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Links between stressful life events and proactive and reactive functions of aggression

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Abstract

Recently, more attention has been devoted to understanding how stressful life events might relate to proactive and reactive aggression. Findings suggest that stressful life events are more strongly linked to reactive, than proactive, aggression; however, it is unclear whether the impact of stressful life events on proactive and reactive aggression might vary as a function of the level of exposure to or type of stressful life event. The current study examined how level of exposure to stressful life events (i.e., witnessed, experienced, and learned about) and stressful life event types (i.e., war zone exposure, sexual victimization, interpersonal violence, and other trauma exposure) related to proactive and reactive aggression. The sample was comprised of 500 undergraduate students (M = 18.96, SD = 1.22, 49.6% male) recruited from a Midwestern university. Findings indicated that all three levels of stressful life event exposure (i.e., experienced, witnesses, and learned) were associated with reactive aggression; however, only witnessed stressful life events were associated with proactive aggression. Clinical implications and future directions are discussed.

Keywords

stressful life events; proactive aggression; reactive aggression

The existing evidence base suggests that stressful life events predict concurrent and subsequent levels of aggression (Owen et al., 2004). However, aggression is a complex and multifaceted construct, with research consistently providing support for the distinction between proactive and reactive aggression (Fite et al., 2016). Rooted in social learning theory, proactive aggression is a goal oriented and premediated form of aggression that is modeled and governed by reinforcement contingencies (Fite et al., 2016). Conversely, reactive aggression has theoretical roots in the frustration aggression model, which postulates that this combative behavior is elicited in response to perceived threat or punishment from others (Fite et al., 2016).

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Preliminary findings indicate that stressful life events are more strongly linked to reactive aggression than proactive aggression (Brown, Fite & Poquiz, 2016; Fite et al., 2015), which is likely attributable to the mechanisms believed to underlie these associations. Reactive aggression is thought to develop through a lack of security and an inconsistent environment, which likely underlie many stressful life events (Fite, Wimsatt, Elkins, & Grassetti, 2012). In their aftermath, stressful life events may result in an inability to respond to situations appropriately, due in part, to poorly regulated emotions, which likely lead to reactive aggression (Fite et al., 2012). Conversely, proactive aggression is thought to develop through exposure to and reinforcement for aggressive behavior, which might be unique to few stressful life events (Fite et al., 2012). In this way, the link between stressful life events and proactive aggression might be established through the modeling mechanism of witnessing, but not necessarily experiencing, violence-related stressful life events.

However, despite accruing evidence and emerging theory, research examining the links between stressful life events and proactive and reactive aggression is limited as it has not investigated how stressful life event characteristics might influence aggressive behaviors. Evidence suggests that event characteristics, including level of exposure to and type of stressful life event, play an important role in determining an individual's risk of maladaptive outcomes (DiPierro, Fite, Cooley, & Poquiz, 2016; Gil & Caspi, 2006). For example, rates of PTSD were approximately five times higher for individuals who had experienced a terrorist attack than those who were indirectly or not exposed to the event (Gil & Caspi, 2006). Focusing on event types, Freedy et al. (2010) examined the links between stressful life events and PTSD and depression among primary care patients in a Veterans Affairs facility. They found that war zone exposure, but not sexual victimization, interpersonal violence, or other trauma exposure, predicted lifetime PTSD among males. War zone exposure and interpersonal violence, but not sexual victimization or other trauma exposure, predicted lifetime depression among males. Taken together, results indicate that outcomes might vary as a function of the level of exposure to and type of stressful life event. The current study adds to the literature by being the first to examine how level of exposure to (i.e., experienced, witnessed, and learned about) and types (i.e., war zone exposure, sexual victimization, interpersonal violence, and other trauma exposure) of stressful life events might differently relate to proactive and reactive aggression.

Guided by the existing evidence, we hypothesized that stressful life events, regardless of level of exposure, would be more strongly related to reactive, than proactive, aggression. We also hypothesized that there would be differential associations between level of exposure to stressful life events and the functions of aggression, such that the associations between experienced stressful life events and proactive and reactive aggression would be the strongest whereas learned about stressful life events would be least strongly related proactive and reactive aggression. Given the paucity of research examining how types of stressful life events might differentially relate to aggression, we made no hypotheses with respect to the magnitude of the associations between stressful life event types and proactive and reactive aggression.

Methods

Participants

Undergraduate students were recruited from a large Midwestern university in order to fulfill credit requirements for an introductory psychology course. A total of 500 undergraduate students (M = 18.96, SD = 1.22, 49.6% male) participated in the study.

Procedures

Procedures were approved by the university's institutional review board. Participants took approximately 1 hour to complete an online battery of questionnaires. Following completion of the survey, participants were awarded 3 course credits for their time and effort.

Measures

Demographics.—Demographic information including participant age, sex, and race/ethnicity were collected via a self-report questionnaire.

Stressful life events.—Participants completed the Life Events Checklist (Blake et al., 1995), a 17-item measure that assesses exposure to a range of stressful life events. For each stressful life event, participants indicated if they had experienced, witnessed, and/or learned about the event. Participants were also given the option to refuse to respond to any given item or to indicate that the stressful life event did not apply. Sum scores were calculated for each of the three levels of stressful life event exposure (i.e., experienced stressful life events, witnessed stressful life events, and learned about stressful life events). Consistent with Freedy et al. (2010), stressful life events were grouped into four categories: war zone exposure (two items), sexual victimization (two items), interpersonal violence (four items), and other trauma exposure (nine items).

Proactive and reactive aggression.—Participants completed the Reactive-Proactive Aggression Questionnaire (Raine et al., 2006), a 23-item measure that assesses proactive (12 items; e.g., "How often have you threatened and bullied someone?") and reactive aggression (11 items; e.g., "How often have you had temper tantrums?"). Participants indicated the extent to which each item was true of them along a three-point Likert scale ranging from "Never" (1) to "Often" (3). Items were summed to produce proactive and reactive aggression scores, with higher scores indicating higher levels of aggression. In the current study, the internal consistency was acceptable for proactive aggression (α = .76) and good for reactive aggression (α = .80).

Data Analysis Plan

Descriptive statistics were used to compute frequencies and means of the stressful life event characteristics and functions of aggression. Correlations were conducted to assess the bivariate associations among study variables. Also, multiple regression models were used to evaluate the unique effects of stressful life event types and levels of exposure on proactive and reactive aggression. In separate models, proactive and reactive aggression were regressed on age, gender, the stressful life event types and levels of exposure, and the other form of aggression.

Results

Descriptive statistics and correlations among variables

The percentage of participants reporting stressful life events by lifetime exposure and type are presented in Table 1. As shown in Table 2, witnessed stressful life events were positively associated with proactive and reactive aggression. Both experienced and learned about stressful life events were positively associated with reactive, but not proactive, aggression. This pattern of results was, in part, also found across stressful life event types, such that witnessing sexual victimization or interpersonal violence was associated with higher levels of proactive and reactive aggression, and experiencing interpersonal violence or other trauma exposure was associated with higher levels of reactive aggression, but not statistically related to proactive aggression. Learned about specific event types were not statistically related to proactive or reactive aggression.

Regression Analyses

The regressions demonstrated that experienced stressful life events ($\beta = .12$, $p \leq .01$), including interpersonal victimization ($\beta = .11$, $p \leq .01$) and other trauma exposure ($\beta = .12$, $p \leq .01$), were uniquely positively associated with reactive aggression, but statistically unrelated to proactive aggression. Witnessed stressful life events were not uniquely associated with proactive aggression ($\beta = .00$, $p = .93$) or reactive aggression ($\beta = .05$, $p = .31$), and with the exception of war zone exposure being positively associated with proactive aggression ($\beta = .08$, $p = .05$), this was true across the stressful life event types ($\beta s = -.04$ to .08; *p's* > .19). Learned about stressful life events were not associated with proactive aggression ($\beta = .03$, $p = .47$) or reactive aggression ($\beta = .02$, $p = .63$), and this pattern held true across the stressful life event types ($\beta s = .01$ to .06; *ps > .11*).

Discussion

Bivariate associations indicated that all three levels of stressful life event exposure (i.e., experienced, witnessed, and learned about) were associated with reactive aggression, while only witnessed stressful life events were associated with proactive aggression. This finding is consistent with prior studies, which have found the link between stressful life events and reactive aggression to be stronger than the link between stressful life events and proactive aggression (Brown et al., 2016; Fite et al., 2015). Stressful life events might be more strongly associated with reactive aggression because this link is governed by insecurity and environmental instability, a common feature of stressful life events (Fite et al., 2012). On the other hand, the aggression modeling mechanism that underlies the association between stressful life events and proactive aggression is unique to few stressful life events that involve witnessing aggressive behavior (Fite et al., 2012).

Among the levels of stressful life events, our results indicated that experienced stressful life events were associated with reactive aggression only and learned about specific stressful life events were not salient enough to uniquely influence either function of aggressive behavior. Witnessed stressful life events, however, were more inconsistently associated with proactive and reactive aggression. It might be that the more directly a stressful life event is experienced, the greater the risk for emotional deficits due to insecurity and instability (Fite

et al., 2012). In that way, individuals experiencing or witnessing more stressful life events might be more inclined to exhibit reactive aggression. On the other hand, witnessed stressful life events might also allow for greater generalization of experiences through observation than stressful life events that are experienced first-hand or learned about, explaining why witnessed stressful life events appear to be linked to both proactive and reactive aggression. Further research is needed to determine whether these hypotheses are valid.

In line with the existing evidence (DiPierro et al., 2016; Freedy et al., 2010), we found differential associations between stressful life event types and proactive and reactive aggression. For example, witnessing interpersonal violence or sexual victimization was associated with higher levels of proactive and reactive aggression, witnessing other trauma exposure was associated with higher levels of reactive aggression only, and witnessing war zone exposure was not significantly correlated with either function of aggression. Although previous findings indicate that interpersonal violence and sexual victimization might differentially relate to depression (Freedy et al., 2010), current findings suggest that these two stressful life event types relate similarly to proactive and reactive aggression. These results might indicate that interpersonal trauma, including interpersonally violent and sexually victimizing acts, compared to other types of stressful life events, might have a more profound effect on decision making and emotion regulatory processes associated with reactive aggression and the modeled aggression associated with proactive aggression.

It is also likely that the low rate of war zone exposure in the current sample contributed to the non-significant associations. It would be particularly interesting to examine, in future studies, how level of exposure to war zone trauma might differentially relate to proactive and reactive aggression in samples with greater war zone exposure (e.g., military and veteran populations).

Limitations and Conclusions

Interpretation of the current findings is hampered by several limitations, including the correlational design, which precludes causal inferences. Additional studies are needed to examine the longitudinal effects that type and level of exposure to stressful life events might have on proactive and reactive aggression. Examining these associations in a predominantly Caucasian sample is also limitation. Research is needed to determine whether similar results might be found in more racially and ethnically diverse samples. Given research suggesting that an individual's appraisal of stressful life events might influence the impact stressful life events have on negative outcomes (Jackson & Warren, 2000), the lack of data on participants' subjective appraisals of their experiences is another limitation. Future studies might ask participants to indicate the extent to which an endorsed event upset them in order to examine whether participants' appraisals play a role in the associations between stressful life events and proactive and reactive aggression.

Nevertheless, this study has implications for research and clinical practice. Research in this area could be extended through the identification of factors that might moderate or mediate the associations between type and level of exposure to stressful life events and proactive and reactive aggression (e.g., emotion regulation and coping). With respect to clinical implications, the current results echo the importance of assessing history of stressful life

events among clients who present with aggression, specifically reactive aggression. The assessment of stressful life events might extend beyond inquiring about experienced stressful life events, as the current results suggest that stressful life events that were witnessed also have an effect on outcomes. The positive association between experienced stressful life events and reactive aggression suggests that clinic work with those exposed to higher levels of experienced stressful life events might include monitoring strategies and cognitive behavioral techniques (Fite et al., 2016). If witnessing sexual victimization and other interpersonal forms of trauma indeed increase the risk of proactive and reactive aggression, as the current results might indicate, clinical interventions might aim to improve perception and interpretation of social information, lower sensitization to threats, and provide skills training centered on generating alternative methods of obtaining goals, which have been indicated in the treatment of proactive and reactive aggression (Fite et al., 2016).

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Table 1

Percentage of participants reporting exposure to stressful life events.

	Experienced	Witnessed	Learned about
Lifetime exposure			
One or more stressful life event(s)	70	72	82
Three of more stressful life events	29	41	71
Type of exposure			
War zone exposure	1	4	52
Sexual victimization	15	7	55
Interpersonal violence	22	36	63
Other trauma exposure	65	68	80

Table 2

Correlations, means, and standard deviations of stressful life events and proactive and reactive aggression.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. SLEs exp	-																
2. War exp	.30**	-															
3. Sexual exp	.46**	.01	-														
4. IV exp	.67**	.26**	.19**	-													
5. Other exp	.91**	.20**	.17**	.42**	-												
6. SLEs wit	.42**	.19**	.13**	.28**	.40**	-											
7. War wit	.18**	.27**	.05	.15**	.14**	.37**	-										
8. Sexual wit	.15**	.05	.05	.08	.15**	.46**	35**	-									
9. IV wit	.36**	.19**	.16**	.29**	.30**	.79**	.27**	.38**	-								
10. Other wit	.39**	.14**	.10*	.24**	.39**	.94**	.22**	.26**	.56**	-							
11. SLEs learn	.20**	.05	.03	.11*	.21**	.43**	.01	.12**	.30**	.50**	-						
12. War learn	.23**	.04	.07	.14**	.23**	.44**	.06	.14**	.34**	.45**	.81**	-					
13. Sexual learn	.12**	.04	−.08	.06	.18**	.34**	−.04	.07	.23**	.37**	.79**	.63**	-				
14. IV learn	.17**	.01	.01	.08	.19**	.34**	−.00	.09*	.21**	.38**	.91**	.70**	.70**	-			
15. Other learn	.19**	.07	.06	.11*	.18**	.41**	.02	.11*	.29**	.43**	.95**	.70**	.64**	.79**	-		
16. PA	.03	−.01	−.04	.09	.03	.12**	.08	.15**	.11*	.08	.07	.05	.07	.07	.06	-	
17. RA	.14**	.00	−.03	.17**	.14**	.13**	.02	.12**	.11*	.11*	.09*	.09	.08	.09	.07	.59**	-
M	1.83	.02	.20	.27	1.34	2.57	.05	.09	.52	1.91	6.96	.84	.96	1.56	3.60	13.62	18.14
SD	1.90	.14	.52	.54	1.38	2.73	.24	.36	.81	1.95	5.53	.88	.93	1.46	2.90	2.29	3.68

Note: M mean, SD standard deviation,

* p < .05,

** p < .01;

SLEs exp = experienced stressful life events; War exp = experienced war zone exposure; Sexual exp = experienced sexual victimization; IV exp = experienced interpersonal violence; Other exp = experienced other trauma; SLEs wit = witnessed stressful life events; War wit = witnessed war zone exposure; Sexual wit = witnessed sexual victimization; IV wit = witnessed interpersonal violence; Other wit = witnessed other trauma; SLEs learn = learned about stressful life events; War learn = learned about war zone exposure; Sexual learn = learned about sexual victimization; IV learn = learned about interpersonal violence; Other learn = learned about other trauma; PA = proactive aggression; RA = reactive aggression.