

RESEARCH

**The Relation Between Mindfulness and
Posttraumatic Growth: A Study of
First Responders to Trauma-Inducing Incidents**

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Research on the reactions of first responders (e.g., police officers, fire fighters) to traumatic incidents has largely focused on negative symptoms (e.g., posttraumatic stress disorder) rather than aspects promoting mental health. Consistent with the counseling profession's focus on growth and development, this study investigated the relation between mindfulness (using the Kentucky Inventory of Mindfulness Skills) and posttraumatic growth (using the Posttraumatic Growth Inventory) among 183 police officers. Results of multiple regression analyses showed that effort toward spiritual growth was positively correlated, and accepting events without judgment was negatively correlated, with posttraumatic growth. Implications for mental health counseling are discussed.

First responders to incidents involving destruction to physical property, violence, or death commonly experience high levels of trauma-related stress (Everly & Mitchell, 1999; Stinchcomb, 2004), a circumstance that often results in associated emotional suffering and social problems (Morash, Haarr, & Kwak, 2006; Territo & Sewell, 1999). Examples of related psychosocial symptoms are anxiety (Foa & Rothbaum, 1998), substance abuse (Cross & Ashley, 2004), suicidality (Violanti, 2004), job burnout (Stinchcomb, 2004), memory problems (Beehr, Ivanitskaya, Glaser, Erofeev, & Canali, 2004), and posttraumatic stress disorder (PTSD) (American Psychiatric Association, 2000; Finch, 2003). Related physical problems can include cardiovascular, neurological,

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gastrointestinal, audiological, and pain symptoms (Van der Kolk, McFarlane, & Weisaeth, 1996).

One group of first responders often placed in dangerous and potentially life-threatening circumstances is police officers. They are especially vulnerable to both direct and vicarious traumatic events (Karlsson & Christianson, 2003; Liberman, Best, Metzler, Fagan, Weiss, & Marmar, 2002) because they must not only confront illegal and sometimes violent behaviors but they must also assist other first responders (e.g., fire fighters and paramedics) when they are called to duty. As a result, it is estimated that 12–35% of police officers may meet the diagnostic criteria for PTSD at any given point (Boyle, 1987; Carlier, Lamberts, & Gersons, 1997; Maia et al., 2007). Karlsson and Christianson found that police officers exposed to traumatic situations commonly experienced long-lasting depression, fear when reminded of the event, guilt, tension, irritability, and nightmares. They often reported feelings of powerlessness and despair, especially when children were injured or killed. Posttraumatic experiences also contribute to a high turnover rate in police departments, and were ranked as the fifth most common referral to mental health practitioners among first responders (Mann & Neece, 1990). Examples of trauma-related events may include an officer-involved shooting, the death of a coworker, physical injury while on duty, hostage situations, exposure to dead bodies, and police suicides (Cross & Ashley, 2004).

Successful coping with stressful incidents is related to factors such as an officer's past experiences with trauma, development of coping strategies, availability of social support networks (e.g., family, friends, and colleagues), and a personal awareness of the consequences of posttraumatic reactions (Orsillo & Batten, 2005). For example, avoiding or ignoring the emotional effects can lead to serious short- and long-term consequences (Cross & Ashley, 2004).

A variety of interventions have been developed to promote positive coping among trauma survivors, including first responders. Many are designed to reduce avoidance of thoughts, emotions, and behaviors associated with the trauma. Examples are exposure therapy (Foa et al., 2005), Brief Eclectic Therapy (Lindauer et al., 2005), and Eye Movement Desensitization and Reprocessing (Wilson, Tinker, Becker, & Logan, 2001). Orsillo and Batten (2005) wrote that "the key element across several successful PTSD treatment approaches involves prescribing the direct opposite of avoidance and escape . . . of trauma related internal and external cues" (p. 96). Therefore, strategies designed to help clients experience the present moment hold promise as interventions for trauma-related disorders (Batten & Hayes, 2005). Mindfulness is one such strategy that warrants additional research (Marlatt, 2002).

Mindfulness is commonly described as the state of being attentive to and aware of what is taking place in the present (Brown & Ryan, 2003). Efforts to forcibly control negative experiences are abandoned and replaced with the

acknowledgement that the emotions are present (Bishop et al., 2004). Treatments incorporating mindfulness principles show successful outcomes regarding general stress (Shapiro, Astin, Bishop, & Cordova, 2005), depression (Bedard et al., 2005), sleep quality (Smith, Richardson, Hoffman, & Pilkington, 2005), chronic fatigue syndrome (Surawy, Roberts & Silver, 2005), and anxiety (Semple, Reid, & Miller, 2005). However, most trauma and mindfulness-related treatment approaches are focused on understanding and eliminating the negative, obtrusive, harmful aspects of the phenomenon. Theorists and clinicians have more recently begun to point out that exposure to traumatic events has the potential to generate positive outcomes as well.

Posttraumatic growth (PTG) is one term used to describe the positive outcomes of trauma. PTG is defined as positive changes within a person resulting from an event that disrupts one's view of the world. PTG does not occur as a direct result of the trauma *per se*; rather, a new reality experienced in the aftermath of the trauma determines the degree of PTG (Tedeschi & Calhoun, 2004). Therefore, cognitive processing produces new schemas that incorporate the trauma into the individual's world view. PTG, manifested as a greater appreciation for life, more meaningful interpersonal relationships, and an increased sense of personal strength (Tedeschi & Calhoun), has been shown to occur in traumatized children (Cryder, Kilmer, Tedeschi, & Calhoun, 2006), clinicians affected by vicarious trauma (Arnold, Calhoun, Tedeschi, & Cann, 2005), persons with chronic physical illness (Milam, 2004), and disaster survivors (Tang, 2006).

It seems logical that persons with increased mindfulness may be more likely to demonstrate the personal and other awareness and cognitive restructuring ability that is important for PTG. For example, mindfulness can break the cycle of trauma-related avoidance and increase attention and purposeful behavior among trauma victims (Follette, Palm, & Pearson, 2006). However, although research has supported mindfulness as one avenue for reducing PTSD-related symptoms (Batten & Hayes, 2005; Hayes & Strosahl, 2004), the relationship of PTG and mindfulness has not as yet been studied. In particular, research on PTG-related antecedents and mindfulness-related benefits among first responders has been neglected. Considering that first responders in general, and police officers in particular, are repeatedly exposed to traumatic incidents, additional research on PTG in this area is warranted.

Overlooking the positive aspects of trauma recovery limits counseling professionals' understanding of client well-being. Research on PTG and mindfulness can help advance counseling-related knowledge and skills consistent with the profession's focus on mental health and human development principles (American Mental Health Counselors Association, 2009; Gladding, 2009). It is hoped that knowledge about mindfulness and its impact on PTG can help mental health counselors better intervene clinically with first responders. The

purpose of this study, therefore, was to investigate the relationship between mindfulness and posttraumatic growth in a sample of first responders. The research question posed was: To what extent is posttraumatic growth among law enforcement officers associated with increased mindfulness and awareness of effort put toward personal (e.g., spiritual and relationship) growth?

METHOD

Participants

Participants in this study were 183 police officers drawn from city police departments across a Midwestern state. They were solicited from police departments that varied in size from about 30 to 1,800 officers; 170 (92.9%) were male and 13 (7.1%) female. Their ages ranged from 23 to 67 ($M = 37.9$, $SD = 8.4$). Self-identified race of participants was 153 (83.6%) Euro Americans, 24 (13.1%) African Americans, 2 (1.1%) Asian Americans, 2 (1.1%) Native Americans, and 1 (.5%) who identified as Other. Years of education ranged from 12 to 20 ($M = 14.7$, $SD = 2.0$). Regarding current relationships, 127 (69.4%) were married, 11 (6.0%) were separated, 16 (8.7%) were divorced, 19 (10.4%) were single, and 10 (5.5%) were involved in a committed relationship. Religious affiliation, self-identified, was 157 (85.8%) Christians, 1 (.5%) Jewish, 3 (1.6%) Agnostics, 3 (1.6%) Atheists, 16 (8.7%) who reported Spiritual but not religious, and 3 (1.6%) who reported Other.

Experience in law enforcement ranged from 1 to 40 years ($M = 12.6$, $SD = 7.8$). Ranks were 147 (80.3%) patrol officers, 16 (8.7%) sergeants, 7 (3.8%) lieutenants, 3 (1.6%) captains, and 10 (5.5%) detectives. Of these 163 (89.1%) were on patrol duty and there were 4 (2.2%) homicide detectives, 2 (1.1%) vice detectives, 1 (0.5) SWAT officer, and 13 (7.1%) general detectives. The cities in which participants worked consisted of 70 (38.3%) with 15,000 to 50,000 residents, 12 (6.6%) with 50,000 to 100,000 residents, 62 (33.9%) with 100,000 to 300,000 residents, 4 (2.2%) with 300,000 to 500,000 residents, and 35 (19.1%) with more than 500,000 residents. Number of months since exposure to a self-perceived work-related traumatic event ranged from less than 1 to 123 ($M = 9.1$, $SD = 18.5$). The sample was limited to frontline police officers and police supervisors, those who work primarily in the field, because they are more likely to have experienced work-related traumatic events (defined below in the Instruments section).

Procedures

The chief of police or a senior ranking officer in the targeted police departments was contacted for permission to recruit police officers for the study during roll call at the beginning of each shift. Targeted police departments throughout a Midwestern state were selected by convenience (e.g., various sizes of

police department were included). The project was introduced by the first author to all police officers during roll call. The benefits, potential risks, and voluntary nature of participation were explained. All officers provided informed consent and were given researcher-related contact information. All data collection was anonymous (to protect the confidentiality of the respondents no identifying information was requested) and the research was approved by the Institutional Review Board at The University of Akron.

Most officers completed the assessment instruments during roll call. If they did not have enough time to do so, they were asked to complete them before the end of the shift, seal them in envelopes, and submit them to a supervising officer. Officers who did not have time to complete the assessments before the end of their shift were given addressed and stamped envelopes for mailing. Once received the completed assessments were stored in a locked cabinet until all police departments had been surveyed and data analysis could begin.

Instruments

Demographic questionnaire. A researcher-developed demographic questionnaire was used to gather factual information about participants. Questions requested information related to age, gender, race, years of education, years in law enforcement, current rank, job assignment, current relationship status, religious affiliation, and month and year of the most recent work-related traumatic event.

This questionnaire also asked participants to rate the amount of recent effort they spent on (a) Effort Toward Personal Relationships and (b) Effort Toward Spiritual Growth. Both questions were rated using a 0 to 10 Likert-type scale (0 = no effort, 5 = moderate amount of effort, 10 = large amount of effort). These questions were added to provide supplemental information about life changes that could impact PTG that are not covered on the Posttraumatic Growth Inventory (PTGI).

Posttraumatic Growth Inventory. The PTGI (Tedeschi & Calhoun, 1996) is a 21-item survey designed to assess positive outcomes after traumatic stress. It has five subscales that assess growth related to new possibilities, relating to others, personal strength, appreciation for life, and spiritual change. The PTGI was developed in 1996 as a 34-item questionnaire that was administered to approximately 600 college students who had experienced significant trauma. Thirteen items from the original questionnaire were removed after factor analysis (Finch, 2003)

The PTGI requires a response on a 6-point Likert-type scale ranging from "I did not experience this change as a result of my crisis" (0) to "I experienced this change to a very great degree as a result of my crisis" (5). Intermediate scores were "to a very small degree" (1), "to a small degree" (2), "to a moderate degree" (3), and "to a great degree" (scored 4). The PTGI yields a total score

obtained by summing the scores across all items and the scores on the five subscales (Tedeschi & Calhoun, 1996). The range of scores is 0 to 105. Higher scores indicate more PTG (Sheikh & Marotta, 2005). In this study, a Pearson Correlation matrix indicated that the fullscale score and all subscale scores were significantly intercorrelated ($p < .01$), indicating that the scales seemed to measure a similar construct. Because the subscales were highly intercorrelated and the instrument was designed to obtain an overall assessment of positive outcomes following traumatic stress, only the total PTGI score was used in this study.

Trauma is defined on the PTGI as an event in which the individual was confronted with an event that involved actual or threatened death or serious injury or a threat to self or others' physical well-being, and that also induced fear, helplessness, or horror. Tedeschi and Calhoun (1996) reported a high Cronbach's alpha coefficient of .90 for the full scale. Test-retest reliability for the full scale was performed over two months and was an acceptable $r = .71$. Reliability statistics for the PTGI administered in this study were good. Cronbach's alpha was .96 for the full scale.

Kentucky Inventory of Mindfulness Skills. The Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004) measures a general tendency to be mindful in everyday life. Designed to be understandable to both general and clinical populations, it has the advantage of measuring several distinct components of mindfulness. The KIMS is a 39-item instrument developed to measure the characteristics of observing, describing, acting with awareness, and accepting without judgment. Observing refers to the noticing of a variety of internal and external stimuli, such as cognitions, emotions, sights, and sounds. Describing involves the labeling or noting of observed phenomena with words. Acting with awareness focuses one's attention and awareness on one thing at a time. To accept without judgment allows for the nonjudgmental and nonevaluative acceptance of present-moment experiences. Items are responded to on a 5-point Likert-type scale ranging from 1 (very rarely true) to 5 (almost always true) (Baer et al.). Some items on the KIMS are reverse-scored; higher scores indicate increased mindfulness.

Initial items of the KIMS were identified from published descriptions by researchers in psychology and stress reduction and mindfulness teachers in the Buddhist tradition. Preliminary portions of the inventory were sampled with college students. Internal consistency analyses and interitem correlations culminated in a 39-item assessment (Baer et al., 2004). Content validity was supported by expert raters, who found the items to be well-written representations of mindfulness skills. Internal consistency reliability estimates ranged from .76 to .91 for the four subscales. Exploratory and confirmatory factor analyses supported the four-factor structure, and expected correlations with a variety of other constructs were obtained. Adequate to good test-retest reliability has been

reported for the subscales: Observe = .65, Describe = .81, Acting with Awareness = .86, and Accepting Without Judgment = .83. In terms of construct-related validity, mindfulness was found to be differentially related to aspects of personality and mental health, including neuroticism, psychological symptoms, emotional intelligence, alexithymia, experiential avoidance, dissociation, and absorption (Baer et al., 2004). Internal consistency reliability statistics for the KIMS in this study were .73 for the full scale, .86 for the Observe subscale, .80 for the Describe subscale, .88 for the Accept Without Judgment subscale, and .66 for the Act with Awareness subscale. Only the subscales of the KIMS were used for subsequent analyses.

RESULTS

Data were initially prescreened for missing values and outliers (Mertler & Vannatta, 2002), and descriptive statistics (means and standard deviations) were obtained for all variables. Next, Pearson correlations were obtained for the dependent and independent variables. Finally, to assess the relations between PTG, mindfulness, and effort, a standard multiple regression analysis (all independent variables entered simultaneously) was conducted.

Descriptive statistics revealed average PTGI ratings of 2.9 ($SD = 1.1$). The most mindfulness among participants was related to Accepting Without Judgment ($M = 3.9, SD = .7$), followed by Describing ($M = 3.4, SD = .7$), Acting with Awareness ($M = 3.2, SD = .5$), and Observing ($M = 2.4, SD = .7$). Although ratings varied widely, on average participants believed they put a moderate amount of Effort Toward Personal Relationships ($M = 6.9, SD = 2.3$) and Effort Toward Spiritual Growth ($M = 4.2, SD = 2.8$).

A Pearson correlation matrix showed that PTGI ratings were significantly related to ratings on Effort Toward Spiritual Growth ($r = .36, p < .001$), Accepting Without Judgment ($r = -.30, p < .001$), Observing ($r = .27, p < .001$), Effort Toward Personal Relationships ($r = .21, p < .01$), and Describing ($r = .16, p = .04$). Ratings on Acting with Awareness were not significantly related to PTGI scores ($r = -.08, p = .31$). Table 1 shows the bivariate correlations for research variables used in this study.

A multiple regression analysis, including the five statistically significant independent variables described, indicated that the overall model was significantly related to PTGI ratings ($F(5, 177) = 10.10, p < .001; R^2 = .23; R^2_{adj} = .21$). Regression coefficients revealed that only two variables significantly contributed to the prediction model, Effort Toward Spiritual Growth ($t = 3.24, p = .001$) and Accepting Without Judgment ($t = -3.22, p = .002$). Table 2 presents the regression coefficients for the full model.

Table 1. Bivariate Correlations Between Research Variables (N = 183)

Variable	1	2	3	4	5	6	7
1. PTGI Total Score	—	-.30*	.16*	-.08	.27*	.21*	.36*
2. KIMS Accepting Without Judgment		—	.05	.31*	-.54*	.15*	-.08
3. KIMS Describing			—	.04	.28*	.17*	.19*
4. KIMS Acting with Awareness				—	-.21*	.16*	.09
5. KIMS Observing					—	.02	.16*
6. Effort Toward Personal Relationships						—	.45*
7. Effort Toward Spiritual Growth							—

* $p < .05$

PTGI = Posttraumatic Growth Inventory; KIMS = Kentucky Inventory of Mindfulness Skills

Table 2. Summary of Multiple Regression Analysis for Variables Predicting PTGI Scores (N = 183)

Variable	B	β	t	p
Effort Toward Spiritual Growth	.10	.25	3.24	.001*
KIMS Accepting Without Judgment	-.41	-.27	-3.22	.002*
Effort Toward Personal Relationships	.07	.14	1.77	.08
KIMS Describing	.14	.08	1.12	.26
KIMS Observing	.10	.06	.70	.49

* $p < .05$

PTGI = Posttraumatic Growth Inventory; KIMS = Kentucky Inventory of Mindfulness Skills

DISCUSSION

In this study participants' perceptions of the amount of effort put forth toward spiritual growth was significantly related to increased PTG. This finding was consistent with research by Laufer and Soloman (2006), who found religiosity to be strongly associated with PTG among Israeli youth exposed to terror incidents. Similarly, Linley and Joseph (2004) in a review of empirical studies found that religious activities and intrinsic religiousness were positively associated with PTG. Likewise, Calhoun, Cann, Tedeschi, and McMillan (2000) reported that openness to religious change facilitated PTG in persons exposed to traumatic events. Thus, focusing on spiritual development seems to be

imperative during the treatment process.

In contrast, the negative correlation between PTG and the KIMS Accept Without Judgment subscale appears at first to be counterintuitive. That is, mindfulness theories, especially those focused on a reduction of trauma-related symptoms, assert that accepting one's circumstances openly and nonjudgmentally should be associated with better mental health (Hayes & Strosahl, 2004; Orsillo & Batten, 2005). Our results, however, do not support this claim. Rather, the findings reported here show that cognitive processing is required for PTG to occur (Tedeschi & Calhoun, 2004). Persons who attempt to manage crises utilizing approach coping (including judging their experiences) demonstrate more PTG than those using either avoidance (Schaefer & Moos, 1998) or nonjudgmental acceptance. For example, Linley and Joseph (2004), in a review of empirical studies, found that cognitive appraisal variables such as awareness and controllability of the event are generally associated with increased growth following traumatic experiences. Similarly, Pryzgod (2005) found that active posttraumatic reappraisal was positively related to PTG. These findings may explain the negative correlation between the PTG and the KIMS Accept Without Judgment subscale found in this study.

Based on the results of this study, some aspects of mindfulness seem to be positively associated with PTG, while others seem to be correlated with reduced PTG development. The KIMS Observe subscale was significantly positively correlated, which suggests that observing a variety of stimuli may be helpful for PTG. During the process of PTG development, basic assumptions held before the traumatic experience are abandoned as attempts to build new schemas, goals, and meaning are made. This occurs because prior basic assumptions cannot accommodate the new reality presented by the traumatic experience; thus new goals and worldviews are formulated to compensate for the change in perspectives. This is part of the cognitive process that leads to PTG (Tedeschi & Calhoun, 2004). Increased attention to and observation of the traumatic memory is theoretically necessary for the revision of schemas that allows PTG to occur.

The finding suggesting that one must reflect on and judge the event and its consequences for PTG to occur was also consistent with the Tedeschi and Calhoun (2004) PTG model. Accepting that a traumatic event occurred is proposed as an important factor in the development of PTG. However, acceptance without evaluation may not elicit enough cognitive processing of the event. According to the Calhoun and Tedeschi (1998) model, deliberate cognitive processing of an event is crucial for growth. Acceptance, in the mindfulness tradition, involves taking a mindset of nonjudgmental awareness while welcoming thoughts, feelings, and bodily sensations as they occur, regardless of whether they are positive or negative. In Acceptance and Commitment Therapy (ACT), for example, clients are taught to relinquish attempts to change or alter what is

being experienced. In this way, control is considered part of the problem, not the solution (Hayes & Strosahl, 2004).

However, possessing a sense of, and exerting psychological control over, the traumatic experience may facilitate meaning-making, coping, and ultimately the development of PTG. Mere acceptance of the thoughts and beliefs associated with the trauma without attempts at evaluation or revision may hinder PTG progression. According to Schaefer and Moos (1998), "Individuals who appraise a life crisis as a challenge that they can master may cope more actively with the problem and thus may be more apt to grow from the experience" (p. 115). Therapeutic emphasis on all aspects of mindfulness-based treatments is not consistent with the Tedeschi and Calhoun (1998) model of promoting PTG.

IMPLICATIONS

The results of this study indicate that some facets of mindfulness may be counterproductive to the development of PTG. Although mindfulness-based therapies such as ACT are recommended by some researchers and theorists to treat posttraumatic symptoms (Hayes & Strosahl, 2004; Orsillo & Batten, 2005), they may be contraindicated for PTG. That is, such treatment approaches may help reduce the painful aspects of trauma-related experience but there is little evidence that heightened personal, social, or spiritual growth will result. While certain aspects of mindfulness, such as observation and contact with the present moment, may be beneficial, other facets (accepting without judgment) may not be. Acceptance is taught as a means to reduce experiential avoidance, but personal experiences are embraced without attempts to alter their frequency or form (Hayes, Luoma, Bond, Masuda, & Lillis, 2005). Thus, accepting experiences without related adjustments to worldviews and schemas may prevent PTG from progressing.

In addition, observation is a crucial component of cognitive and behavioral exposure therapies, such as prolonged exposure (PE) therapy. These approaches are designed to reduce posttraumatic symptoms (Foa et al., 2005). Building upon the emphasis on contact with the present moment, exposure therapies may provide an effective platform on which to launch PTG-related techniques. Clinicians utilizing exposure therapies might consider incorporating a growth exploration and development component into the treatment protocol.

Additionally, mindfulness-based therapies such as ACT are usually not based in religious or spiritual practice (Hayes & Strosahl, 2004). In contrast, our results suggest that focusing on spiritual issues with clients may help them to achieve greater PTG. Spirituality in the context of PTG can simply refer to a greater sense of universal presence, an increased commitment to one's religion, a clearer understanding of one's religious beliefs, a sense of being connected to something greater than was possible before the trauma, or a spiritual quest to

seek answers to existential questions evoked by the tragedy (Tedeschi, Park, & Calhoun, 1998). It may be productive, with a client who is receptive to exploring spiritual growth, for clinicians to promote an understanding of how the traumatic experience may have led to a broader connection with forces larger than oneself.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

This study had several limitations that should be addressed to help promote additional research in this area. First, the results reported were correlational and therefore cannot be inferred to imply causation. Determining causal relationships between the variables tested in this study is needed to develop more accurate models of PTG and more focused treatments for law enforcement officers. Longitudinal or experimental research designs are recommended for this. For example, effort toward relationship and spiritual growth could be examined using a repeated measures design to identify their developmental course as law enforcement officers become increasingly exposed to traumatic experiences. One possible question is whether traumatic experiences initiate a spiritual quest that leads to PTG, or is a preexisting spiritual belief system responsible for better PTG outcomes (Calhoun & Tedeschi, 1998)?

Another limitation of this study was the use of a convenience sample. This sampling approach makes it difficult to determine whether law enforcement officers who completed the survey instruments were demographically or psychologically different from those who did not. Similarly, due to the sample population, caution should be used when generalizing these results beyond White male patrol officers who work in the U.S. Midwest. There may be differences between the police departments examined in this study and those in other areas of the country.

Furthermore, due to low variability in certain sample characteristics, how such variables as race, religion, and sex correlate with PTG could not be analyzed. With a more demographically diverse sample it would have been possible to ascertain whether participant demographic characteristics impacted either degree of mindfulness or PTG. We were not able to investigate many of the potential mechanisms that might have affected PTG in law enforcement officers. Variables such as social support, coping style, and other psychosocial variables that may have influenced PTG development should be examined concurrently with mindfulness. Future research on PTG should also consider examining other individual characteristics in police officers. For example, Tedeschi and Calhoun (2004) found that certain personality characteristics, including extroversion and openness to experience, may be related to PTG.

We also suggest that future researchers explore whether specific types of traumatic experiences are more or less related to PTG development. For

example, it would be helpful for clinicians to know whether the accumulation of many specific traumas or a smaller number of more extreme events most facilitates PTG. Because this research focused on attaining initial knowledge about an understudied topic, how types of traumatic experience relate to mindfulness or PTG was not investigated. Finally, the specific judgments made (e.g., positive versus negative evaluations of the experience) should be examined to determine their impact on PTG. In this study degree of experience-related judgment, as a form of mindfulness, was evaluated as a global construct with no differentiation between the types of judgment participants made. If positive evaluations were found to produce more PTG than other types of cognitive processing, the development of positive evaluation skills could be included as part of a treatment program for law enforcement officers.

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