Published in final edited form as:

Community Ment Health J. 2015 October ; 51(7): 768–774. doi:10.1007/s10597-014-9815-7.

Don't Step on the Tiger's Tail - A Mixed Methods Study of the Relationship between Adult Impact of Childhood Adversity and Use of Coping Strategies

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“I was pretty positive outside. Inside the house I tried not to talk but outside I had many good friends and I was pretty popular to boys too. That touched my sister's nerve too. ...in the house, don't talk or anything... Don't step on the tiger's tail.”

Introduction

The published literature contains almost 300 publications relating childhood adversity (“adverse childhood events” or ACE) to adult physical health outcomes and health risk behaviors. These publications describe relationships between ACE and smoking (Anda et al., 1999), smoking persistence among those with smoking-related illnesses (Edwards, Anda, Gu, Dube, & Felitti, 2007) unintended adult pregnancy (Dietz et al., 1999), sexually transmitted diseases (Hillis, Anda, Felitti, Nordenberg, & Marchbanks, 2000) and risky sexual behavior (Dube, Felitti, Dong, Giles, & Anda., 2003), alcohol use (Dube, Anda, Felitti, Edwards, & Croft, 2002) and abuse (Anda et al., 2002), suicide risk (Dube et al., 2001), depression (LaNoue, Graeber, Urquieta de Hernandez, Warner, & Helitzer, 2010), lowered health related quality of life (Corso, Edwards, Xiangming, & Mercy, 2008; Graeber, Helitzer, LaNoue, & Fawcett, 2013) among others. The number and scope of these publications suggest that ACE is an important predictor of poor health and health behavior,

but this finding is tempered by empirical work on resiliency and coping, which suggests that not everyone with similar adversity has similar outcomes.

The process of coping is a critical component contributing to how individuals adapt to life stresses and research on the relationships between trauma, coping and health outcomes is extensive and complex. Coping has been conceptualized as a process that is conscious, used intentionally and responsive to environmental demands. Lazarus and Folkman (1984) define coping as “cognitive and behavioral efforts to manage demands that are appraised as taxing or exceeding the resources of the person” (p. 141). A coping process model of stress/trauma posits that individual coping strategies are dependent upon the nature of a particular stressor and how that stressor is appraised contextually (Folkman & Lazarus 1980; Lazarus, 1981). Therefore a given individual may employ a variety of coping strategies depending upon the traumatic/stressful event they face.

Not all individuals respond similarly to stressful situations, and individual response to childhood adversity is no exception. Much research has been conducted about individuals who seem to “bounce back” from adversity, some of which is attributed to resilience, some to post-traumatic growth, and some to situational adaptation (Carver 1998; Carver & Connor-Smith, 2010; Matthews, 2014; Seery, Leo, Lupien, Kondrak, & Almonte, 2013).

Our own work shows that the existence of ACE itself may not be solely driving adulthood outcomes; rather how an individual rates the perceived impact of the ACE experience is also strongly predictive of outcomes. We have published data suggesting that an ‘impact rating’ is a stronger predictor than a summed ACE score for individual levels of negative affect and also health related quality of life (Graeber et al., 2013). Other researchers have found similar results regarding how a construal of ‘centrality’ of (traumatic) events predicts post-traumatic symptoms (Boals & Schuettler 2011).

Although the psychological and psychiatric literature suggests that coping is an important aspect of quality of health, the relationships between the perceived impact of ACE in adulthood and coping have not been established. An important contribution to the literature, therefore, would be to identify whether a negative perceived impact among adults with ACEs may lead them to utilize more maladaptive coping strategies, like substance abuse, leading to the negative health behaviors seen in some ACE survivors. Such a contribution could have significant potential clinical utility if, for example, identification of common coping strategies used by affected individuals could lead to the development of a behavior-based coping interventions.

We sought to gain a richer understanding of the contextual use of various coping strategies by individuals with differing impact ratings of ACE. In a sample of ACE-exposed adults, we administered our unique assessment of ACE impact and a validated checklist of general coping strategies (Carver, 1997), and conducted qualitative interviews.

We hypothesized that there would be differences in the use of coping strategies between those who say that ACE has a positive or neutral impact, and those who say it has a negative impact on their adult lives. We explored this hypothesis by examining the relative order with which the groups reported using the different strategies, as well as mean differences in

coping scores between the groups. When we found significant differences, we reviewed the qualitative data to better understand how participants from different impact groups described employing the same strategies in potentially unique ways.

1. Methods

The Human Research Review Committee at the University of New Mexico Health Sciences Center (HRRC # 09-166) approved this study.

A. Recruitment Activities

We describe recruitment procedures in depth in Graeber and others (2013). Briefly, we recruited participants in this study who self-identified as having had adverse childhood experiences, trauma and/or household dysfunction. To ensure that we sampled individuals having differing outcomes, we had three phases of recruitment activities. Initial recruitment materials read “Having had traumatic things happen to you, even if they happened a long time ago, may affect your health today.” Subsequent recruitment materials were revised to read “Study Participants Needed: Our survey includes questions about “bad things” that happened during childhood, coping, and health.” The final round of recruitment materials read “Study Participants Needed. Many people have overcome challenges in their lives to become successful. Your challenges might have come from having a difficult childhood.”

We screened prospective participants over the phone to ensure they met the study inclusion criteria. A research assistant scheduled an appointment with each eligible individual; the research assistant administered informed consent and set them up on the computer to complete the full survey instrument. The entire survey took approximately 90 minutes for participants to complete. We debriefed all participants. All participants gave their informed consent and were compensated with a \$25.00 merchandise card from a local retailer.

B. Quantitative Measures

We collected baseline demographic variables (age, education, employment status, and ethnicity) as a part of the larger study from which these data come: The Coping, Health, Happiness, Adversity and Mental Health (CHHARM) study.

Measuring Adversity during Childhood—We have previously reported on the full text of our ACE items (LaNoue et al., 2012). In this study, as with many other ACE studies (Felitti et al., 1998), a 1–4 count variable was used comprised of physical abuse, sexual abuse, psychological/ emotional abuse, and neglect. The sum over these four categories of exposure was used as the ‘ACE’ variable in this study.

We also asked participants about the impact of their childhood abuse in their adult lives. Participants were asked “How would you describe the impact in your life now?” with response options ‘very negative’, ‘mostly negative’, ‘50/50’, ‘mostly positive’, and ‘very positive’.

Coping: We used the Brief Cope (Carver, 1997) to measure coping in the sample. We selected this scale among others that were available because of its inclusion of all three types

of coping paradigms: problem - and emotion-solving strategies, and approach-avoidance strategies, and that it was developed in accordance with well-accepted theoretical models (Carver & Scheier, 1999; Lazarus & Folkman, 1984). It can be used to assess trait coping (the usual way people cope with stress in everyday life) and state coping (the particular way people cope with a specific stressful situation). The instrument divides coping into 14 separate strategies, each comprised of two items. All responses are scaled 1 – “I usually don’t do this at all”, 2 – “I usually do this a little bit”, 3 – “I usually do this a medium amount”, 4 – “I usually do this a lot”. Therefore each of the 14 subscales ranges from 2–8. These were analyzed separately, as suggested by Carver (2014), rather than aggregating over subsets of scales.

C. Quantitative Analysis

Impact group formation: We computed ‘mean impact’ for each participant by first categorizing reported adult impact for each childhood event as ‘very/mostly positive’ = 1, 50/50 = 0, and ‘very/mostly negative’ = –1 and then taking the mean rating over all ACE categories reported. The range of this variable is therefore –1 to 1. We then divided participants into 2 groups on the basis of their score on this variable: –1 through –.25 as ‘negative impact’, –.249 through 1.0 as neutral/positive impact [these groups were empirically derived in our last study] (Graeber et al., 2013). This strategy resulted in 79 individuals in the ‘mostly/very negative’ group, and 65 individuals in the, ‘mostly/very positive/’ 50/50’ categories (11 responses were missing). This ‘mean impact’ categorical variable was used for the analyses of differences in coping strategies.

To explore differences in the coping strategies used between the two groups, all 14 coping strategies were separately tested for mean differences, using a series of independent groups t-tests (Carver, 2014).

D. Qualitative

1. Interviewee Selection and Process—An in-depth interview method was used to collect data on a volunteer sample of survey respondents. At the time of completing the survey, each participant was asked if they would be willing to be contacted to participate in an in-person interview. Those who agreed provided a method of contact (email address or phone number). We developed a list based on participants’ impact ratings, sex, and affect (see LaNoue, Graeber, Helitzer, & Fawcett, 2012 for the rationale for the affect selection). Individuals were contacted from this list in order. Fewer males agreed to be interviewed and they were also the most difficult to contact, such that our final interview sample is composed predominantly of females. During the initial telephone invitation, the respondent was reminded that they had volunteered to be contacted for an interview as part of the survey study and were briefed on the interview goals. All of the persons contacted re-consented to a one-hour interview.

2. Interview Guide and Protocol—The interview guide was developed collaboratively by the research team, focusing on their awareness and effects of ACE in the interviewees’ lives and how the individual coped with their ACE on an ongoing basis (a “state” assumption of coping). This approach was in contrast to the version we used of the Brief

Cope, which addressed trait coping. It was hoped that effective intervention strategies would be identified from the coping efforts individuals had employed effectively. A case study was developed from the survey data and used in conjunction with the interview guide during the interview process. The case study summarized relevant details such as physical health, pre-adult ACE (by type, age, severity, impact as a child and impact now), adult ACE, coping during ACE, adult coping, protective factors, and scores on select domains (e.g., positive and negative affect and resiliency). Importantly, one of the research team is a psychiatrist who was “on call” during the interview experience and offered time to the interviewee subsequent to the interview process if indicated or requested. Ultimately twelve interviews were conducted.

Interviews were audiotaped, transcribed, and purged of place/name identifiers in preparation for narrative analysis (Denzin, 1989; Reissman, 1993). Analysis proceeded in two stages: 1) initial coding by the qualitative researcher (who also was the interviewer) to create a coding structure that was grounded in the definitions of coping in the Brief COPE scale described above and 2) a team process which verified and expanded the original coding to include sorting of individual cases into the positive and negative impact groups as determined from the quantitative analysis described above. The final coding document was a case-ordered matrix (ordered by impact group) composed of coping categories, the original text that warranted the coping category, line number in which it appeared in the transcript, and researcher comment box (Miles, Huberman, & Saldana, 2014). During this process, explicit examples of coping emerged.

2. Results

Individuals with histories of physical abuse, sexual abuse, neglect or psychological/emotional abuse were included, $N = 154$. These participants were predominately Female (69.5%); 30.7 were of Hispanic descent; in addition, racial breakdowns were, in order of most to least: Caucasian (74%), Multi-racial (11.7%), African American (6.1%), American Indian (2.5%). Most had some college (31.1%) or were college graduates (48%). They had a mean age of 53.34 years ($SD = 7.07$, range 40–71 years). 62% were divorced, separated or single.

The calculation of the mean impact variable resulted in 79 individuals in the ‘mostly/very negative’, 49 individuals in the ‘50/50’ and 16 individuals in the ‘mostly/very positive’ categories. The groups did not differ on mean total ACE scores reported, ($p > .10$), with means of 2.92 ± 1.06 , $3.15 \pm .88$ and 2.69 ± 1.01 respectively for the negative, neutral, and positive impact groups (Graeber et al., 2013). Descriptive results indicated that total ACE score was not significantly related to any coping strategy usage.

Our analysis addressed mean differences between the neutral-positive impact group ($N = 65$) and the negative impact group ($N = 79$). Results indicated significant differences (using two-sided independent samples *t-test*, $p .02$) between the groups in six of the fourteen coping strategies: active coping, disengagement, emotional support, planning, reframing and self-blame. A visual inspection of the rankings of the coping strategies within the groups reveals that planning and active coping are the two strategies endorsed the most for both groups.

This occurs despite their being used, on average, in significantly different amounts (**planning**: 6.68 ± 1.48 for the neutral/positive impact group and 5.97 ± 1.95 for the negative impact group, $t(142)=2.39$, $p=.018$; **active coping**: 6.57 ± 1.37 for neutral/positive impact group and 5.80 ± 1.80 for the negative impact group, $t(142)=2.84$, $p=.005$).

Our qualitative analysis also revealed differences in how ACE-affected individuals from different impact groups used the same strategies to cope with their childhood adversity. Below we provide examples of how positive/neutral and negative impact individuals differentially used planning and active coping. As described above in Methods, we created coping codes for “planning” from items 2 and 17 in Carver’s coping scale (“I try to come up with a strategy about what to do”; and “I think hard about what steps to take”, respectively) and those for “active coping” from items 1 and 16 (“I’ve been concentrating my efforts on doing something about the situation I’m in” and “I take action to try to make the situation better”, respectively.)

Planning

Negative impact individual

“The track coach in 9th grade wouldn’t let me try out for track...I was too little. He said, ‘This is just for the guys that are going to give us ribbons and trophies’. So they ran up La Luz trail every weekend. So I showed up at La Luz trail on the weekend, I surprised myself. I said, ‘I can kick his ass; I’m going to be the first one up there’. Well, in boy scouts I knew the trail. And it’s all switchbacks and I don’t think you should waste your time on the trail and so, yea, some of the seniors were faster than me but I knew the trail.... So about a month later after I’d run the trail and beat everybody, even the seniors and he realized that I wasn’t cheating and I didn’t have somebody drive me around the mountain... After that he wanted me to join. I said, ‘I’m sorry I’ve got a job, I won’t be able to’. No way, I would never.”

Positive impact individual

And I said, ‘didn’t you know when you did that that this was going to happen? You have to, before you do something, you have to think ahead and figure out what is going to happen’, and he looked at me with this sad look on his face and he says, ‘but I can’t do that’. And you know, to me that’s one of the hallmarks of human intelligence is the ability to project your actions into the future and I’m thinking it was more so because of his age he wasn’t able to do that. But you know, I’ve always been able to do that and I think that... possibly that’s why people would come to me with their problems is because I have more of a facility for, ‘okay, now, these are the options and if you go this way, you know, this far out this is going to happen’ and I’m able to kind of project the results and consequences of things...

Active coping

Negative impact individual

I did the journal, I wrote in a journal, I write it in, and then unfortunate I became pregnant because of the rape, I was brutally brutally raped and then...I aborted I couldn't have the baby. Yea I just can't have, how am I going to face the baby that that your father raped me and how could I say that the child, and then that situation put the child and then second generation of the traumatic...and then I wrote in a whole thing in the journal.

Positive impact individual

I was pretty positive outside. Inside the house I tried not to talk but outside I had many good friends...inside the house, don't talk or anything. Right. Don't step on the tiger's tail...(Outside my home) I had many good friends and I was... pretty popular to boys, too. That touched my sister's nerve, too.

3. Discussion

In this study, we found that adults with adverse childhood events differed significantly in their use of coping strategies when the perceived adult impact of childhood adversity was taken into account. Specifically, individuals who reported continued negative impact of adverse childhood events in their (current) adult lives differed significantly on six of 14 measures of coping from those who report a neutral or positive impact of childhood adversity. The negative impact group reported significantly less use of the more adaptive coping strategies of active coping, emotional support, planning and reframing and significantly higher use of the more maladaptive strategies of self-blame and disengagement. Individuals were asked to rate how often they utilized various coping strategies "in general" and not asked to link their responses specifically to their experiences of childhood adversity. We chose this line of questioning to weight responses to trait coping as we were most interested in assessing how individuals with differing perceived impact of ACE report use of various coping strategies in a more global context.

In our study, the total ACE score (a sum of the total categories of ACE experiences for each individual) was not significantly related to the use of any coping strategy. This may have implications for the methodological approaches used to estimate ACE behavioral outcomes. The use of a summing method of ACE exposure for a given individual has been widely used by researchers (Felitti et al., 1998) and has been shown to correlate with higher levels of morbidity and mortality. This summing method assumes, for the purpose of calculating risk, that different types of childhood adversity have equal potential to impact individuals exposed during childhood. Our results suggest that the relationship between exposure to adversity as a child and continued perceived impact in adulthood may provide a richer understanding of the relationship between ACE and negative consequences later in life.

These findings extend our previous work, which suggested that individuals with a negative adult impact rating of ACE were more likely to express higher levels of negative affect (LaNoue et al., 2012) and also report lower levels of quality of life (Graeber et al., 2013). These data, taken in total, support the concept that how individuals with past childhood

adversity rate the impact of these experiences in their current adult lives is an important contributor to emotional and behavioral correlates of health and coping. Both researchers and clinicians should consider the relationship between ACE and perceived adult impact to better appreciate and understand the complex interplay between childhood trauma and its adult consequences (both positive and negative). This recommendation is similar to that of Bonanno (2004) and Litz, Grau, Bryant, and Adler (2002) who suggest that those with positive impact should be treated differently, and a screening tool should be developed to distinguish between the two.

Our study also supports the findings of other investigators reflecting that individuals do not simply use either adaptive or maladaptive coping strategies but in fact most individuals use both adaptive and maladaptive coping strategies (King, King, Foy, Keane, & Fairbank, 1999; McFarlane & Yehuda, 1996). In addition, many coping strategies overlap; for example, “seeking social support” can be either a problem-focused (information seeking), emotion-focused (sympathy) (Penley, Tomaka, & Wiebe, 2002) or approach (help seeking) coping strategy.

For example, all 14 of the coping strategies were endorsed as being used regardless of positive/neutral or negative perceived adult impact. The differences were found in the frequency of use of individual coping strategies. Experts in coping research suggest that individuals who are faced with different life problems will utilize different degrees of problem-focused and emotion-focused coping strategies (Folkman & Lazarus, 1980; Pearlin & Schooler, 1978).

In our sample, planning and active coping were the most frequently endorsed coping strategies used by both positive/neutral and negative impact groups. Both impact groups used these strategies but the positive/neutral group used these strategies significantly more often. This finding supports previous work (Haan 1969; Lazarus, 1991; Folkman 1997; Vaillant, 1977) that suggests that coping is best understood as a fluid and dynamic process (state versus trait) and that individuals may employ differing coping behaviors depending upon the nature of the stressor being addressed and the perceive context of the stressor.

Our study also employed a qualitative analytic component with the goal of better understanding the more complex aspects of individual coping strategy use. We describe specific examples of coping strategies that reflect contextual aspects of coping that cannot be gleaned from checklists currently employed in the majority of coping research. For example, we provide excerpts from both positive/neutral and negative impact individuals of planning and active coping. Both planning and active coping (in general considered more adaptive coping strategies) were utilized by individuals with positive and negative perceived impact but the motives and intent of the strategies take on much more nuanced aspects when more deeply explored. In the example of planning, the negative impact individual provides an example of planning with the motive of indirectly expressing anger at an authority figure in their life but at the expense of affiliating with a peer group around a shared athletic experience. The individual with positive impact describes use of planning as a way of using past experiences to predict the potential future consequences (negative and positive) of actions and how this ability is seen as an asset by others. In the example of active coping,

the negative impact individual describes use of an active coping strategy with the intent of deflecting guilt and avoiding pain they might endure in the future. The positive impact individual describes use of an active coping strategy with the intent of developing positive relationships with friends despite the negative consequences that strategy might have within their family. These examples emphasize the complex nature of coping strategies and challenge the utility of using simple checklists as the sole means of trying to understand how individuals and groups of individuals utilize strategies to cope with stressors.

4. Implications

These findings may have significant clinical implications. For example, therapies designed to specifically focus on addressing and potentially changing or shifting the valence of the continued perceived negative impact of ACE from negative to neutral or positive might be developed. This in turn might influence or shift use of coping strategies to more adaptive outcomes.

5. Limitations

Research linking childhood adversity and adult health outcomes has suffered from a dearth of prospective studies in this area, and this study, which relies on retrospective reports of childhood adversity, is no exception. However, we suggest that our research focusing on the effects of the *current perception* of the impact of childhood adversity in adults' current lives partially overcomes this limitation.

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