evidence that stresses the importance of relationship ties in bystander behavior—that is, in contrast to the early bystander literature where this aspect was neglected (Levine 2003). Thus, recent criminological research stresses the bystanders' social relationship as a factor influencing the willingness to intervene (Cook and Reynald 2016). This view is consistent with Levine and colleagues (e.g., Levine et al. 2002; Levine et al. 2005; Slater et al. 2013), who show that when a bystander shares group membership with the victim, the probability of intervention is enhanced. Further, Black and colleagues provide evidence pointing in the same direction (Phillips and Cooney 2005), and—what is of particular importance for our study—they offer a theoretical consideration of bystander victimization as a group-mediated process: “In any conflict, one side's supporter is the other side's opponent.” (Black and Baumgartner 1983:100). While the above studies consistently demonstrate group membership as an important predictor of bystander invention (for review, see Levine and Manning 2013), it remains to be systematically examined whether group membership plays a similarly influential role in bystander victimization.

The purpose of the current study is to identify some of the factors that influence the likelihood of bystander victimization. We advance two hypotheses, both formulated a priori for our explanatory statistical analysis (see Popper 1959; Kerr 1998). The first hypothesis considers whether a higher level of violence in the situation is associated with an elevated victimization risk. H1: Bystanders intervening in situations with a high level of violence have a higher victimization risk than bystanders who intervene in less violent situations. With this hypothesis we assume a spillover-like effect by which situations where victims are exposed to high levels of violence increase the likelihood that some violent acts, so to speak, spill over to the intervening bystanders.

This hypothesis is plausible given the aforementioned evidence suggesting that bystanders are more at risk in situations with higher rates of victim injuries (Hamby et al. 2016). That violence can spill over to a bystander is, moreover, illustrated by situations where a random bystander is hit by a bullet intended for someone else, e.g., as part of a gang-related drive-by shooting (Hutson, Anglin, and Eckstein 1996). In theoretical terms, victimization as a spillover process is to be expected on the basis of Collins' (2008) view that excessively violent situations arise from a perpetrator's elevated emotions of tension and fear being released into an unstoppable, frenzied attack (Weenink 2014). This dynamic, described as forward panic, unfolds in a temporarily uncontrolled manner and can thus lead to a "spillover of forward panic" (Collins 2008: 95), entailing attacks on uninvolved, random or, we hypothesize, intervening third parties.

A theoretical counter-argument to this spillover argument is found in Kemper (2011), who criticizes Collins for neglecting the fact that even excessively frenzied violence is socially focused and thus rarely spills over to random individuals. In this view, consistent with the cited research highlighting social relationships as a key factor in bystander behavior, bystander victimization is expected to be structured along conflictual intergroup relations.

On this basis, we suggest the following hypothesis: H2: Social group membership with victims of violence increases the likelihood of bystander victimization. With this hypothesis we assume that a process of out-group aggression influences the victimization risk (Hewstone, Rubin, and Willis 2002). Research shows that when intergroup conflict is heightened, identifying with one's in-group can lead to out-group derogation and aggression. The resulting out-group aggression is intended to harm another person

because of his or her membership of the opponent out-group (Brewer 2001). The concept of out-group aggression thus attributes the risk of victimization to the bystander's social group relationship with the victim. From the perspective of the perpetrator, a bystander with a social relationship with the victim is a member of the opponent out-group and hence an eligible target for physical aggression.

In this connection, we would like to specify the concept of social groups that we imply with this proposition. Analytically considered, an individual's belonging to a social group may be defined with reference to shared categorical (e.g., being "American") or relational ties (e.g., close-knit friend group) (Tajfel and Turner 1979; Swann et al. 2012). We focus on the latter aspect, i.e., the relational group tie established in frequent and focused face-to-face interactions. This focus reflects, first, that bystander behavior in public settings typically is linked with conflicting friendship groups (Levine et al. 2012), and second, that our data provides insight into this relational aspect of the social group structure.

Methods

Data and sample

For the empirical analysis, we used video surveillance footage (i.e., CCTV) obtained from the Copenhagen Police Department. The sampling frame was incidents of violence (i.e., Sections 244-246 and 237 in the Danish Criminal Code) reported in the central police districts of Copenhagen between 2010 and 2012. Access was provided to all cases where sentence had been passed, comprising 933 cases. There exists no catalog of the case files that include CCTV footage, and all of the paper-based police case files have accordingly been audited to identify the cases including this footage. After this process, our raw sample comprised 164 cases containing video clips of varying quality and character. Only clips that conformed to two criteria were included in the final sample: the recording involved at least one bystander who intervened in an ongoing conflict, and the footage had a quality that allowed systematic coding of the action sequences and individual characteristics of bystanders. Our final sample comprises 69 cases containing video clips.

Coding procedure

We started coding the video clips by identifying the conflicting parties, in most cases two individuals, between whom the conflict was initiated. This moment was defined as the

point at which the situation manifested itself as a conflict for the first time, e.g., with threatening gestures or physical force. In this coding process, we benefited from the fact that emotions and even verbal articulations of dominance and aggression have equivalent expressions in well-described, nonverbal cues (Eibl-Eibesfeldt 1979; Hall, Coats, and LeBeau 2005; Dael, Mortillaro, and Scherer 2012). After the initial conflict axis had been identified, all other individuals who entered into the ongoing conflict with consolatory or escalatory behaviors were defined as intervening bystanders. As our research interest was in bystanders' risk of being victimized during intervention, we did not conduct an individual-level coding of the non-intervening bystanders. In total, 233 intervening bystanders were coded across the 69 video contexts.

Data was coded by four trained student assistants in accordance with a list of detailed variable definitions, which were developed in several iterative steps. Our theoretical expectations (cf. the hypotheses of the study) were operationalized into an initial variable list that subsequently was specified and expanded in dialogue with qualitative observations of the video material. On the basis of these validations, we then tested the quantitative applicability of the revised variable list to additional video cases. This iterative process was repeated until the variable definitions balanced the considerations of quantitative stringency and qualitative sensitivity. Next, to test the reliability of the coded variables, we selected 20 (29%) of the video contexts and 35 (15%) of the intervening bystanders for double coding (see Riffe, Lacy, and Fico 2005). All the measures included in the further analysis reached a Krippendorff's alpha value of at least 0.8, indicating a good interrater reliability (Krippendorff 2004). Disagreements between the coders were resolved through discussion prior to analysis. Note that not all coded variables reached an acceptable interrater agreement, and these variables (e.g., bystander's age) were excluded from further analysis.

It should be noted that the nature of our data offers varying preconditions for coding aspects of the situations. While gender, for example, has a culturally and biologically well-defined visual appearance, social group memberships are not signaled in a similarly unambiguous manner. Perhaps because of this coding issue, observational studies on bystander behavior do not typically include measures of social group membership. In this study, as mentioned above, we have utilized the fact that all our video clips are linked to police case files that often describe which of the others involved the bystanders have

personal relationship ties with. If the visual material was unclear or ambiguous, the coders were instructed to validate the video-based coding of the bystander's social group membership against the police case files. In cases of divergence at this point, the police file data took precedence.

Measures

Dependent variable. Bystanders who were physically victimized after their intervention were captured with a binary measure where 1 = bystanders who are violently victimized, and 0 = non-victimized bystanders. Incidents of victimization included 39 cases where the bystander was subjected to one or more of the following behaviors: punching, kicking, shoving, hauling, falling to the ground, kicking to the head, or weapon use. Reflecting our research interest in the interaction sequences that lead to victimization, we only recorded incidents if they occurred after the bystander had intervened in the situation.

Independent variables. The situation's potentially *violent conflict level* was captured with a binary measure where 1 = at least one serious act or consequence of violence had occurred before the point of the bystander's intervention, and 0 = no serious acts or consequences of violence had taken place (reference category). Serious acts and consequences of violence included violence against a person on the ground, kicking to the head, an unconscious person, and multiple perpetrators against a single person. The reason that the measure only includes acts and consequences that have occurred before the point of intervention is that this allows us to measure the level of violent conflict in the situation and the individual bystanders' violent (i.e., escalating) interventions as separate phenomena.

The bystander's *social group membership* was captured with a dummy variable where 1 = the bystander has a social group membership with an individual who is exposed to violence in the situation, and 0 = the bystander does not share such membership with a harmed individual (reference group). Social groups were defined as friendship or acquaintance groups, and the bystander's group membership was assessed by combining video and police file data. In theoretical terms, bystanders with a social group membership with a victim of violence are considered out-group for the perpetrators, and these bystanders are therefore, as hypothesized, potential targets of out-group aggressions when they intervene.

Covariates. Based on our review of risk factors of bystander victimization identified in the literature, we included a number of covariates to account for and explore other associations than the ones hypothesized. The bystander's *gender* was measured as a binary variable where 1 = female and 0 = male (reference). The bystander's gender should be accounted for because men, in general, have a higher risk than women of being victims of a violent crime in a public place (Pedersen, Kyvsgaard and Balvig 2016). Further, evidence suggests that the number of female bystanders in violent situations attenuates the bystander effect to a lesser degree than the number of male bystanders present, possibly because men (due to their greater physical strength) are perceived as being more helpful than women in confronting a perpetrator (Fischer et al. 2011). It seems plausible that perpetrators similarly perceive men as more confronting bystanders and thus as a greater threat to be countered with violence. Note, however, as mentioned earlier, that the empirical evidence is mixed concerning gender-differences in bystander victimization (Monaghan 2003; Rabe-Hemp and Schuck 2007).

The bystander's *intervention type* was captured with a dummy variable where 1 = bystander who used at least one escalatory intervention act, and 0 = bystander who only used conciliatory behaviors. The behavioral distinction between escalatory and conciliatory interventions is in accordance with previous bystander research (Levine et al. 2011; Parks et al. 2012), and is included in our model in view of evidence suggesting that the type of intervention act, in particular aggressive and confronting behaviors, shapes the victimization risk (van Reemst et al. 2015). Escalatory behaviors included threatening gestures, hauling, punching, kicking, shoving, and weapon use. Conciliatory behaviors included making open-handed gestures, non-aggressive touching, blocking contact, holding a person back, and pushing and pulling antagonists apart.

Furthermore, two covariates operationalize properties of the conflict situation: the situation's *type of setting* was measured as binary variables where 1 = night-time economy contexts, and 0 = all other type of everyday contexts, e.g., shopping malls and public transportation settings (reference category). Night-time economy contexts were defined as situations occurring inside or in front of a public drinking place (e.g., bar, nightclub) in the time span between 10 p.m. and 8. a.m. The inclusion of this covariate reflects the finding that the alcohol intoxication of the conflict parties is a risk factor of bystander victimization (Bierie 2015), and is, more broadly, in line with research

associating violent crime with night-time economy drinking settings (Toomey et al. 2012).

The *number of individuals* in the situation was recorded by counting all persons present. This covariate was included on the premise that the presence of other bystanders makes the intervention less risky because additional bystanders may potentially provide physical support to the intervening bystanders. This is what Fisher et al. (2010) suggest that bystanders expect to be the case, but with the inclusion of this covariate we account for whether the presence of other bystanders actually makes interventions safer.

Table 1. Descriptive statistics

	Mean	SD
Bystander victimization	0.18	0.38
Violent conflict level	0.26	0.44
Out-group membership	0.45	0.50
Female	0.15	0.36
Escalatory intervention	0.31	0.46
Night-time economy	0.92	0.28
Number of bystanders	15.82	12.37

Note. n=217.

Estimation

Given the aim of this study, to identify factors influencing bystander victimization, and because this variable is binary in nature, a logistic regression tool was applied for the data analysis. Specifically, we used Stata's "logistic" procedure. One challenge in estimating our data is its clustered data structure (i.e., individual bystanders nested into situations), which potentially violates the regression assumption of independence of observations. We calculated an intraclass correlation coefficient of 0.09, suggesting that data shows a limited degree of dependence on observations (Pituch and Stevens 2016). Yet, given that even small levels of clustering in data can lead to underestimated standard errors, we decided to compute data with cluster-corrected standard errors (i.e., using Stata's "cluster" option), which relaxes the assumption of independence (Mehmetoglu and Jakobsen 2017).

Results

From table 1, it can be established that approximately one out of six (18.0%) cases of bystander interventions results in some kind of victimization. The majority of these cases

involve situations where the bystander is punched at least once (59.0%) during intervention. Other common victimization types are being kicked at least once (26.3%) and shoving or hauling (41.0%). The more severe cases of victimization involving weapon use (2.6%), kicking to the head (10.5%), or violence against a bystander who has fallen to the ground (13.2%) account for only a smaller proportion of the victimized cases (note that the percentages do not sum up to 100 because the categories overlap). Taken together, these descriptive figures suggest that bystanders in violent emergencies do indeed run a risk of actual victimization. However, we also note that the majority of bystanders suffer no physical harm when intervening, and those who are victimized are typically exposed to violence with a relatively low rate of severity.

Table 2 presents the results of our logistic regression estimation of data. Model 1 includes the explanatory variables that operationalize the hypothesized effect of spillover from the situation's level of violence to the bystander (H1) and the direct out-group aggression against the bystander (H2). In this table, it can be established that the bystander's out-group membership with a victim of physical aggression is a strong and significant predictor of bystander victimization. This association remains significant after including covariates in model 2. All other things being equal, being an out-group member increases the risk of victimization approximately seven times. By comparison, the violent conflict level prior to intervention proves to be insignificant across the three estimated models.

Table 2. Logistic regression analysis of bystander victimization

	Model 1 Hypothesized		Model 2 Covariates		Model 3 Final	
Variables	<i>B</i> (SE)	OR	<i>B</i> (SE)	OR	<i>B</i> (SE)	OR
Intercept	-2.62 (0.39)***	NA	-4.78 (0.95)***	NA	-4.78 (0.99)***	NA
Violent conflict level	-0.48 (0.51)	0.62	-0.48 (0.55)	0.62	-0.52 (0.54)	0.59
Out-group membership	1.96 (0.50)***	7.08	2.03 (0.56)***	7.58	2.00 (0.53)***	7.40
Female			-0.42 (0.65)	0.66		
Escalatory intervention			0.71 (0.40)*	2.03	0.74 (0.40)*	2.10
Night-time economy			1.88 (0.89)**	6.54	1.97 (0.88)**	7.20
Number of bystanders			0.01 (0.01)	1.01		
AIC	182.234		179.014		176.032	

Note. * $p < .10$; ** $p < .05$; *** $p < .01$ (two tailed). NA = not applicable. $n = 217$.

From model 2 it can, further, be established that the bystander's gender and the number of bystanders present in the situation are not significantly associated with victimization.

Two covariates are, however, associated with our outcome. First, bystanders who intervene in an escalatory manner are more at risk than bystanders who only intervene with consolatory acts, although this result is only significant at the 10 percent level. Second, interventions in night-time economy contexts are more likely to result in bystander victimization. The relatively large effect size should, however, be interpreted with the reservation that this covariate almost completely separates the zeroes and ones in the outcome variable—i.e., with only one exception, bystanders are solely victimized in night-time economy contexts. This issue (known as quasi-separation) may produce inflated parameter estimates in logistic regression models (Menard 2009). Nevertheless, it is safe to say that bystander victimization is a phenomenon linked with the night-time economy. Finally, in model 3, we remove the insignificant covariates. This largely leaves the remaining variables unchanged. Furthermore, model 3 is selected as our final model because it has the best overall model fit, as indicated by the lowest AIC value across the three estimated models.

Discussion

Evidence suggests that the bystander effect is attenuated if the emergency situation is perceived as being dangerous (Fischer et al. 2011). In this study, we have examined the correspondence between the perceived and actual risk associated with intervention in violent, dangerous situations. Our analysis suggests that intervening bystanders do expose themselves to some actual risk. The majority of bystanders, however, are not victimized during their intervention, and if they are, then primarily with a relatively low degree of severity. These descriptive results are in line with previous research suggesting that bystanders in general are not exposed to a high victimization risk (Planty 2002; Hamby et al. 2016).

We hypothesized that the risk of victimization is influenced by two different mechanisms: a spillover effect (H1) and out-group aggression (H2). Data rejects the former and confirms the latter hypothesis, and the large effect size of the social group membership variable suggests that out-group aggression plays a considerable role in shaping the victimization risk. That is to say, rather than being a spillover of violence targeted at the victim, bystander victimization is an aggression where the bystander is directly targeted because of his or her group membership with the victim. In these

theoretical terms, bystander victimization can be described as unfolding through the following steps (Fiske and Neuberg 1990; Brewer 2001). Before the bystander intervenes, an intergroup antagonism has begun. This entails that perpetrators categorize their opponents as out-group and associate negative emotions of aggression with out-group members. When the bystander intervenes on behalf of his or her in-group, the perpetrator categorizes the bystander as an out-group member. This triggers the aggressive emotions that the perpetrator already feels towards the out-group category, and the bystander thus, in turn, becomes a target of physical aggression.

These theoretical considerations are in line with the growing body of evidence across sociology (Phillips and Cooney 2005), bullying studies (Pöyhönen et al. 2010), social psychology (Levine and Manning 2013), and criminology (Cook and Reynald 2016), all of which highlight social relationship ties as a key factor in bystander behavior. Our study, however, adds to this research by suggesting that social group membership influences not only the likelihood of bystander intervention, as previously documented, but also the risk of bystander victimization.

The victimization of bystanders has received little attention in the literature, especially as a risk shaped by social group processes. This is probably due to difficulties in obtaining the fine-grained naturally occurring data, both behavioral and group-relational, which is needed for an examination of this issue. Bystander intervention but not bystander victimization can be ethically examined in laboratory experiments (Osswald et al. 2010), and self-reported accounts, e.g. investigative interviews that form part of police case files, provide an often unreliable and coarse-grained source of data on the interactional sequences of violence (Collins 2008; Vrij et al. 2014). By contrast, CCTV footage provides a way to capture the micro-details of real-life bystander victimizations, and it is on this basis, as we discuss further below, that we here offer the first systematic evidence of social group relationships as a risk factor for bystander victimization.

In addition to finding support for the effect of intergroup processes in bystander victimization, our analysis suggests that the victimization risk is influenced by the intervention type and type of setting of the conflict situation. First, data indicates that escalatory interventions are more likely than consolatory behaviors to lead to victimization. This result is in line with van Reemst et al.'s (2015) finding that bystander victimization is promoted by aggressive types of involvement, and Levine et al. (2012)

who suggest that the duty to back up one's friends with force leads to conflict escalation. Second, we found that night-time economy contexts are associated with a higher victimization risk. Given that the night-time economy is closely linked to alcohol-led entertainment (Levine et al. 2012), this result is in agreement with studies that link alcohol intoxication with bystander victimization (Bierie 2015) and, more broadly, alcohol establishments with violent crime (Toomey et al. 2012).

The bystander's gender was not found to influence the victimization risk. The existing research is mixed concerning gender-differences of the victimization risk (Monaghan 2003; Rabe-Hemp and Schuck 2007), and our result lends support to the view that female bystanders are not less at risk than males. Finally, we found that the number of bystanders present did not predict the victimization risk. Given Fischer et al.'s (2011) argument that other bystanders are perceived as a source of physical support, our data suggests that there might be a gap between the expected and actual safety provided by other bystanders. The presence of other bystanders does not necessarily provide the safety in numbers assumed by the bystanders who intervene in dangerous emergencies.

After having established that bystanders in violent emergencies can pay a personal cost, we now consider the potentially beneficial aspects of intervention behavior. In considering this, we must emphasize that the experience of costs and benefits depends on the perspective taken, because what might be favorable for some could very well be detrimental to others. First, from the perspective of victims, one possible immediate benefit of being defended is that consolatory acts, as documented by Levine et al. (2011), are often successful in deescalating conflicts and thus limiting the aggression against victims. Besides mitigating the physical harm inflicted, consolatory helping behavior may also limit the psychological consequences experienced by victims. Sainio et al. (2011) show that defended victims of bullying are less depressed and anxious, and have higher self-esteem. The generalizability of this observation to other types and contexts of violence (e.g., street violence, robberies) is an interesting question to be examined in future research.

Second, as pointed out by Levine et al. (2011:411), an important question is why bystanders intervene at all, especially given that this behavior can be costly and of little personal benefit. With regards to those bystanders exposing themselves to the highest risk, i.e., the victim's friends, Swann et al. (2012) suggest that individuals who engage in

such costly pro-group action are motivated by visceral and family-like feeling of oneness with their in-group. This feeling promotes a self-sacrificing willingness to act, fight, or even die for the group, as illustrated by Levine et al.'s (2012:927) description of intergroup violence between friend "groups who are fully immersed in their group identities ('instead of single people, it's gangs of lads')." Also in our case, it seems plausible that this kind of personally costly, pro-group helping of one's friends is linked with positive feelings of being fused with one's in-group.

A methodological innovation of this study was the combination of video observation with data on group relations coded from police case files. As mentioned above, this contrasts with existing bystander research where data on naturally occurring behavior and group relations is rarely combined. Thus, for example, Levine and colleagues (2005) highlight group relations as a key factor in bystander behavior, yet this factor is not included as an explanatory variable in their pioneering video-based study of bystander intervention in real-life settings (Levine et al. 2011). Presumably, this discrepancy reflects the fact that the latter study was based on CCTV footage without associated police cases or other available data to establish the group memberships of participants.

Here, however, we should add that our video-based assessment of relationship ties rarely had to be corrected when compared to the police case file descriptions. This stresses the validity of our group measure and is, furthermore, encouraging for scholars who have an interest in bystanders' social relationships but no access to other data sources to validate their video-based assessment. In our experience—and consistent with evidence suggesting that social group characteristics can be accurately inferred from nonverbal cues (Ge, Collins, and Ruback 2012; Murphy 2016)—relationship ties can be reliably coded from video recordings of natural conflicts.

While it thus seems probable that scholars with a research interest in bystander behavior and the bystanders' social relationships can rely on video observational data, on the other hand relying solely on police case files does not seem a feasible approach. Compared to the video data, the descriptions in the case files lack detailed information on the behavioral micro-sequences, especially because such micro-behaviors have a nonverbal and subconscious expression that rarely finds its way to self-reported accounts of the situation (Collins 2004:65-78; Laney and Takarangi 2013). Further, this issue is accentuated by the fact that police case files contain only few detailed behavioral

descriptions of the bystanders/witnesses, reflecting the interest of the police in clarifying the question of guilt among alleged perpetrators and victims.

Although the results of this study extend previous bystander research with novel insight into the actual risk associated with bystander interventions, we also acknowledge the limitations of our work and suggest some directions for future research. A first issue concerns the fact that our sampling frame is limited to police-reported violent events. Although this feature of our data made it possible for us to validate the bystander's social group membership, our reliance on police cases implies that data, in part, is selected on the dependent variable (Geddes 1990). Our sampling frame thus only includes cases that involve physical violence, and in some cases it is because of the violence against the intervening bystander that the case is reported to the police and hence enters our sampling frame. By comparison, the situations where bystanders are successful in preventing conflicts from escalating to violence are not part of our sampling frame (see Levine et al. 2011).

It is therefore probable that our data overestimates the risk associated with intervention because too many positive cases with violence and victimized bystanders are selected into our sample. Thus, compared tentatively with our descriptive findings on the rate of bystander victimization, Hamby et al.'s (2016) survey-based estimate suggests that a substantially lower proportion than one in six are victimized across several types of aggressive encounters. Although it can be argued that our main objective, to test theoretical hypotheses, is less affected by sample-selection bias (Collins 1983:195), future video-based research should prioritize probability sampling of naturally occurring bystander interventions and victimizations (for exemplary designs, see Dabney, Hollinger, and Dugan 2004; Levine et al. 2011).

Another issue concerns our very broad definition of the bystander role, encompassing any individual entering the situation after the conflict axis between the initial antagonistic parties has been established. The line between the initial conflict parties and the adjoining bystanders could, however, have been drawn elsewhere, and one could argue that our broad bystander criterion confuses those who are bystanders to the conflict and those who are parties to the conflict. This issue might suggest that victimization is not related to the intervention as such, but to the fact that the victimized individuals are an integral part of the group conflict. In fact, we think that our main finding regarding the role of out-group

membership in victimization suggests that something like this is at stake. However, this should not be attributed to our, perhaps fuzzy, distinction between bystanders and conflict parties but rather to the fact that the perpetrator's group perception transcends these role distinctions; from the perpetrator's perspective, the hostility is directed against an out-group, not its distinct "bystander" and "opponent" roles.

The absence of verbal sound on the CCTV footage is a limitation that should be acknowledged but not exaggerated. First, a substantial part of meaning in human interaction is derived from nonverbal cues (Burgoon, Guerrero, and Manusov 2011). Second, certain verbal and nonverbal behaviors can substitute as functional equivalents for one another (Eibl-Eibesfeldt 1979; Darwin 2009). This renders it plausible to infer part of the social meaning of verbal expressions from video observed, nonverbal equivalents—as we e.g. did when the onset of a verbal conflict was determined from agonistic gestures between participants.

Next, we would like to add that although video observation is considered an unobtrusive technique for recording natural behavior (Collins 2008; Lindegaard and Copes 2017), it has to be stressed that in situ cameras might influence the recorded behavior. For example, van Bommel et al. (2014) show that the presence of a camera plays a role in attenuating the bystander effect. However, the fact, that this result was obtained by deliberately making the bystanders aware of the camera by visually exposing its presence (e.g., with a poster sign) questions whether this is likely to have influenced our data. First, the presence of video cameras in public places in Denmark is rarely signaled with a "CCTV in operation" sign; and second, the dim and often fairly hectic night-time economy settings, where most of our data is recorded, offers the involved persons a difficult condition for noticing the camera.

An interesting direction for future research would be to examine how the out-group aggression process relates to subtypes of aggressive behavior, especially with respect to the well-described reactive–proactive axis (Dodge and Coie 1987; Vitaro and Brendgen 2012). A hint of this is found in the observation that the period from the bystander's first intervention to the point of victimization varies substantially across the positive cases (i.e., from seconds to several minutes). This varying reaction time might suggest that out-group aggression could potentially be subdivided along the proactive-reactive axis. The cases of immediate victimization might indicate that the perpetrator feels provoked to use

violence (i.e., a reactive “I hit the person because I felt angry”), while the cases with a delayed reaction might suggest a more premediated use of violence, aimed at revenge or dominance (i.e., a proactive “I had to fight to show who was on top”).

A final suggestion for further research relates to the relevance of applying video data. As this study has hopefully demonstrated, video data analysis offers an applicable and much-needed approach, not merely for bystander scholars but also, more broadly, for scholars in violent crime to directly observe the behavioral raw material of their field of study. The larger prospect of doing so is perhaps best illustrated by the major role that observational data plays within many natural sciences, especially biology and the ethological study of animal behavior. Thus, we agree with both the sociologists Lieberman and Lynn (2002) and Tinbergen (1963), a pioneering animal ethologist and Nobel Prize laureate, that the analytical success of the biological sciences offers the social sciences an important reminder of the benefits of relying on naturally occurring observational data in the advancement and evaluation of behavioral theory.

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