Links Between the Police Response and Women's Psychological Outcomes Following Intimate Partner Violence

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Virtually no research considers the psychological impact of institutional support for survivors of intimate partner violence (IPV). This study sought to fill this gap by examining associations between one component of institutional support—the police response—and posttraumatic stress disorder (PTSD) symptom severity and posttrauma appraisals (i.e., anger, fear, and self-blame) in a diverse sample of female IPV survivors ($N = 236$). Results indicated that a more negative police response, as operationalized by women's unmet expectations in relation to the police, was significantly associated with greater PTSD symptom severity in a very conservative test that involved controlling for personal resources and social support. Police response was not significantly associated with the tested posttrauma appraisals. Implications for policy and practice will be discussed. This study advances understanding of the psychological impact of the police response—one key component of institutional support.

Approximately 5.3 million incidents of intimate partner violence (IPV) are perpetrated against adult women on an annual basis in the United States (National Center for Injury Prevention and Control, 2003). Ecological theories of IPV point to the importance of examining contextual and systemic factors that may contribute to survivors' physical and psychological well-being following IPV (e.g., Carlson, 1984; Lawson, 2012). Psychological well-being can be considered in terms of mental health symptoms (e.g., posttraumatic stress disorder [PTSD] symptom severity) as well as meaning making about the trauma itself (e.g., the degree to which survivors feel anger, fear, and/or self-blame about the event).

In trying to predict psychological well-being, ecological theories have emphasized three factors: personal resources, social support, and institutional support (Fleury-Steiner, Bybee, Sullivan, Belknap, & Melton, 2006). Personal resources include one's income, education, occupational status, and level of economic dependence on the offender—all of which are likely to influence one's coping abilities when recovering from trauma (Kaukinen, Meyer, & Akers, 2013; Mitchell & Hodson, 1986). Social support includes the support of interpersonal others, as in providing friendship, emotional support,

reinforcement of positive self-conceptions, or tangible aid (Bauman, Haaga, Kaltman, & Dutton, 2012; Cohen, Mermelstein, Kamarck, & Hoberman, 1985). Institutional support includes the support of institutions or institutional representatives with whom survivors may interact, such as the criminal justice and mental health systems, police, lawyers, victim advocates, psychologists, psychiatrists, and so on (Short, Johnson, & Osattin, 1998).

The response of the criminal justice system is a main element of institutional support, and police intervention in turn constitutes an important part of this response. For those women whose experience of abuse is reported to law enforcement, interactions with the police typically constitute their first encounter with institutional systems in general and with the criminal justice system in particular (Buzawa & Buzawa, 2003).

A fairly substantial body of research documents the impact of IPV survivors' personal resources (e.g., education) and social support (e.g., friendship) on their psychological outcomes, including PTSD symptom severity (Brewin, Andrews, & Valentine, 2000). For example, research suggests that higher income and education serve as protective factors against PTSD symptoms (Coker, Weston, Creson, Justice, & Blakeney, 2005), and a meta-analysis of the literature indicates that lack of social support has consistently appeared as one of the strongest predictors of PTSD symptoms (Ozer, Best, Lipsey, & Weiss, 2003).

Although researchers have thus given a fair amount of attention to the psychological impact of personal resources and social support on PTSD symptom severity, they have given very little attention to predicting posttrauma appraisals (e.g., fear, anger, self-blame) or to testing the psychological impact of institutional support. Therefore, a critical next step in the development and application of ecological theories of IPV is evaluating the relationship between institutional support and IPV survivors' psychological outcomes, particularly PTSD symptom severity as well as common posttrauma appraisals (e.g., anger, fear, self-blame). Because the police response represents a primary and integral part of institutional support in relation to IPV, looking at the police response would be a reasonable starting point in a larger project of considering the impact of institutional support on IPV survivors' psychological outcomes.

PRIOR RESEARCH ON THE POLICE RESPONSE

Most prior research on the police response to IPV survivors has focused on the effectiveness of the response and survivors' perceptions and behaviors following the response, rather than on survivors' psychological outcomes. Within a sociopolitical context, researchers have been most concerned with the effectiveness of the police response in deterring future crime (e.g., Maxwell, Garner, & Fagan, 2002). Within a psychosocial context, researchers have considered the police response in relation to survivors' satisfaction (e.g., Fleury, 2002; Johnson, 2007), future use of the criminal justice system (e.g., Fleury-Steiner et al., 2006; Hickman & Simpson, 2003), and future use of help-seeking behaviors (e.g., Lewis, Dobash, Dobash, & Cavanagh, 2000). Nevertheless, virtually no research explores the relationship between the police response and IPV survivors' psychological outcomes. This is especially surprising given the popular notion of institutional traumatization—that survivors of violence are often further distressed by the very institutions on which they depend for support (Campbell & Raja, 1998). Lack of research on the relationship between the police response and IPV survivors' psychological outcomes opens up a wide field of potential exploration.

THEORETICAL JUSTIFICATION

Whether the police intervene on the day of the IPV incident or shortly after, the police response may contribute to how survivors process the IPV experience. Reporting the incident to the police may be the first time IPV survivors verbally recount the traumatic event to someone else. If survivors perceive the police to be uninterested or unsupportive, they may be less likely to talk about the event in great detail, perhaps leaving out more distressing elements or withholding emotion in an effort to convey basic facts. Recounting the event in this way may negatively influence survivors' creation of the trauma narrative, potentially influencing the development of PTSD symptoms.

The police response may also influence IPV survivors' formation of posttrauma appraisals of the IPV incident. Interpretations of people's reactions in the aftermath of trauma can influence the way individuals begin to make sense of their thoughts, feelings, and behaviors in relation to the trauma (DePrince, Zurbriggen, Chu, & Smart; 2010; Ehlers & Clark, 2000). DePrince and colleagues have found evidence supporting the existence of different categories of posttrauma appraisals including anger, fear, and self-blame (DePrince et al., 2010), which have also tended to receive particular attention as relevant posttrauma appraisals in the literature on IPV (e.g., DePrince, Labus, Belknap, Buckingham, & Gover, 2012; O'Neill & Kerig, 2000; Shurman & Rodriguez, 2006).

If the police respond negatively, survivors may begin to doubt whether the offender really did anything wrong, or they may wonder whether they overreacted to a situation that others do not take seriously. These perceptions may lead survivors to think that they have no basis for feeling angry about the incident, thereby decreasing anger appraisals. In addition, survivors may feel that they have nowhere reliable to turn for protection, or that the police are not competent or compassionate enough to ensure that the offender will be caught and charged, thereby increasing fear appraisals. Survivors may also internalize a negative police response by wondering whether they are at fault for what has happened or whether they could have prevented the incident, thereby increasing self-blame appraisals.

Furthermore, the police play a special role as representatives of the criminal justice system, and of the state at large, who are specifically entrusted with looking out for, protecting, and supporting vulnerable or victimized individuals. The unique role of the police as institutional representatives may imbue the police response with a distinctive significance. Whether survivors start out with more positive or negative views of the police, subsequently negative interactions with the police could thus be especially harmful and invalidating, leading IPV survivors to believe that they cannot rely on those entrusted with upholding their rights, or that they are essentially helpless in a world that has shown itself to be fundamentally unjust. These beliefs may also affect the development of PTSD symptoms and posttrauma appraisals of the IPV incident.

CURRENT STUDY

This study explores the relationship between institutional support and IPV survivors' psychological outcomes by considering how the police response may be linked with survivors' PTSD symptom severity and posttrauma appraisals. In particular, we predicted that the police response would account for unique variance in IPV survivors' PTSD symptom severity and appraisals, above and beyond the contribution of ecological variables already known to impact IPV survivors' psychological outcomes (i.e., personal resources

and social support). Specifically, we predicted that a more negative police response would be significantly associated with greater PTSD symptom severity, lower posttrauma appraisals of anger, and greater posttrauma appraisals of fear and self-blame, even when controlling for personal resources and social support.

METHOD

Participants

A sample of 236 women was recruited as part of a larger study on coordinated community response programs. Participants were diverse in terms of age, ethnic/racial background, income, and education. Ages ranged from 18 to 61, with a mean age of 33.4 years ($SD = 11.0$). Participants identified their ethnic/racial backgrounds as follows (with the opportunity to indicate multiple categories): 47% White, 30% African American, 2% Asian/Asian American, 1% Pacific Islander, 11% American Indian or Alaskan Native, 6% Other, and 39% Hispanic or Latina. Participants' median income (including salary and nonsalary sources) was $7,644 (range $0–$108,000). Participants indicated their highest level of education as follows: 3% first through eighth grade, 27% some high school, 26% completed high school, 25% some college, 8% associate's degree, 7% four-year college degree, 2% postgraduate education, and 2% other education (e.g., trade school, specialized training). Participants' average occupational status (coded based on Hollingshead, 1975) was 31.91 ($SD = 21.59$). Additional information about the sample and larger study (including victimization history) are provided in detail in DePrince, Belknap, Labus, Buckingham, and Gover (2012); DePrince, Labus, et al., (2012); and Matlow and DePrince (2013).

Measures

The Police Response. An interview section adapted from Gover, Brank, and MacDonald's (2007) protocol for evaluating IPV survivors' perceptions of the criminal justice system was used to assess the police response. Five separate indicators were used to assess the police response. Two were based on responses to Likert-scale items. The first indicator assessed dissatisfaction with police treatment. The second indicator assessed feelings of disrespect in relation to police treatment. Higher scores indicated greater dissatisfaction and disrespect.

The other three indicators were constructed through coding participants' responses from verbatim transcripts of the interview section on the police response. The first indicator was coded through responses to the question, "What things did the police do to make you feel respected/not respected?" This indicator assessed overall level of respect by subtracting the number of discrete endorsements of disrespect from the number of discrete endorsements of respect participants reported experiencing in their interactions with the police. A discrete endorsement of respect/disrespect was defined as the statement of a single sentiment, expressed by an articulated cognition (e.g., "They made me feel like crap") and/or a description of behavior (e.g., "They yelled at me for wasting their time"). Higher scores indicated greater overall level of respect. The second indicator was coded through responses to the question, "Is there anything you wanted the police to do that they did not do, and if so, what was it?" This indicator assessed unmet expectations in relation to the police by tallying the number of discrete instances of reported unmet expectations. A

discrete instance of an unmet expectation was defined as a statement of a single action or behavior the police did not to do that the participant wished the police had done (e.g., not arresting the offender, not transporting the participant to the hospital). Higher scores indicated a greater number of unmet expectations. The third indicator assessed negative biases or generalizations about the police—any general beliefs about the police, based on prior or current experience, as indicated by the participant speaking about the police in some kind of generalized way (e.g., "You know how the police are; they treat people badly"). This indicator was coded according to the presence/absence of any relevant statement in the full transcript of the police response section, where presence received a score of 1, and absence a score of 0. A random subset of 20% of the transcripts was double coded for the three indicators by an independent second coder. Interrater reliability was excellent, with Cohen's kappa ranging from .80 to .88.

Personal Resources. Personal resources were assessed with four items. Three of these items—income, education, and occupational status—were used together to create an estimate of socioeconomic status (SES). Total income represented a sum of yearly salary and nonsalary income (i.e., contributions from family and others, welfare support, food stamps, etc.). Level of education was measured using a self-report 1–8 scale where 1 indicated *no schooling* and 8 indicated *postgraduate education*. Occupational status was coded according to Hollingshead (1975). An estimate of SES was computed by averaging z scores for total income, education, and occupational status indicators. A fourth item for assessing personal resources was women's self-reported rating of level of economic dependence on the offender. The estimate of SES was derived from more objective measures, whereas level of economic dependence was derived from a more subjective self-report, so we treated these indicators separately. Higher scores respectively indicated greater SES and greater economic dependence.

Social Support. Social support was assessed with 16 items from the Interpersonal Support Evaluation List (ISEL; Cohen et al., 1985), a self-report questionnaire that includes subscales for four kinds of social support: belonging/companionship support, appraisal/emotional support, self-esteem support, and instrumental/tangible material aid support. This shorter form of the ISEL contained four items from each subscale. Responses to all items were summed to obtain a total score for each participant, with higher scores indicating greater levels of social support. Coefficient alpha was .88.

Additional Control Variables. In addition to the aforementioned ecological variables, two other control variables were assessed. The first variable was the day on which police intervened (i.e., 1 = same day, 0 = later day). The second variable was participant's level of injury sustained during the IPV incident. These variables were assessed to control for any effect that day of police intervention or participant level of injury may have had on PTSD symptom severity or posttrauma appraisals. Level of injury was assessed through the injury subscale of the revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996), a widely-used and well-validated self-report questionnaire assessing conflict in intimate partner relationships. We used the subscale to tally the total number of injuries sustained by women during the IPV incident (possible range 0–17).

Posttraumatic Stress Disorder Symptom Severity. PTSD symptom severity was assessed with the Posttraumatic Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997), a 28-item self-report questionnaire assessing symptoms of PTSD that correspond directly with the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; DSM-IV-TR) criteria for PTSD, including symptoms of reexperiencing, avoidance, and hyperarousal. Participants were asked to respond to items in relation to the reported IPV

incident, and they rated the frequency of PTSD symptoms over the previous 1 month on a scale from 0 to 3. Coefficient alpha was .93. Responses to all the items in the PDS were summed to obtain a total PDS score for each participant. A higher score indicated greater symptom severity.

Posttrauma Appraisals. Posttrauma appraisals were assessed with the Trauma Appraisal Questionnaire (TAQ; DePrince et al., 2010), a self-report questionnaire with 30 items specifically measuring anger, fear, and self-blame appraisals. Response options were on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Participants in this study were asked to respond based on their thoughts, feelings, or experiences at the time of the recent IPV incident for which they were referred to the study. Responses to the items of each appraisal scale were summed and divided by the total number of item responses for that scale to produce overall anger, fear, and self-blame mean scores for each participant, with higher scores indicating stronger appraisals. Coefficient alphas ranged from .83 to .93.

Procedure

All procedures were approved by a university institutional review board. For a full description of recruitment and study procedures, please see the two aforementioned papers by DePrince and colleagues (DePrince, Belknap, et al., 2012; DePrince, Labus, et al., 2012). Women ($N = 236$) were recruited from publicly accessible IPV incident reports in Denver, Colorado. Cases involved an adult male perpetrator and an adult female victim. The research team initiated contact with potential participants via a lead letter and a follow-up phone call inviting women to participate in a study involving completion of interviews and questionnaires about women's health. Participants completed an initial 3-hour interview at the University of Denver. The principal investigator or female graduate research assistants administered the interviews. During the informed consent process, women were informed that their names were accessed using public records and that the research was about IPV. Consent information was provided both verbally by research personnel and on written forms. A consent quiz was administered to ensure that all women understood the consent information. Only women who answered 100% of the consent quiz questions correctly were enrolled in the study (two women did not pass). Participants completed the initial interview a median of 26 days following the reported IPV incident and received $50 as compensation for their participation.

RESULTS

Data Analysis Overview

Hierarchical multiple regression analyses were used to assess whether the police response was associated with IPV survivors' PTSD symptom severity and posttrauma appraisals. The first step of the analyses tested whether personal resources and social support were significantly associated with PTSD symptom severity and posttrauma appraisals while controlling for day of intervention and level of injury. The purpose of this step was to test whether our sample replicated previous research relating personal resources and social support with PTSD symptom severity as well as to test whether these known ecological variables also related to posttrauma appraisals. The second step of the analyses tested whether the police response was significantly associated with PTSD symptom severity

and posttrauma appraisals while controlling for the variables entered in the first step. The purpose of this step was to test whether the police response accounted for unique variance in PTSD symptom severity and posttrauma appraisals, above and beyond traditionally researched ecological variables including personal resources and social support.

Table 1 presents descriptive statistics including mean and standard deviation for all continuous variables. Table 2 presents bivariate correlations for the predictor variables. Table 3 presents the results of hierarchical multiple regression analyses, including regression coefficients and estimated R^2 for each model tested.

In the model predicting PTSD symptom severity, SES and social support accounted for unique variance; higher SES and lower social support were associated with greater PTSD symptom severity. When the police response indicators were entered on the second step, the full model was significant ($F[10,164] = 5.11, p < .001$). However, SES no longer reached significance. One police response indicator, unmet expectations in relation to the police, accounted for unique variance; a greater number of unmet expectations was associated with greater PTSD symptom severity. In particular, each additional reported unmet expectation was associated with a 2-point increase in PTSD symptom severity score.

In the models predicting appraisals of anger, fear, and self-blame, social support accounted for unique variance; less social support was associated with greater appraisals of anger, fear, and self-blame in relation to the IPV incident. SES did not reach significance in any of the models. When the police response indicators were entered on the second step, the full models were significant ($F[10,160] = 3.45, p < .001$ for anger; $F[10,160] = 2.04$, $p < .05$ for fear; and $F[10,159] = 4.65, p < .001$ for self-blame). None of the police response indicators reached significance in any of the models; however, unmet expectations showed a trend for significance in the model predicting anger, with a greater number of unmet expectations associated with greater appraisals of anger.

TABLE 1.   Mean and Standard Deviation for Continuous Indicators

	M	SD
Socioeconomic status (z score)	.00	.77
Economic dependence	2.41	1.61
Social support	32.30	9.76
Level of injury	3.41	3.30
Dissatisfaction	2.00	1.00
Disrespect	1.78	1.01
Overall respect	0.78	2.06
Unmet expectations	0.71	0.92
PTSD symptom severity	16.59	12.11
Anger	1.93	0.97
Fear	2.27	1.17
Self-blame	2.02	1.03

Note. PTSD = posttraumatic stress disorder.

TABLE 2. Bivariate Correlations Among Independent Variables in Multiple Regression Analyses

	Economic dependence	Social support	Day of intervention	Level of injury	Dissatisfaction	Disrespect	Overall respect	Unmet expectations	Negative bias/ generalization
Socioeconomic status	−.16*	.14*	−.06	−.20**	−.04	−.07	.01	.10	.08
Economic dependence	—	−.14*	.10	.13†	.23**	.15*	−.07	−.03	.03
Social support		—	−.01	−.02	.03	.07	−.06	−.03	−.07
Day of intervention			—	.14*	.02	.05	.01	.09	.08
Level of injury				—	.03	.15*	−.03	.02	−.04
Dissatisfaction					—	.74**	−.69**	.50**	.11
Disrespect						—	−.74**	.46**	.19**
Overall respect							—	−.44**	−.17*
Unmet expectations								—	.12

†*p* < .10. *p* < .05. **p* < .01. ***p* < .001.

TABLE 3. Regression Models Predicting Posttraumatic Stress Disorder (PTSD) Symptom Severity and Appraisals

Model Tested	Step	Adjusted R^2	Variable	B	SE B	β	t
PTSD symptom severity	Step 1	.18***	Socioeconomic status	2.15	1.09	.14	1.98*
			Economic dependence	−0.41	0.55	−.05	−0.75
			Social support	−0.48	0.09	−.39	−5.58***
			Day of intervention	−0.78	0.87	−.06	−0.89
			Level of injury	1.04	.28	.27	3.67***
	Step 2	.19***	Socioeconomic status	1.73	1.09	.11	1.58
			Economic dependence	−0.23	0.57	−.03	−0.40
			Social support	−0.46	0.09	−.38	−5.34***
			Day of intervention	−0.10	0.88	−.08	−1.13
			Level of injury	1.02	0.29	.26	3.59***
			Dissatisfaction	−1.74	1.41	−.14	−1.24
			Disrespect	0.74	1.48	.06	.50
			Overall respect	−0.12	0.64	−.02	−0.19
			Unmet expectations	2.62	1.13	.19	2.33*
			Negative bias/generalization	1.34	1.91	.05	0.70
Anger	Step 1	.13***	Socioeconomic status	0.06	0.10	.05	0.66
			Economic dependence	−0.02	0.05	−.03	−0.45
			Social support	−0.04	0.01	−.38	−5.11***
			Day of intervention	0.02	0.08	−.02	−0.26
			Level of injury	−0.05	0.03	.16	2.06*

	R^2	Predictor	B	SE	β	t
Step 2	.13***	Socioeconomic status	0.03	0.10	.03	0.34
		Economic dependence	0.00	0.05	.01	0.07
		Social support	−0.04	0.01	−.36	−4.89***
		Day of intervention	−0.04	0.08	−.04	−0.48
		Level of injury	0.05	0.03	.16	2.07*
		Dissatisfaction	−0.17	0.12	−.16	−1.38
		Disrespect	−0.01	0.13	−.01	−0.07
		Overall respect	−0.02	0.06	−.04	−0.35
		Unmet expectations	0.19	0.10	.16	1.92†
		Negative bias/generalization	0.07	0.17	.03	0.42
Fear						
Step 1	.07**	Socioeconomic status	0.10	0.12	.06	0.83
		Economic dependence	−0.06	0.06	−.08	−1.08
		Social support	−0.03	0.01	−.25	−3.33***
		Day of intervention	−0.05	0.09	−.04	−0.54
		Level of injury	0.08	0.03	.22	2.82**
Step 2	.06*	Socioeconomic status	0.07	0.12	.05	0.61
		Economic dependence	−0.04	0.06	−.06	−0.68
		Social support	−0.03	0.01	−.24	−3.15**
		Day of intervention	−0.07	0.10	−.05	−0.69
		Level of injury	0.09	0.03	.23	2.92**
		Dissatisfaction	−0.04	0.15	−.03	−0.28
		Disrespect	−0.14	0.16	.11	−0.91
		Overall respect	−0.01	0.07	−.02	−0.16
		Unmet expectations	0.15	0.12	.11	1.25
		Negative bias/generalization	0.03	0.21	.01	0.14

(Continued)

TABLE 3. Regression Models Predicting Posttraumatic Stress Disorder (PTSD) Symptom Severity and Appraisals (*Continued*)

Model Tested	Step	Adjusted R^2	Variable	B	$SE\ B$	β	t
Self-blame	Step 1	.18***	Socioeconomic status	0.14	0.09	.11	1.57
			Economic dependence	0.01	0.05	.02	0.23
			Social support	−0.05	0.01	−.44	−6.20***
			Day of intervention	−0.08	0.07	−.08	−1.06
			Level of injury	0.04	0.02	.13	1.79[†]
	Step 2	.18***	Socioeconomic status	0.12	0.09	.09	1.25
			Economic dependence	0.02	0.05	.04	0.50
			Social support	−0.04	0.01	−.43	−5.89***
			Day of intervention	−0.09	0.07	−.09	−1.27
			Level of injury	0.05	0.02	.15	2.01*
			Dissatisfaction	−0.03	0.12	−.03	−0.23
			Disrespect	−0.17	0.12	−.16	−1.33
			Overall respect	−0.03	0.05	−.06	−0.56
			Unmet expectations	0.11	0.09	.10	1.16
			Negative bias/generalization	0.16	0.16	.07	1.01

Note. R^2 = coefficient of determination; B = unstandardized regression coefficient; $SE\ B$ = standard error of B; β = standardized regression coefficient; t = t statistic.
[†]$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

DISCUSSION

Given the dearth of research on the link between the police response and IPV survivors' psychological outcomes, we made a series of predictions about relationships between the police response and survivors' PTSD symptom severity and posttrauma appraisals. The results replicated and extended a main finding in the existing research literature: social support was robustly linked with PTSD symptom severity and all posttrauma appraisals. In addition, the results bore out one main prediction: A more negative police response, as operationalized by unmet expectations in relation to the police, was significantly associated with greater PTSD symptom severity in a very conservative test that involved controlling for personal resources, social support, and other relevant control variables.

Personal Resources and Social Support

Existing research suggests that personal resources, such as higher income and education, protect against PTSD symptoms (Coker et al., 2005), and that lack of positive social support appears to be one of the strongest predictors of PTSD symptoms (Ozer et al., 2003). The current results did not replicate findings on personal resources. Our indicators of personal resources, which included SES (operationalized as a combination of income, education, and occupational status) and degree of self-reported economic dependence on the offender, were not significantly associated with PTSD symptom severity or any of the posttrauma appraisals in the full models, although SES was significantly associated with PTSD symptom severity in the first step of that model. Failure to replicate links between personal resources and psychological outcomes may be because of low power as well as sample characteristics. For example, the sample tended to be predominantly low income, which may have constrained variability to detect links between personal resources and outcomes.

The results did replicate existing research by finding that less social support was significantly associated with greater PTSD symptom severity. Moreover, the results extended research by finding that less social support was also significantly associated with greater appraisals of anger, fear, and self-blame. Social support accounted for significant, unique variance for all outcomes tested (i.e., PTSD symptom severity and all posttrauma appraisals). The relationship between social support and posttrauma appraisals is notable because appraisals themselves may constitute an important psychological outcome with further implications for IPV survivors' mental health and coping. For example, posttrauma appraisals of fear have been linked to decisions to avoid official actions such as reporting to law enforcement and engaging with prosecution (Gover, Welton-Mitchell, Belknap, & DePrince, 2013; Welton-Mitchell, DePrince, & Gover, 2011) but also positively linked to readiness to leave an abusive relationship (Matlow & DePrince, 2012), and posttrauma appraisals of self-blame have been negatively linked to psychological adjustment (O'Neill & Kerig, 2000).

The Police Response

We looked at five indicators of the police response: women's dissatisfaction with police treatment, women's feelings of disrespect in relation to police treatment, overall level of respect by the police, unmet expectations in relation to the police, and women's negative biases or generalizations about the police. The full model predicting PTSD symptom severity was significant. One indicator of the police response (unmet expectations) significantly

predicted PTSD symptom severity, over and above the contribution of personal resources, social support, and other control variables.

The singular effect of unmet expectations, both in relation to other police response indicators that did not explain unique variance and to other ecological and control variables (i.e., social support and level of injury) that largely contributed to variance, was notable. Unmet expectations captured such varied behaviors as the police not going after or arresting the offender when the survivor so preferred, arresting the offender when the survivor did not want arrest, not performing services the survivor desired (e.g., ride to the hospital, information about shelters), and not behaving in a way the survivor thought appropriate (e.g., yelling, being rude, blaming). Unmet expectations may thus have captured more of the essential nature of the overall police response than did each of the other police response indicators. It may also have been a more sensitive yet subtle indicator of women's perceptions of the police response; some women who endorsed general satisfaction and feelings of respect in relation to police treatment could still list several things the police did not do; and so, unmet expectations could have served as a more accurate reflection of women's experiences, or at least as an accounting of women's experiences that was more pertinent to psychological outcomes. This is consistent with social psychology literature suggesting that negative information and events tend to influence evaluations more strongly than do positive information and events (e.g., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001).

Furthermore, unmet expectations may have increased survivors' sense of current threat, even if subconsciously. Sense of current threat has been hypothesized and shown to relate to PTSD symptom severity (Ehlers & Clark, 2000; Lancaster, Rodriquez, & Weston, 2011). Not arresting the offender, not providing a ride to the hospital, and blaming are all police actions that could understandably have made the survivor feel that she might still be under threat of future abuse from which she had not received adequate help, consistent with our theory about the police serving a special role as institutional representatives. Alternatively, suffering from PTSD symptoms could lead survivors to be more likely to perceive that the police had not met their expectations.

Unmet expectations also showed a trend for significance in the model for anger in relation to the IPV incident, in a very conservative test of the hypothesis that involved controlling for personal resources, social support, and other relevant variables; however, the trend was opposite to our prediction. A higher number of unmet expectations was associated with higher appraisals of anger in relation to the IPV incident. We had predicted that a more negative police response would make survivors feel invalidated and more unjustified in feeling angry about the abuse. However, unmet expectations may instead have produced more generally negative feelings about the whole situation, including the abuse. Rather than feeling invalidated, women who felt that the police were failing them may have felt greater anger about the abuse they suffered as well, consistent with our theory about the police playing a role in initial trauma processing that impacts how women make meaning of the traumatic event. Again, alternatively, women who felt greater anger in relation to the IPV incident may have been more likely to perceive that the police had not met their expectations, with negative feelings generalizing from experiences of the IPV incident to interactions with the police.

Importantly, no police response indicators reached significance in explaining unique variance in appraisals of anger, fear, or self-blame. Our police response indicators may not have done a good job of operationalizing the construct or may have tapped different components of the response that do not actually all map on to the same construct.

Alternatively, the police response may simply not have been as important a predictor of posttrauma appraisals.

Limitations

Because little research has considered the police response, this study attempted a more thorough operationalization of the construct, using both established indicators that have traditionally been used to measure procedural justice (i.e., survivors' dissatisfaction with police treatment and feelings of disrespect in relation to police treatment assessed with Likert-scale items), and newly created indicators that were coded from transcripts of the interview section on the police response (i.e., survivors' overall level of respect by the police, survivors' unmet expectations in relation to the police, and survivors' negative biases or generalizations about the police). Only one indicator (unmet expectations) explained unique variance in any of the outcome variables. Thus, we cannot rule out problems with the indicators used in assessing the most important or meaningful dimensions of the police response. All indicators also relied on IPV survivors' retrospective self-reports, rather than on survivors' reports immediately following the police response or on police reports as well, inevitably leading to somewhat less accurate measurement of the police response.

SUMMARY AND FUTURE DIRECTIONS

Although other studies of IPV have considered the impact of ecological factors such as personal resources and social support on survivors' psychological outcomes, this is the only study to date that has considered the impact of a third, potentially important ecological factor—institutional support. Specifically, this study considered relationships between the police response, which is a major component of institutional support, and IPV survivors' PTSD symptom severity and posttrauma appraisals. One indicator of the police response (unmet expectations) explained unique variance in IPV survivors' PTSD symptom severity, over and above the contribution of personal resources and social support. This result suggests that, even if the ultimate effect is small, the police response makes a measurable contribution to one major psychological outcome for IPV survivors. Furthermore, this study replicated and extended research on social support, which appeared to be a robust predictor of PTSD symptom severity and posttrauma appraisals.

Addressing limitations of this study, future studies should attempt to improve operationalization of the police response construct, as through modification of established response measures (e.g., modification of the well-established Social Reactions Questionnaire [SRQ; Ullman, 2000] to query for IPV survivors' perceptions of police officers' reactions), interviewing survivors immediately after interactions with the police, or integrating information from police reports. Future studies should also explore the impact of other components of institutional support, including the responses of lawyers, victim and community-based advocates, rape crisis and medical personnel, and counselors, among others; as well as assessing IPV survivors' perceptions of broad systems, such as the criminal justice and mental health systems, social services, civil society, media, nonprofit organizations, and religious institutions.

In terms of implications for policy and practice, the effect of unmet expectations as a police response indicator may at least partly reflect women's confusion over police obligations as well as police failures or omissions in carrying out helpful or appropriate actions. Women may not

be aware of probable cause statutes in Colorado that allow police discretion in deciding whether or not to arrest the offender, and they also may not know of the different responsibilities of other institutional representatives (e.g., victims' advocates, medical personnel) following an IPV incident. To help realistically ground women's expectations, police departments may consider creating pamphlets that explain relevant criminal statutes and the role of different institutional representatives. Perhaps more importantly, given the unique and complex nature of different IPV incidents, police departments may consider creating checklists of potentially helpful actions, adherence to which could prevent human but avoidable failures or omissions. The idea of checklists has gained prominence with Gawande's (2009) theory of the high potential for mistakes in organizational and institutional realms of complex activity.

Finally, greater understanding of the psychological impact of the police response and institutional support in general may be especially critical because of the effect negative psychological outcomes may have on other parts of IPV survivors' lives (e.g., use of the criminal justice system, decisions to leave the abusive relationship), and to the immense public health costs associated with IPV. This study will hopefully be the first in a series of studies that evaluates the psychological impact of various components of institutional support, with the ultimate aim of making institutional responses more adaptive to IPV survivors' psychological well-being.

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