Original Article

SAGE Open Medicine

Emerging themes in coping with lifetime stress and implication for stress management education

SAGE Open Medicine
Volume 6: 1–9

DOI: 10.1177/2050312118782545
journals.sagepub.com/home/smo
SAGE

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Abstract

Background: Adults with adverse childhood experiences and exposure to adverse life events experience a diverse array of physical, mental, and social health problems across their lifespan. Adult exposure to emotional trauma, physical injury, or other adverse life events may result in the development of post-traumatic stress and post-traumatic stress disorder. Understanding individuals' response to stress and their coping strategies is as important as the stimulus or the causes of the stress for effective stress management interventions.

Methods: This is a mixed quantitative and qualitative online survey study which explores the coping strategies to stress in adults with adverse childhood experiences and exposure to adverse life events through analysis of emerging themes from survey questionnaire responses of study participants.

Results: Participants who respond to stress through adaptive coping focused either on problem-solving, 17.6% (32 out of 188), or on emotion-focused coping, 45.2% (85 out of 188). Participants engaged in problem-solving mainly through therapy such as counseling and other professional stress management, whereas those who chose emotion-focused coping used diverse strategies including practicing mindfulness, meditation, and yoga; using humor and jokes; seeking higher power or religious pursuits; engaging in physical or breathing exercises; and seeking social support. Participants who practiced maladaptive coping styles constituted 37.2% (70 out of 188) of respondents and resorted to avoidance of the stressful condition, withdrawal from a stressful environment, disengagement from stressful relationships, and use and abuse of drugs and/or alcohol.

Conclusion: An understanding of emerging themes in coping strategies calls for collaborative and multidisciplinary approaches in the design, implementation, and execution of health education and promotion programs tailored to meet the diverse needs of priority populations. Stress management educators need to take into account the vulnerabilities of individuals who resort to maladaptive coping and institute evidence-based behavioral and social service intervention strategies, including life skills training, to prevent the consequences of maladaptive coping and to enhance the self-efficacy of individuals to cope more effectively with stress and stressful life events.

Keywords

Chronic stress, mental health/psychiatry, adaptive coping, stress management, maladaptive copying, post-traumatic stress, adverse life events

Date received: 29 December 2017; accepted: 21 May 2018

Introduction

Adults with adverse childhood experiences (ACEs) and exposure to adverse life events experience a diverse array of physical, mental, and social health problems across their lifespan. Some of the most common health risks include physical and mental illness, substance use disorder, and high level of engagement in risky sexual behavior.[1–3]

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A prior research[1] identifies 10 categories of ACEs, including sexual abuse, physical abuse, emotional abuse, and physical neglect, as well as emotional neglect and parental loss or parental separation before the child's age of 18 years. ACEs involving maladaptive family functioning (parental mental illness, substance use disorder, criminality, family violence, physical and sexual abuse, and neglect) are significantly associated with persistence of mood, substance abuse, and anxiety disorders.[4] Childhood adverse experiences are also associated with an increased risk of the development of malignancy, cardiovascular disease, metabolic syndrome, and other chronic debilitating conditions.[5–12]

Research[13] has established that early life stress is a predictor of smoking, alcohol consumption, and drug dependence. There is an increased risk of developing an antisocial behavior in adults with ACEs.[14] ACEs are also associated with poor self-rated health, functional limitations, diabetes, and heart attack.[15] Other adverse health outcomes in later life associated with ACEs include post-traumatic stress disorder (PTSD), attention-deficit/hyperactivity disorder, substance use disorders, eating disorders, depression and attempted suicide, and high-risk sexual behavior.[16] ACEs may negatively shape neurocognitive development and contribute to the development of antisocial behavior and delinquent activities.[17] Accumulation of early trauma may increase the persistence of antisocial behavior, resulting in a variety of criminal behaviors and arrest outcomes.[18] Children exposed to intimate partner violence in the family are prone to negative social and health consequences, including anxiety, depression, poor school performance, and other negative health outcomes.[19]

Children who experienced parental divorce are twice as likely to develop depression compared to those whose parents' marriages remained intact during their childhood, the risk being even more significant when accompanied by a high level of parental conflict.[20] Children who grew up exposed to adversity have higher incidence of relationship problems, including smaller social network size and higher negative aspects of close relationships.[21] The impact of exposure to trauma is not limited to childhood years. Adolescents who experienced any adversity that threatens their sense of safety and security may continue to live with emotional trauma.[22] Exposure to trauma in adolescent development could negatively affect identity formation, producing a foreshortened sense of the future, poor self-cohesion, and peer relationships, as well as causing a regression in adult executive functioning.[23]

The health consequences of ACEs and adverse life events depend on the individuals' coping styles and resilience to real or perceived stress. The term coping in this context is understood to mean the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts, with two types of coping actions distinguished by their focus on different elements of a stressful encounter: problem-focused coping—an attempt to change the person-environment realities behind negative emotions or stress—and emotion-focused coping—an attempt to reduce a negative emotional state or change the appraisal of the demanding situation.[24,25]

Exposure to adversity during adulthood is also associated with stress, and adults who experience significant stress adopt different coping strategies. Adaptation to trauma consists of dynamic coping processes involving both the management of the original traumatic experience and the challenge of post-traumatic recovery.[26] Coping self-efficacy within a traumatic stress context refers to the perceived capability of managing the internal and external post-traumatic recovery demands. Positive self-efficacy is central to effective adaptation because it provides a sense of control facilitating adaptive coping.[27] In one study,[28] coping self-efficacy predicted post-trauma recovery for survivors of a myriad of traumatic experiences, including childhood sexual abuse, combat, domestic violence, motor vehicle accidents, hurricanes, and terrorist attacks.

Coping strategies could be categorized into adaptive and maladaptive types. Adaptive coping responses may include active coping responses such as primary control, problem-solving, secondary control, and restructuring, as well as empathy and respect for diversity in multicultural populations which are associated with positive health outcomes. On the contrary, maladaptive coping responses include coping responses such as social withdrawal, surrender, denial or aggression, hostility, discrimination, and oppression directed to diversity in multicultural populations which may be associated with negative health outcomes.[29]

An important consideration in understanding response to trauma is that both post-traumatic growth and PTSD could be possible consequences of trauma.[25] Post-traumatic growth refers to a change in people's ability to resist highly stressful circumstances and going beyond pre-trauma levels of adaptation and is presumed to emerge from cognitive processes and can have functional and dysfunctional aspects. Post-traumatic growth has also been defined as positive psychological change experienced as a result of adversity and other challenges in order to rise to a higher level of functioning.[27] However, those with highest coping ability will report relatively little growth because these people have coping strategies that allow them to be less challenged by trauma.[25] Child and adolescent experiences associated with post-traumatic growth include more compassion and empathy for others after personal trauma or loss; increased psychological and emotional maturity when compared to age-related peers; a deeper understanding of one's personal values, purpose, and meaning in life; and a greater value of interpersonal relations.[27] Post-traumatic growth is not viewed as the end result of successful coping, but as a coping process, a defense against pathogenic consequences of trauma, with no demonstrable adaptive value in reducing distress and no facilitation of reduction in depression and anxiety levels.[28]

Objectives

1. To investigate ACEs, exposure to trauma, and other adverse life events in adults;
2. To identify emerging themes on coping strategies to stress exposure adapted by adults with or without ACE and other adverse life events.

Method

Study design, study population, and sampling method

A web-based platform was used to create the survey for an online data collection with the goal of obtaining a convenience sample size of 200–300 adult US residents for this study. The survey portal was made available to potential participants through a link distributed through chain emails, various listservs of several institutions of higher education, and common social media platforms. At the close of data collection, there were 565 study participants. After eliminating 75 ineligible/incomplete and 257 duplicate responses, the final study sample was a convenience sample of N = 233 study participants (47.55% or 233 of 490). Data collection for the study was started and completed in the Spring of 2016.

Research instruments, data collection, and analysis

The quantitative survey for this study used a diverse array of questionnaires, including the Demographic Survey Questionnaire (DQ-10), the Adverse Childhood Experience Questionnaire (ACE-10), Adult Stress/Trauma Questionnaire-10 (ATQ-10), and Posttraumatic Stress Disorder Checklist-Civilian Version (PCL-S-17).

The DQ-10 is a standard demographic questionnaire used in prior research.[30] The DQ-10 permits obtaining essential demographic information. The ACE-10 is a tool which has been used in the Adverse Childhood Experiences Study.[31] Regarding scoring of the ACE-10, when the points are added up for the total of 10 questions, the ACE score is determined. An ACE score of 0 would mean that the person reported no exposure to any of the categories of adverse experiences, while an ACE score of 10 would mean that the person reported exposure to all 10 of the categories of adverse events within the 10-item survey.[32] Adult's retrospective responses with regard to ACE remain generally stable over time—with the ACE-10 showing good to excellent test–retest reliability and internal consistency in research studies.[33] The BTQ-10 tool seeks to assess adult stress exposure, including adverse life events and psychological trauma. Participants who endorsed at least one item on the 10-item Self-Report Questionnaire on the BTQ are placed in the trauma-exposed group.[34] The PCL-S-17 is a tool which permits identification of symptoms of PTSD experienced by subjects in the previous 30 days of completing the survey, including providing a total severity score by adding responses to the questionnaire items.[35] The psychometric properties of the PTSD Checklist-Civilian Version (i.e. internal consistency, test-retest reliability, convergent validity, and discriminant validity) are well established; scores are added up for all the items for a total severity score and have been used to diagnose PTSD among treatment-seeking trauma survivors. A total score of 44 is the cut-off score for PTSD positive for the general population, while a total score of 50 is considered to be PTSD positive in military populations.[36]

The study participants were also asked the following two qualitative survey questions through the web-based online platform:

1. When you experienced any trauma or adverse life event, how did you manage to cope with your stress? Please share your style of surviving, bouncing back, regaining a sense of control, healing, and positively transforming in the aftermath of any experience of trauma across the lifespan.
2. After you experienced any trauma or adverse life event, did any of your stressful or traumatic experiences lead you to become a better person or a stronger self?

Data analysis and presentation

Data analysis was accomplished using SPSS version 9.3 for the quantitative part and selective coding was used to organize qualitative data into similar themes. First, open coding was used to create tentative labels for themes of participant narratives that summarize our observation of participants' experiences in words or phrases, followed by identification of major emerging themes and then rereading the transcripts and selectively coding any data that relate to the major emerging themes identified. We used selected participant quotes to illustrate participant stories in each thematic designation of participant coping strategies to stress.

Ethical considerations

The study received approval from the Institutional Review Board (IRB) of Teachers College Columbia University in the City of New York. The use of a chance to win a small incentive and the amount of the incentive for each of the three winners were also reviewed and approved by this IRB before the start of the study.

Before participants could gain access to the survey, they first accessed the study informed consent and participants' rights forms and provided an electronic signature for both forms. Potential subjects who provided an electronic signature proceeded next to the survey screening. After completing the survey, each participant was requested to share the survey link to as many numbers of potential participants as possible in their networks. Strict confidentiality and anonymity of

Table 1. Prevalence of adverse childhood experiences (N = 233).

	N = 233	%
(Mean ACE score = 2.91, min = 0, max = 10, SD = 2.471)		
Adverse childhood experiences (ACE)		
Yes	184	79.0
No	49	21.0
Number of ACEs reported		
0	49	21.0
1	37	15.9
2	28	12.0
3	31	13.3
4	26	11.2
5	25	10.7
6	15	6.4
7	10	4.3
8	7	3.0
9	3	1.3
10	2	0.9
Abuse (N = 233)		
Emotional abuse	101	43.3
Physical abuse	66	28.3
Sexual abuse	66	28.3
Neglect (N = 233)		
Emotional	100	42.9
Physical	25	10.7
Household dysfunction (N = 233)		
Mother/step mother treated violently	28	12.0
Household substance abuse	68	29.2
Household mental illness	118	50.6
Parental separation or divorce	86	36.9
Household member incarcerated	20	8.6

study participants was maintained during data collection and analysis. The informed consent, ethical clearance, and the research instruments used in this study were included as supplementary material.

Results

Quantitative analysis

The sample (N = 233) had 89.3% (n = 208) born in the United States, 84.1% (n = 196) female, 74.2% (n = 174) White, 16.7 % (n = 39) African American, 9.4% (n = 22) Hispanic, and 6.0% (n = 14) Asian/Asian Americans, with a mean age of 36.27 years (min = 18, max = 77, standard deviation (SD) = 14.08).

Approximately 79.0% (n = 184) of adults reported exposure to one or more ACEs. The two most common were emotional abuse (43.3%, n = 101) and emotional neglect (42.9%, n = 100). Some 37.6% (n = 88) of the sample reported exposure to four or more adverse experiences, and 21% (n = 49) did not have any ACEs. The results of descriptive analysis on ACEs are displayed in Table 1.

Approximately 64.4% (n = 150) of the sample had exposure to at least one trauma. Unwanted sexual contact was the most frequently experienced form of trauma accounting for almost half (48.5%, n = 113) of respondents, while 20.7% (n = 47) thought their life was in danger. The next most frequently experienced form of trauma accounting for 34.3% (n = 80) was being physically beaten by parent/caretaker/teacher. Approximately 32.2% (n = 75) reported they were attacked by friends and/or strangers. The results of descriptive analysis of adult exposure to trauma are displayed in Table 2.

Approximately 38.2% (n = 89) of participants met criteria for PTSD; the sample had a mean score of 40.46 (min = 17, max = 82, SD = 15.215) from a total possible scores range of 17–85.

Qualitative analysis

A total of 188 participants out of 233 (80.7%) responded to the first qualitative survey question requesting participants to share anything that comes to mind about what they have learned across their lifetime about trauma and stress across their lifespan and strategies for surviving, bouncing back, regaining a sense of control, healing, and positively transforming—developing positive coping—in the aftermath of any experience of trauma or adverse life events. The content of the quotes submitted by participants revealed a diverse range of emergent themes, indicating both adaptive and maladaptive coping strategies. Participants who have developed adaptive coping focused either on problem-solving coping styles, 17.6% (32 out of 188) or on emotion-focused coping, 45.2% (85 out of 188). Participants who practiced adaptive coping utilized problem-solving mainly through seeking treatment, whereas participants who chose emotion-focused coping used diverse strategies including practicing mindfulness, meditation, and yoga; using humor and jokes; identifying with a higher power or religious pursuits; engaging in physical or breathing exercises; and seeking social support. Participants who practiced maladaptive coping styles constituted 37.2% (70 out of 188) of respondents and resorted to avoidance of the stressful condition, withdrawal from a stressful environment, disengagement from stressful relationships, and use and abuse of drugs and/or alcohol.

Adaptive coping styles through problem-solving

Those who employ problem-solving coping often sought diverse types of therapies/treatments and shared their experiences in the following lines:

> I went through EMDR [Eye Movement Desensitization Reprocessing] therapy and regained a life.

> Dialectical and Cognitive Behavioral therapy has helped me to cope with negative emotions. It helps to remember that our

Table 2. Prevalence of adult exposure to trauma, results from Brief Trauma Questionnaire (N = 233).

Type of trauma	N	%
(Mean = 2.09, min = 0, max = 16, SD = 2.719)		
Served in war zone/exposed to war casualties (N = 233)	6	2.6
Thought life was in danger	5	2.5
Had serious injury	2	0.9
Been in a serious car/workplace/other accident (N = 233	66	28.3
Thought life was in danger	49	21.0
Had serious injury	27	11.6
Been exposed to a natural disaster (N = 233)	52	22.3
Thought life was in danger	25	10.7
Had serious injury	4	1.7
Had serious illness cancer/AIDS (N = 233)	25	10.7
Thought life was in danger	21	9.0
Had serious injury	10	4.3
Physically beaten by parent/care taker/ teacher (N = 233)	80	34.3
Thought life was in danger	48	20.6
Had serious injury	21	9.0
Been attacked by friends, strangers (N = 233)	75	32.2
Thought life was in danger	59	25.3
Had serious injury	25	10.7
Unwanted sexual contact (N = 233)	113	48.5
Thought life was in danger	47	20.2
Had serious injury	16	6.9
Other serious injury/arrest/ incarceration (N = 233)	34	14.6
Thought life was in danger	32	13.7
Had serious injury	12	5.2
Friend/family member died in car crash/ violence (N = 233)	71	30.5

thoughts are just guesses and are often a result of cognitive distortions. Identifying cognitive distortions is helpful to curb self-destructive behaviors.

Adaptive coping styles through emotion-focused coping

Those who adapted emotional coping also used diverse styles of coping.

Some learned to manage their stress:

I have learned that I cannot control everything and as difficult as that is at times, it also allowed me to free up some space in my own mind to accept that I needn't try to be in control all the time. Other people are responsible for their behavior, not me. I've also learned that forgiveness and letting go of anger and resentment is for my well-being, not for the transgressor. Holding on to anger and resentment only hurts me because the other person isn't thinking about all the hurt they did to me, they have moved on to hurting someone else. I have learned that it is not only okay, but critical at times to say no and set boundaries. I can only handle so much and so I have to limit what I can add to my to-do list.

I have definitely learned to pay more attention to my feelings and recognizing my triggers. for example, if I watch a movie and the violence causes me to experience anxiety or an attack. I avoid that movie for quite some time and if I ever watch it again I try to mentally prepare myself for what I will be seeing. I also started keeping a dream journal and paying attention to recurring dreams so that I can better understand maybe some underlying issues I am coping with. most recently I have started seeing a therapist once a week to talk through my feelings and past experiences.

Others practiced mindfulness, meditation, and/or yoga:

Prayer, meditation, and mindfulness help me, particularly when I practice them regularly. Sometimes breath meditation work can allow for too much open space for difficult thoughts and feelings and I need something that involves my attention with a more tangible object. I also find that acknowledging reluctance and then going ahead anyway (after acknowledging the feeling) is helpful.

To not let others be responsible for my happiness, to breathe, to meditate, to do yoga. To recognize impermanence, the laws of nature.

Some used humor/jokes to cope with their stress:

My usual coping mechanisms are humor and sublimating negative feelings to increase drive at school and work. As I've gotten older, I've also gotten better at practicing acceptance.

… I feel like a broken toy that was put back together, that kind of works, but pieces are missing. So, I would say that repression and avoidance can be a positive way moving forward, because at least I am not suicidal anymore, but there is a price. Also, having a sense of humor helps, though people don't always like to hear the kind of humor an abuse survivor utilizes.

Some sought higher power/religion/spirituality:

… In more basic terms, instead of letting them simply be traumatic memories, I have worked to position them as experiences with a reason behind them and that serve as motivational forces. Finally, I feel that my faith in God has also served to help guide me in the direction of finding reason or purpose behind these experiences.

Most importantly I have learned that God is present and in control. I need to listen for his direction. I need to remain focused and don't "awfulize" as before.

Some relied on physical exercise and/or social support:

… I put my relationships ahead of everything and while that's probably kept me from making career advances as fast as I like, I know that without the emotional/social support I wouldn't be

able to make any at all. Journaling to reflect on the positive things in my life has often been helpful."

Distraction, meditation, exercise, therapy, calling help lines, medication (from a psychiatrist), warm bath, hugging, reading.

Maladaptive coping styles using alcohol and/or drugs

Some resorted to using alcohol and/or drugs:

… unfortunately, I sometimes drink alcohol!

What l learned from life really was from the past 10 years. I had always been afraid and played victim and blamed other people for experiences l put myself thru without accepting responsibility. I am now in a 12-step program and living the life l was meant to live. I take care of myself and do not let others take advantage of me. I practice Reiki and meditate. I stay away from toxic or negative environments.

Maladaptive coping styles of problem avoidance/withdrawal/disengagement

Some of the statements from such participants are provided below:

Not to blame myself for how I was sexualized and abused as a child and to call what happened to me later as an adult what it is—rape. I function better when I am not blaming myself for what happened or in denial of what happened. It also makes me feel better to acknowledge that these things happened with people I trust, professionals and certain friends, and then see that the world doesn't open up and swallow me up, but that I'm still ok.

Realizing that as an adult I now have control over who I associate with, what I will allow them to do/say to me, and can simply walk away when a situation no longer suits me. Survival takes suave and determination to never let your circumstances define who you are. I can honestly say I used the traits of my abuser to know what to avoid in my own relationships and to learn more effective conflict resolution skills than those which were demonstrated to me as a child.

For the second open-ended question asking participants to share whether they think any of their stressful or traumatic experiences led them to experiencing growth—as a concept known as post-traumatic growth—185 (79.4%) study participants responded. The content of the quotes submitted by participants revealed two major emerging themes. Many participants stated that the adverse life event has transformed their lives for the better in diverse ways, 67.0% (124/185), whereas 33.0% (61 out of 185 respondents) denied, did not know, or were not sure about any post-traumatic growth experience.

Post-traumatic growth from adverse experiences

A sample of participants' statements is provided below:

… I always was independent, but as a child, I lacked the power to enforce my own boundaries and had to temper that new power lest I become the person I despised. I had to consciously learn to approach my marriage with a sense of cooperation, empathy, and rationality when we disagreed rather than being a verbal and physical bully as my abuser was. In the end, it made me a calmer, more understanding person because I was determined not to repeat the pattern.

I believe I have experienced posttraumatic growth to a slight extent. I think my experiences have made me more understanding to other issues currently going on in the world. I believe that my experiences have made me better able to help out those who have been in similar situations, which benefits me greatly because I'd like to one day work as a psychiatrist.

No post-traumatic growth from adverse experiences

Many others stated that the adverse life event did not make their lives better or they were not sure:

I do not feel this way at all. I don't feel like I've gained anything because of these experiences—I just wish they had never happened.

I am not sure. I feel that it stunted me, depleting self-esteem that would have been helpful to me, more than it helped me to grow.

Discussion

The results of our analysis indicate that ACEs are a common adversity for many adults, with 79.0% (n = 184) reporting exposure to one or more ACEs. A number of respondents recalled vivid memories of childhood trauma, including physical, sexual abuse, and emotional neglect consistent with the lifelong effects of early childhood adversity and toxic stress described elsewhere.[1,37]

The prevalence of adult exposure to at least one trauma in this study was 64.4 % compared to a similar study,[38] where the prevalence of exposure to at least one trauma is 70% for adults in the United States. The findings from this study were consistent with another study[39] which reported a prevalence for traumatic experiences ranging from 51% to 74%. Similar findings were reported by a study[40] assessing the prevalence of civilian trauma in women where lifetime exposure to any type of traumatic event was 69%. Prior research[41] found that only a small subset of trauma victims developed PTSD (<10%), while female victims of traumatic events were at higher risk of PTSD than male victims. Another study[42] estimated a PTSD prevalence among veterans at 23%, whereas lifetime prevalence of PTSD in the US population was estimated at 10%.[43]

In this study with a mostly female civilian sample, 38.2% (n = 89) met screening criteria for PTSD. The mean of 40.46 PTSD symptom severity score (min = 17, max = 82, SD = 15.215) was slightly lower than the diagnostic cut-off score of 44 for PTSD in the general population.

The 38.2% PTSD prevalence in this study is higher than the prior 8% or 10% prevalence estimates for Americans, as well as higher than the 23% for veterans. Our study attracted a disproportionately large proportion of women (84.1%) with an interest in stress and trauma, including from personal exposure to adverse life events. In one study, maladaptive personality traits were found to be associated with maladaptive coping styles and higher levels of distress, and the same study also posits that maladaptive coping may mediate the relationship between asocial and anxious/dramatic personality and psychological distress.[44] In this study, participants who had a concurrent mental illness such as depression, attention deficit hyperactivity disorder, or PTSD often sought treatment and/or counseling, an adaptive coping strategy focused on problem-solving. The results of this study reveal a great deal about the coping styles adapted by adults with ACEs and adult exposure to trauma and stress. Many of the expressions indicate that adults with ACEs continue to struggle, trying to find a solution or a coping strategy that would work best for their stress resulting from adult trauma or childhood adversity ranging from seeking treatment/therapy to resorting to friends and family or even a higher power for support. Some find solace in exercise, yoga, or meditation which may be combined with some form of therapy from the helping professions, while other participants resort to drugs or alcohol. A significant number of participants shared their experience of post-traumatic growth and expressed that they could emerge stronger, more mature, and more relatable in their interactions with people at home and workplace.

Limitations

Statistical power analysis was not used to determine the sample size as the sampling was based on a convenience sample which may suffer from selection bias. The study also used self-reported data, with a high possibility of participants providing socially desirable responses. Moreover, potential participants who did not have online access may have been excluded from the study, whereas those who wanted to volunteer might have been overrepresented. Another limitation is the way the questions were framed to ellicit responses from participants in a way that presupposes participants to have experienced adverse life events which may result in higher rates of social desirability bias.

Conclusion

This study attempts to broaden our understanding of the coping strategies of adults with ACEs and exposure to adverse life events and their coping strategies. Many participants could reveal their feelings of deep and hurting emotional wounds on the online survey that they may not have dared to do on face-to-face interviews. Health education and health promotion programs need to have a clear strategic plan spanning the lifetime of individuals and families, specifically focusing on the primary prevention of ACEs of physical, emotional, and sexual abuse; intimate partner violence; and harassment in the workplace, which are a tremendous source of significant stress.

An understanding of emerging themes in coping strategies calls for collaborative and multidisciplinary approaches to meet the diverse needs of priority populations. Stress management educators need to take into account the vulnerabilities and therapeutic choices of individuals who resort to maladaptive coping and institute evidence-based behavioral and social service intervention strategies, including life skills training, to prevent the consequences of maladaptive coping and to enhance the self-efficacy of individuals to cope more effectively with stress and stressful life events. The importance of the continued search for the design of novel health education approaches and strategies for the prevention of ACEs and adverse adult life events and their consequences on physical, mental, and social ill-health cannot be overemphasized.

Acknowledgements

The author(s) would like to express a lot of gratitude to the four anonymous reviewers for their valuable comments and constructive feedback to improve this article.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval

Ethical approval for this study was obtained from Teachers College Columbia University, and the approval number assigned to my protocol is 16-121.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Informed consent

Written informed consent was obtained from all subjects before the study

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