

August 2022

Hope Agency and Hope Pathways as Potential Mediators of Trauma Exposure and Psychological Adjustment in Emerging Adults

Miranda R. Schaffer
University of Michigan, mschaff4@umich.edu

Edward C. Chang
University of Michigan, changec@umich.edu


Alaina E. Gregory
University of Michigan, alainaeg@umich.edu

Misu Kwon
University of Michigan, misuk@umich.edu

Claire J. Shimshock
University of Michigan, clairejn@umich.edu

Follow this and additional works at: <https://mds.marshall.edu/adsp>

See next page for additional authors

 Part of the [Counseling Psychology Commons](#)

Recommended Citation

Schaffer, Miranda R.; Chang, Edward C.; Gregory, Alaina E.; Kwon, Misu; Shimshock, Claire J.; Rao, Nithya M.; Demers, Paige K.; Vieth, Madeleine R.; and Hirsch, Jameson K. (2022) "Hope Agency and Hope Pathways as Potential Mediators of Trauma Exposure and Psychological Adjustment in Emerging Adults," *Adultspan Journal*: Vol. 21: Iss. 1, Article 3.

DOI: <https://doi.org/10.33470/2161-0029.1000>

Available at: <https://mds.marshall.edu/adsp/vol21/iss1/3>

This Research Article is brought to you for free and open access by Marshall Digital Scholar. It has been accepted for inclusion in *Adultspan Journal* by an authorized editor of Marshall Digital Scholar. For more information, please contact beachgr@marshall.edu.

Hope Agency and Hope Pathways as Potential Mediators of Trauma Exposure and Psychological Adjustment in Emerging Adults

Abstract

The present study examined hope as a mediator between trauma exposure and negative affective conditions in 490 college students. Hope agency, but not hope pathways, mediated some of the association. Trauma exposure maintained a significant association with negative affective conditions. Implications for counselors working with trauma-exposed college students are discussed.

Keywords

Trauma, hope, negative affective conditions, emerging adulthood

Authors

Miranda R. Schaffer, Edward C. Chang, Alaina E. Gregory, Misu Kwon, Claire J. Shimshock, Nithya M. Rao, Paige K. Demers, Madeleine R. Vieth, and Jameson K. Hirsch

**Hope Agency and Hope Pathways as Potential Mediators of Trauma Exposure and
Psychological Adjustment in Emerging Adults**

Miranda R. Schaffer, Edward C. Chang, Alaina E. Gregory, Misu Kwon, Claire J. Shimshock, Nithya M. Rao, Paige K. Demers, Madeleine R. Vieth, Department of Psychology, University of Michigan, at Ann Arbor, & Jameson K. Hirsch, Department of Psychology, East Tennessee State University.

Miranda R. Schaffer is now at Department of Psychology, Eastern Michigan University.

Misu Kwon is now at Department of Psychology, Yonsei University.

Claire J. Shimshock is now at Department of Psychology, University of Rochester.

AUTHOR'S NOTE

Correspondence concerning this article should be sent to either Miranda R. Schaffer (Orc ID: 0000-0002-4226-4843), Department of Psychology, Eastern Michigan University, 341 Science Complex, Ypsilanti, MI, 48197; or Edward C. Chang (Orc ID: 0000-0002-2245-6696), Department of Psychology, University of Michigan, 530 Church Street, Ann Arbor, MI 48109. Electronic mail may be sent to either mschaff4@emich.edu or changeec@umich.edu.

Abstract

In the present study, we examined hope as a mediator between trauma exposure and negative affective conditions in 490 college students. Hope agency, but not hope pathways, mediated some of the association. Trauma exposure maintained a significant association with negative affective conditions. Implications for counselors working with trauma-exposed college students are discussed.

Keywords: Trauma, hope, negative affective conditions, emerging adulthood

Hope Agency and Hope Pathways as Potential Mediators of Trauma Exposure and Psychological Adjustment in Emerging Adults

The developmental stage of the typical college student, *emerging adulthood*, is the life stage of the late teens through 20s (i.e., 18–29; Arnett et al., 2014), and is often marked by challenges and changes across multiple life domains (e.g., autonomy, social roles, love partnerships, and career pursuits; Arnett, 2015; Arnett et al., 2014). Emerging adulthood is characterized by high levels of instability and uncertainty and can increase vulnerability to the onset of a psychological disorder (Arnett et al., 2014; Kessler et al., 2005), especially when this instability is involuntary (e.g., an unexpected romantic break-up or job loss). Previous findings suggest that emerging adulthood is often associated with high levels of psychological distress (Asberg et al., 2008; Bell & Lee, 2008) and some researchers have even posited that emerging adulthood could serve as a “critical juncture” in developing more enduring psychopathology and mental health issues throughout adulthood (Schulenberg, Bryant, & O’Malley, 2004; Schulenberg, Sameroff, & Cicchetti, 2004).

Empirical studies and data from college counseling centers across the United States suggest that reported symptom severity among students presenting for treatment at college counseling centers might be generally increasing (e.g., American College Health Association, 2014; Benton et al., 2003; Center for Collegiate Mental Health, 2022). Relatedly, college counseling service utilization also appears to be increasing, with a high demand for services often leading to shorter session limits, long waitlists to access services, and greater referrals to off-campus mental health providers (Gallagher, 2013; Prince, 2015). Taken together, findings suggest that as symptom severity seems to be increasing among college students, it might also be increasingly difficult for students to access necessary mental health services (Prince, 2015). Thus, better understanding the unique developmental challenges, distress, and treatment of mental health conditions in emerging adult college students could be of special importance for clinical counselors and educational administrators working with this population.

Prevalence of Trauma Exposure in Emerging Adulthood

Trauma, broadly, is exposure to an event that constitutes a psychological or physical threat to oneself or others (e.g., natural disaster, sexual assault; American Psychological Association, 2013; Hooper et al., 2011). Although emerging adulthood is not often characterized as a period that is traumatic for individuals, findings from some studies indicate that a majority of emerging adults have been exposed to traumatic experiences (Boyraz, et al., 2016; S. E. Cusack et al., 2019). Consistent with emerging adulthood's core component of instability (Arnett et al., 2014), researchers have identified that the peak age for risk of trauma exposure coincides, in part, with emerging adulthood (i.e., 16–20 years of age; Breslau et al., 1998; Wilcox et al., 2009). Additionally, The Center for Collegiate Mental Health (2022) found that reported prevalence of trauma exposure among students presenting at American college counseling centers had increased 11.6% nationwide from 2012 to 2021, suggesting that it might be a concern of growing importance in this population. As demonstrated by Boyraz et al.'s (2016) study, trauma exposure has also been linked to poor academic performance and college attrition in emerging adults. As successfully completing secondary education may be a primary life goal for many individuals in this developmental stage, specific attention toward trauma exposed emerging adults on the college campus may be warranted. Given the risk that emerging adults have been exposed to trauma, in conjunction with the increased psychological vulnerability often presented by this developmental stage, it is important to further examine the role of trauma exposure on important mental health outcomes in this population.

Trauma exposure is associated with marked increase in symptoms of anxiety, depression, and general negative affect (Watson & Clark, 1984) and is linked to numerous psychological conditions and behaviors (e.g., depression, suicidal behavior; Auerbach et al., 2018; Sheline & Rosén, 2017). Many of the conditions and behaviors trauma exposure is related to can be characterized, in part, by negative affect (e.g., anxiety, depression, PTSD, and suicidal behavior; American Psychological Association, 2013; Yamokoski, 2011), and can be referred to as negative affective conditions (NAC).

For example, trauma exposure has been linked to two prevalent NAC—anxiety and depression—in college students across multiple studies (Auerbach et al., 2018; Ebert et al., 2018; Riggs & Han, 2009). Similarly, consistent with large population-based studies showing a reliable link between trauma exposure and suicide risk in adults, trauma exposure has also been linked to more extreme conditions, such as suicidal behaviors and PTSD, in emerging adults (Sheline & Rosén, 2017).

Trauma Exposure: A Potential Inhibitor of Hope?

Previous findings have pointed to the importance of psychological adjustment, an individual's ability to manage the demands and pressures of the social environment (Koenen et al., 2002; Sharma, 2016). Several researchers have suggested that *hope* in particular might be one important individual factor to consider related to trauma exposure in emerging adulthood (Chang et al., 2016; Lucas et al., 2020; Snyder et al., 1991). Broadly, Snyder et al. (1991) conceptualized hope as an enduring positive cognitive-motivational and goal-oriented disposition important to psychological adjustment and characterized trauma exposure as one of the most extreme blockages to hopeful, goal-directed thinking. Consistent with Snyder et al.'s (1991) interpretation, in more recent studies researchers have found that hope serves as a buffer for the link between adverse experiences and negative psychological adjustment (Chang et al., 2017; Muyan et al., 2016). For example, Muyan et al. (2016) found that the presence of hope weakened the positive relationship between loneliness and anxious symptoms. Thus, hope might be a particularly relevant factor to consider in the link between trauma exposure and NAC in emerging adults.

In addition, Snyder et al. (1991) proposed that hope is dually constructed through both hope agency and hope pathways. According to this model, both hope agency and hope pathways are related and play reciprocal roles under the hope construct; however, two-factor analyses confirm that the constructs are indeed distinct from one another (Snyder et al., 1991). Moreover, Snyder (1995) theorized hope agency and hope pathways as being equally important to psychological adjustment. In this model, hope agency refers to an individual's perceived personal ability to attain their goals. Hope

pathways, however, refer to an individual's perceived ability to find and maintain a path toward attaining their goals. Therefore, due to the harmful associations of trauma with psychological adjustment, coupled with the potential benefits of hope intervention in emerging adults (Feldman & Dreher, 2012), it is worthwhile to further investigate the associations between trauma exposure, hope agency, hope pathways, and NAC symptomatology in emerging adults.

Purpose of the Study

The present study was conducted to (a) further explore the associations between trauma exposure, hope agency, hope pathways, and NAC symptomatology (i.e., depressive symptoms, anxious symptoms, PTSD symptoms, and suicidal behaviors); and (b) determine whether hope agency, hope pathways, or both, might mediate the relationship between trauma exposure and NAC in emerging adults.

Consistent with prior research (Riggs & Han, 2009; Sheline & Rosén, 2017), we expected trauma exposure to be positively associated with NAC in emerging adults. In particular, we hypothesized that trauma exposure would be positively associated with anxious symptoms, depressive symptoms, PTSD symptoms, and suicidal behaviors. Aligned with prior research linking trauma exposure to lower hope (Hinton-Nelson et al., 1996), we expected to find that both hope dimensions (i.e., hope agency, hope pathways) would be lower in emerging adults exposed to trauma. Consistent with Snyder et al.'s (1991) hope theory, we expected that greater hope would be negatively associated with symptoms of NAC. Thus, we predicted that the presence of hope agency and hope pathways would be negatively associated with the symptoms of NAC. Because Snyder et al.'s (1991; see also, Hinton-Nelson et al., 1996) hope theory asserts that adverse experiences like exposure to trauma inhibit an individual's ability to think in a goal-oriented manner, we predicted that both hope agency and hope pathways would mediate the association between trauma exposure and NAC (i.e., depressive symptoms, anxious symptoms, PTSD symptoms, and suicidal behaviors).

Methods

Participants

The original participant pool was composed of 533 college students from a large Southeastern university in the United States. However, given our focus on emerging adulthood, the age range of participants falling between 18 and 29 was used as inclusion criteria for the analyses (Arnett et al., 2014). The resulting study sample was 490 students. There was a higher number of female ($N = 354$, 72.2%) than male ($N = 136$, 27.8%) participants. The average age of participants was 19.8 years ($SD = 2.3$ years). The ethno-racial breakdown of the participants was 84.5% White, 8% Black, 5.3% Hispanic or Latino, 1.2% Asian, 0.6% Native American, and 0.4% Native Hawaiian or Pacific Islander.

Measures

Trauma Exposure

We used the Trauma History Questionnaire to assess trauma exposure (Hooper et al., 2011). The Trauma History Questionnaire consists of 24 items, each describing a potentially traumatic event (e.g., “Has anyone, including family members or friends, ever attacked you with a gun, knife, or some other weapon?”); the items also include several categories of potentially traumatic events (i.e., crime-related events, general disaster, physical and sexual experiences). The respondent circles either “yes” or “no” to indicate if they have experienced the event. If the respondent answers “yes,” they are also asked to specify how many times they have experienced the event. Because the Trauma History Questionnaire is a data collection instrument and not a test, scoring adaptations can be made to meet the needs of a project (Hooper et al., 2011). We examined whether the participant indicated any form of trauma exposure. Humphreys et al. (1999) found the Trauma History Questionnaire to be significantly related to the Conflict Tactics Scale ($r = .46$; Straus, 1979). In our sample, internal reliability for the Trauma History Questionnaire was $\alpha = .80$.

Hope

The Hope Scale was used to assess for hope agency and hope pathways in participants (Snyder et al., 1991). The Hope Scale contains 12 items, with four that assess for hope agency (e.g., “I’ve been pretty successful in life”); four that assess for hope pathways (e.g., “There are lots of ways around any problem”); and four filler items (e.g., “I usually find myself worrying about something”). Participants respond on an 8-point Likert-type scale that ranges from 1 (*definitely false*) to 8 (*definitely true*) to indicate how much the statement describes them. Total hope is calculated by the sum of hope agency and hope pathway scores, with a minimum possible score of 8 and a maximum of 64. Higher scores on the Hope Scale indicate greater hope in respondents. In our sample, internal reliability for the total Hope Scale was $a = .88$, and the internal reliability for hope agency and pathways was $a = .84$ and $a = .81$, respectively.

NAC

To assess for anxiety and depression, we used the Beck Anxiety Inventory (Beck et al., 1988) and Center for Epidemiologic Studies Depression Scale (Radloff, 1977). The PTSD Checklist-Civilian Version (Weathers et al., 1994) and the Suicidal Behaviors Questionnaire-Revised (Osman et al., 2001) were used to assess for PTSD symptoms and suicidal behaviors.

The Beck Anxiety Inventory consists of 21 self-report items that measure symptoms of anxiety (e.g., “Fear of dying”). Participants use a Likert-type scale to report the degree to which they have experienced anxious symptoms over the past 1-week period that ranges from 0 (*not at all*) to 3 (*severely*). The measure is scored by the sum of responses, with a maximum possible score of 63. Higher scores on the Beck Anxiety Inventory are consistent with greater anxious symptoms. Beck et al. (1988) found that the Beck Anxiety Inventory is significantly moderately correlated with the revised Hamilton Anxiety Rating Scale ($r = .51$; Hamilton, 1959). In our sample, internal reliability for the BAI was $a = .95$. The Center for Epidemiologic Studies Depression Scale is a 20 item self-report measure in which participants indicate how often they have experienced each item in the past

week ranging from *Rarely or None of the Time (Less than 1 day)* to *Most or All of the Time (5-7 days)*. The range of possible scores is 0 to 60, with higher scores indicating greater depressive symptoms. In our sample, internal reliability for the Center for Epidemiologic Studies Depression Scale was $a = .88$. Shinar et al. (1986) found that the Center for Epidemiologic Studies Depression Scale was significantly correlated to the Zung depression scale ($r = .65$; Zung, 1965).

The PTSD Checklist-Civilian Version is a 17-item measure that captures symptoms of PTSD in the last month (e.g., “Feeling very upset when something reminded you of a stressful experience from the past?”). Respondents indicate how much they have been bothered by each symptom using a 5-point Likert scale that ranges from 1 (*Not at all*) to 5 (*Extremely*). The maximum possible score is 85. Higher scores on the PTSD Checklist-Civilian Version are associated with greater PTSD symptoms in participants. Blanchard et al. (1996) reported that the PTSD Checklist-Civilian Version was significantly and highly correlated with the Clinician Administered PTSD Scale ($r = .93$; Blake et al., 1995). In our sample, the internal reliability was $a = .94$. The Suicidal Behaviors Questionnaire-Revised is a brief, 4-item questionnaire (e.g., “Have you ever thought about or attempted to kill yourself?”) that provides 5–6 pre-written possible responses per item that range from 0 (*Never*) to 4 (*Often*) and is designed to capture key components of suicidality (e.g., lifetime ideation/attempt, frequency of ideation, current threat of attempt, and likelihood of future suicidal behavior). Scoring is calculated through the sum of the item response points and ranges from 3–18, with 7 or more being the cutoff score for risk of suicide in general adult populations (Osman et al., 2001). Greater scores on the Suicidal Behaviors Questionnaire-Revised are associated with greater suicidality among respondents. The Suicidal Behaviors Questionnaire-Revised total score is correlated moderately and significantly to the Suicide Probability Scale ($r = .65$; Cull & Gill, 1982). In our sample, internal reliability for the Suicidal Behaviors Questionnaire-Revised was $a = .83$.

Procedures

The Institutional Review Board approved this study prior to data collection. Participants were recruited from a large U.S. Southeastern university and provided written informed consent.

Participants received course credit or extra credit upon completion of the written survey.

After calculating the zero-order correlations, means, and standard deviations for all study measures, we ran four mediation analyses to explore the relationship between trauma exposure (Trauma History Questionnaire) and the four outcome variables of anxious symptoms (BAI), depressive symptoms (CES-D), PTSD symptoms (PLC-C), and suicidal behaviors (SBQ-R) as mediated by hope agency (HS agency subscale) and hope pathways (HS pathways subscale). To test the mediation model, we used Preacher and Hayes's (2008) bootstrapping method in PROCESS (Model 4; Hayes, 2013). Specifically, we used 10,000 bootstraps to obtain 95% bias-corrected confidence intervals. Mediation is demonstrated when the interval does not contain 0 (Preacher & Hayes, 2008). Cohen's (1977) conventions for small ($f^2 = .02$), medium ($f^2 = .15$), and large effects ($f^2 = .35$) were used to determine whether the variables accounted for a small, medium, or large amount of variance.

Results

Table 1 presents the zero-order correlations, means, and standard deviations for all study measures.

Table 1

Zero-Order Correlations, Means, and Standard Deviations of All Study Measures in College Students

	1	2	3	4	5	6	7
1. Trauma	--						
2. Hope Agency	-.15**	--					
3. Hope Pathways	-.07	.68***	--				
4. Anxious Symptoms	.48***	-.32***	-.27***	--			
5. Depressive Symptoms	.30***	-.47***	-.36***	.61***	--		
6. PTSD Symptoms	.48***	-.37***	-.28***	.73***	.71***	--	
7. Suicidal Behaviors	.38***	-.27***	-.13**	.52***	.54***	.52***	--
<i>M</i>	4.22	25.68	24.55	12.37	15.32	31.88	4.84
<i>SD</i>	3.70	4.80	4.75	12.26	11.33	13.93	3.04

Note. $N = 490$

** $p < .01$

*** $p < .001$

PTSD = Post-Traumatic Stress Disorder

All study measures were significantly correlated with the predicted directionality. Trauma exposure was significantly positively correlated to anxious symptoms ($r = .48, p < .001$); depressive symptoms ($r = .30, p < .001$); PTSD symptoms ($r = .48, p < .001$); and suicidal behaviors ($r = .38, p < .001$). Additionally, hope agency was significantly and negatively correlated to trauma exposure ($r = -.15, p < .01$). However, the negative correlation between hope pathways and trauma exposure was not significant ($r = -.07$). Furthermore, all negative affective conditions (i.e., anxious symptoms, depressive symptoms, PTSD symptoms, and suicidal behaviors) were significantly negatively correlated to both hope agency ($r_s = -.32, -.47, -.37, -.27, p < .001$) and hope pathways ($r_s = -.27, -.36, -.28, p < .001; r_s = -.13, p < .01$).

Hope as a Potential Mediator Between Trauma Exposure and NAC

Next, we tested a mediation model of hope agency and hope pathways on the positive association between trauma exposure and NAC (i.e., anxious symptoms, depressive symptoms, PTSD symptoms, and suicidal behaviors). Table 2 presents the calculation findings to determine if hope agency and hope pathways are mediators of the positive association between trauma exposure and NAC.

Table 2

Indirect Effects of Trauma History on Psychological Adjustment Through Hope Agency and Hope Pathways in College Students

Outcome/Mediators	Parameter Estimate	SE	95% BC CI	
			Lower	Upper
Anxious Symptoms				
Total	.11	.05	.02	.22
Hope agency	.09*	.04	.02	.18
Hope pathways	.03	.02	-.01	.09

Depressive Symptoms				
Total	.18*	.06	.06	.31*
Hope agency	.16*	.05	.06	.28*
Hope pathways	.02	.02	-.01	.07
PTSD Symptoms				
Total	.17*	.06	.05	.29*
Hope agency	.15*	.06	.05	.27*
Hope pathways	.02	.02	-.01	.07
Suicidal Behaviors				
Total	.03*	.01	.01	.05*
Hope agency	.03*	.01	.01	.06*
Hope pathways	-.00	.01	-.02	.00

Notes. $N = 490$. BC CI = Bias-corrected confidence interval.

PTSD = Post-Traumatic Stress Disorder.

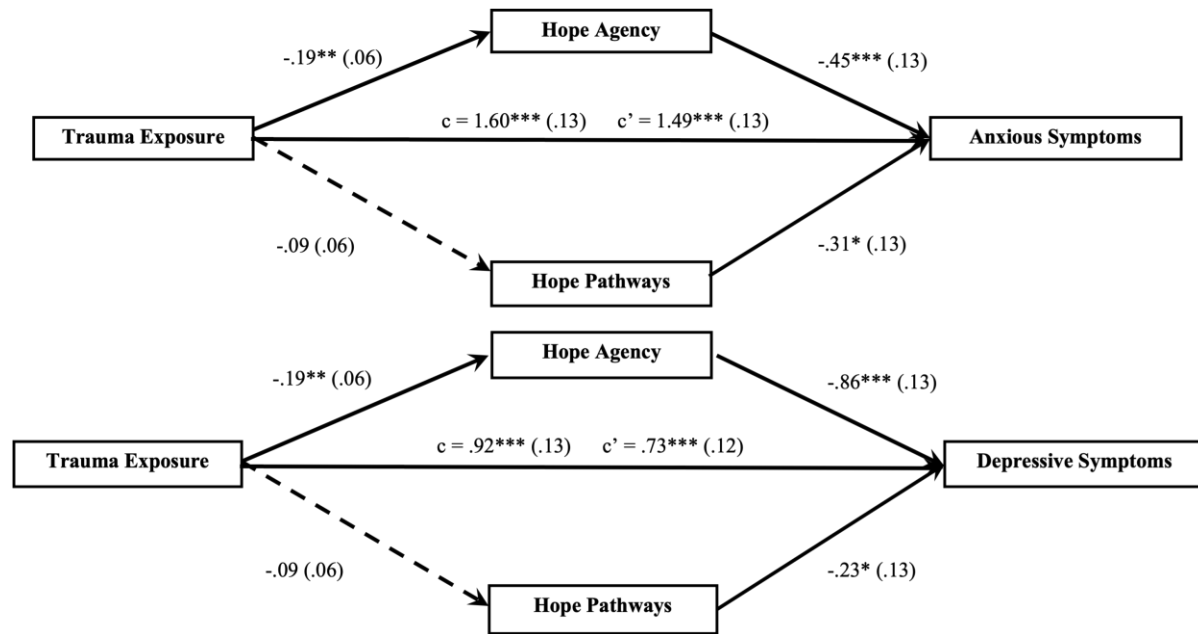
* $p < .05$

For all NAC, only the indirect effects of total hope and hope agency acted as mediating variables on the positive association, except for anxious symptoms, in which only hope agency acted as a mediator.

Figure 1 illustrates hope as a potential mediator of the associations involving trauma exposure with anxious and depressive symptoms.

Figure 1

Results of Analysis Testing for Hope Agency and Hope Pathways as Potential Mediators of the Association Between Trauma Exposure and Anxious and Depressive Symptoms in College Students



Note. All numbers represent non-standardized regression coefficients and their standard errors. $N = 490$.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

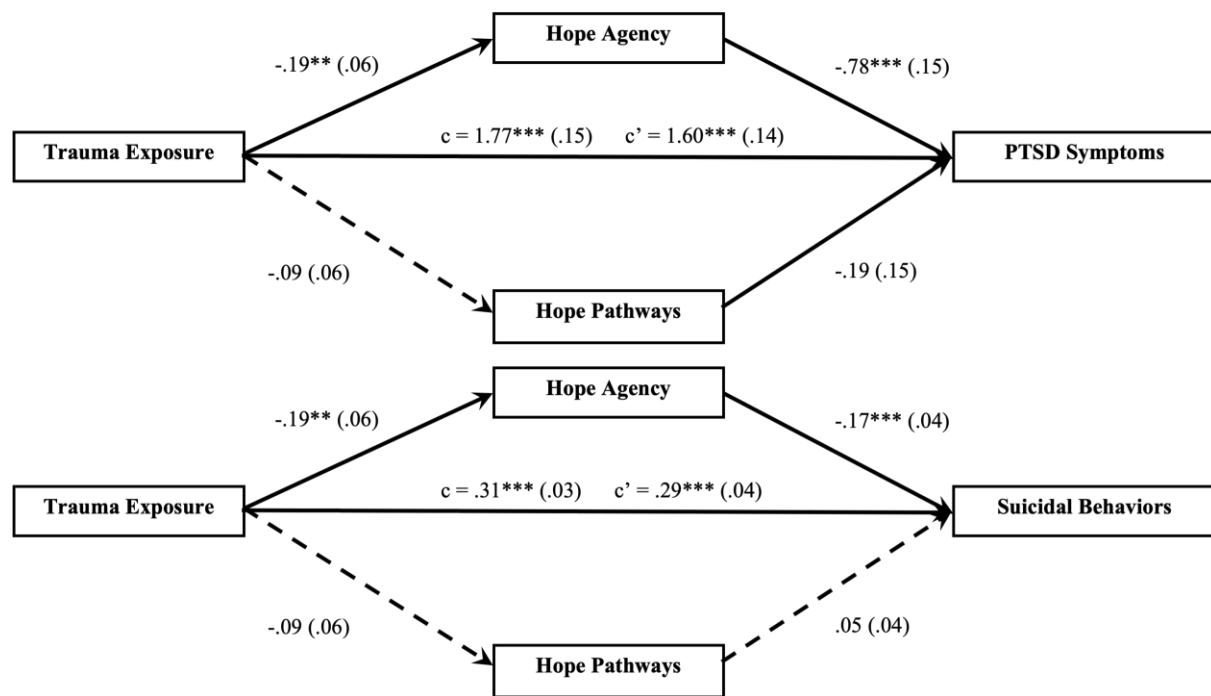
As shown in Figure 1, hope agency was significantly negatively related to trauma exposure ($B = -.19, p < .01$) and anxious symptoms ($B = -.45, p < .001$). The effect size of trauma exposure was medium and significant ($f^2 = .28$), accounting for 22% of the total variance, while the effect size for hope was small but significant ($f^2 = .10$), accounting for 9% of the variance. The total effect size of the model (i.e., trauma exposure, hope agency, hope pathways) on anxious symptoms was large ($f^2 = .44$) and significant, accounting for 31% of the variance, $F(3, 486) = 71.67, p < .001$. Figure 1 shows that only hope agency demonstrated a significant indirect effect on depressive symptoms, not hope pathways. Specifically, hope agency was significantly and negatively related to trauma exposure ($B = -.19, p < .01$), as well as depressive symptoms ($B = -.86, p < .001$). Hope pathways was not a mediator, however; hope pathways was significantly negatively related to anxious ($B = -.31, p < .01$) and depressive ($B = -.23, p < .05$) symptoms. Interestingly, trauma exposure had a small but significant effect size on depressive symptoms ($f^2 = .08$), accounting for 7% of the variance; hope had a medium effect size ($f^2 = .26$), accounting for 20% of the variance. The total effect size of the

model (i.e., trauma exposure, hope agency, hope pathways) on depressive symptoms was large ($f^2 = .38$) and significant, accounting for 27% of the variance, $F(3, 486) = 62.06, p < .001$.

Figure 2 illustrates hope as a potential mediator of the associations involving trauma exposure with PTSD symptoms and suicidal behaviors.

Figure 2

Results of Analysis Testing for Hope Agency and Hope Pathways as Potential Mediators of the Association Between Trauma Exposure and PTSD and Suicidal Behavior Symptoms in College Students



Note. All numbers represent non-standardized regression coefficients and their standard errors. PTSD = Post-Traumatic Stress Disorder. $N = 490$.

$**p < .01$. $***p < .001$.

Specifically, as shown in Figure 2, hope agency was significantly negatively related to trauma exposure ($B = -.19, p < .01$) and PTSD symptomatology ($B = -.78, p < .001$). The effect size of trauma exposure on symptoms of PTSD was medium and significant ($f^2 = .27$), accounting for 21% of the variance; the effect size of hope was small but significant ($f^2 = .14$), accounting for 12%

of the variance. The total effect size of the model (i.e., trauma exposure, hope agency, hope pathways) on PTSD symptomatology was large ($f^2 = .49$) and significant, accounting for 33% of the variance, $F(3, 486) = 78.97, p < .001$. Figure 2 illustrates that only hope agency mediates the positive association between trauma exposure and suicidal behaviors, and not hope pathways; hope agency was significantly negatively related to trauma exposure ($B = -.19, p < .01$) and suicidal behavior ($B = -.17, p < .001$). Trauma exposure had a significant medium effect size ($f^2 = .15$), accounting for 13% of the variance. Hope had a significant small effect size ($f^2 = .08$), accounting for 7% of the variance. The total effect size of the model (i.e., trauma exposure, hope agency, hope pathways) on suicidal behavior was medium ($f^2 = .25$) and significant, accounting for 20% of the variance, $F(3, 486) = 39.72, p < .001$. Particularly noteworthy is that hope pathways is not significantly related to either trauma exposure, PTSD symptoms, or suicidal behaviors.

Discussion

Given the prevalence of trauma exposure in college students (S. E. Cusack et al., 2019) and its known relationship to symptoms of NAC (e.g., Riggs & Han, 2009), the present research was conducted to further explore the findings of previous studies indicating a positive relationship between trauma exposure and NAC in college students (Riggs & Han, 2009; Sheline & Rosén, 2017). Consistent with prior research, trauma exposure was significantly and positively related to all NAC (i.e., depressive, anxious, and PTSD symptoms and suicidal behaviors) studied.

Aligned with Snyder et al.'s (1991) and Snyder et al.'s (2006) hope theory tenet that adverse life events might inhibit hope, trauma exposure was negatively associated with hope in our study. As informed by Snyder's (1995, 2002) and Snyder et al.'s (2006) contention that both hope agency and hope pathways are reciprocal and necessary for psychological health and well-being, our hypothesized model predicted that trauma and various NAC symptomatology would be mediated by both hope agency and hope pathways.

Hope Agency, but not Hope Pathways, as a Mediator of NAC

Contrary to what was predicted, hope agency—but not hope pathways—were found to partially mediate the relationships between trauma exposure and NAC. Although hope pathways did not mediate the relationship between trauma exposure and any of the NAC studied, they were significantly related to the more prevalent NAC studied (i.e., anxiety and depression). Because only hope agency was significantly related to and partially mediated all indices of NAC studied, these findings contradict Snyder et al.'s (1991) hope theory tenet that both hope agency and hope pathways are equally predictive factors in psychological adjustment. Our study is also, to our knowledge, the first to demonstrate the role of hope agency as a mediator in the relationship between trauma exposure and symptoms of PTSD.

Indeed, some prior research has suggested that hope pathways thinking might be relatively less malleable (Cheavens et al., 2006) and more enduring than hope agency thinking (Aspinwall & Leaf, 2002). One possible explanation for hope pathways thinking being less mutable than hope agency thinking is contextual factors of one's life that might constrain and stabilize hope pathways (e.g., socioeconomic status, race, gender), but not hope agency. For instance, lower socioeconomic status individuals might have restricted access to social connections and other resources that could reduce their ability to create viable pathways and overcome roadblocks to achieving their goals, even if they think of themselves as personally capable and eager to attain a goal (Bradley & Corwyn, 2002; Kraus et al., 2012; Snyder, 2002). Thus, an individual's will to attain goals might be more readily influenced by life events, including therapeutic interventions and traumatic experiences. However, the ability to generate viable pathways toward their goals might be constrained (and therefore stabilized, in part) by social position and other contextual factors.

Implications for Counseling and Education

Trauma exposure maintained an independent and direct statistical effect on the symptoms of NAC in our sample. Given the relationship between trauma exposure and NAC (Auerbach et al., 2018; Ebert et al., 2018; Riggs & Han, 2009) our findings support the use of trauma history

screenings as a component of a thorough psychological assessment for clinical counselors (K. J. Cusack et al., 2004). Because hope agency partially mediated the relationships between trauma exposure and NAC in our study, the findings also suggest that it might be especially useful to bolster hope agency in the aftermath of trauma (Aspinwall & Leaf, 2002; Snyder et al., 2006). Although the our findings add to a growing body of research indicating that hope agency might be a relatively malleable and especially important component in positive adjustment and development (Aspinwall & Leaf, 2002; Chang & Banks, 2007; Cheavens et al., 2006), there are no interventions, to date, that focus specifically on cultivating hope agency. Thus, it might be valuable for counseling interventions to explore whether augmenting traditional psychotherapies with interventions targeted at growing hope agency could be useful in decreasing symptoms of NAC in emerging adults.

As previously noted, emerging adulthood is a life stage often characterized by rapid change and high psychological distress (Arnett et al., 2014; Asberg et al., 2008; Bell & Lee, 2008). Preliminary findings from studies have suggested that hope-focused interventions more broadly could be useful in promoting academic success (Davidson et al., 2012) and lessening psychological distress among emerging adults in as little as one 90-minute session (Feldman & Dreher, 2012). Moreover, given the prevalence of trauma exposure among college students (e.g., S. E. Cusack et al., 2019), and the critical juncture emerging adulthood might serve to long-term mental health (Schulenberg, Bryant, & O'Malley, 2004), broader scale university interventions could be useful in lessening symptoms of NAC in the college student population. Online and app-based interventions have been useful in targeting other concerns on the college campus (e.g., sexual violence; Kleinsasser et al., 2015), and therefore might be a potentially accessible and useful tool if adapted as a means of decreasing psychological distress on the college campus. Consistent with the need for broad scale interventions, one pilot study (Daugherty et al., 2018) examined the use of a smartphone app-based intervention to increase hope among college students, and the results indicated a significant hope

increase from pre-test to post-test; however, future researchers might want to consider the effects of an intervention of this type on lessening NAC symptomatology specifically.

Limitations

Despite the significance of our findings, some limitations are noted. First, we used cross-sectional data, so no direct causal inferences can be made. It might be informative for future researchers to examine these variables in a longitudinal design to determine potential causal relationships. Second, the study was conducted with a majority White and female college student population. As prevalence and associations of both hope and NAC might have ethnoracial and/or gender differences, further research on more diverse samples might be useful (e.g., Chang & Banks, 2007). Further, although traditional college students fall into the developmental stage of emerging adulthood, not all emerging adults are college students. Indeed, many emerging adults are entering the workforce or professional/trade programs, traveling, or engaging in other diverse activities before entering adulthood (Arnett et al., 2014). Therefore, the present findings are not generalizable to emerging adults who do not attend college, or post-graduate emerging adults entering the workforce.

Third, although the present study accounted for trauma exposure, future studies might build upon these findings to gain a more comprehensive and complex view of trauma by examining other attributes of the exposure (e.g., type, context, narrative, cognitive appraisal, and age of trauma exposure) that might play an important role in the potential development of NAC (Raudales et al., 2019). Lastly, although Snyder et al. (1991) and Snyder (1995) conceptualized hope as both important to adjustment and distinct from other positive psychological constructs, hope agency did not completely mediate the relationship between trauma exposure and NAC; therefore, additional related constructs (e.g., optimism, self-esteem; Carver & Scheier, 2014) might also partially mediate the relationship of trauma exposure on symptoms of NAC. Thus, it might be worthwhile for future researchers to further investigate whether hope agency remains significant after accounting for other potential mediators of the relationship between trauma exposure and symptoms of NAC.

Concluding Thoughts

Our study was conducted to examine hope as a potential mediating variable between trauma exposure and NAC in college students. Importantly, hope agency, but not hope pathways, was found to be a significant partial mediator of the relationship between trauma exposure and NAC in college students in our sample. Trauma exposure remained an important predictor in the relationship, even after accounting for hope. Trauma exposure had a direct effect on symptoms of NAC among students in our sample, as well as an indirect effect through a weakening of hope agency. Thus, incorporating hope theory with an emphasis on agency could be a useful tool for clinical counselors in decreasing symptoms of NAC in trauma exposed emerging adults.

References

- American College Health Association. (2014). *National college health assessment II: Reference group spring executive summary*. https://www.acha.org/documents/ncha/ACHA-NCHA-II_ReferenceGroup_ExecutiveSummary_Spring2014.pdf
- American Psychological Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- Arnett, J. J. (2015). *Emerging adulthood: The winding road from the late teens through the twenties* (2nd ed.). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199795574.013.9>
- Arnett, J. J., Žukauskienė, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18–29 years: Implications for mental health. *The Lancet Psychiatry*, *1*(7), 569–576. [https://doi.org/10.1016/s2215-0366\(14\)00080-7](https://doi.org/10.1016/s2215-0366(14)00080-7)
- Asberg, K. K., Bowers, C., Renk, K., & McKinney, C. (2008). A structural equation modeling approach to the study of stress and psychological adjustment in emerging adults. *Child Psychiatry and Human Development*, *39*(4), 481–501. <https://doi.org/10.1007/s10578-008-0102-0>
- Aspinwall, L. G., & Leaf, S. L. (2002). In search of the unique aspects of hope: Pinning our hopes on positive emotions, future-oriented thinking, hard times, and other people. *Psychological Inquiry*, *13*(4), 276–288. https://doi.org/10.1207/S15327965PLI1304_02
- Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demyttenaere, K., Ebert, D. D., Green, J. G., Hasking, P., Murray, E., Nock, M. K., Pinder-Amaker, S., Sampson, N. A., Stein, D. J., Vilagut, G., Zaslavsky, A. M., & Kessler, R. C. (2018). WHO world mental health surveys international college student project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology*, *127*(7), 623–638. <https://doi.org/10.1037/abn0000362>

- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893–897.
<https://doi.org/10.1037/0022-006X.56.6.893>
- Bell, S., & Lee, C. (2008). Transitions in emerging adulthood and stress among young Australian women. *International Journal of Behavioral Medicine, 15*(4), 280–288.
<https://doi.org/10.1080/10705500802365482>
- Benton, S. A., Robertson, J. M., Tseng, W. C., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology, 34*(1), 66–72. <https://doi.org/10.1037/0735-7028.34.1.66>
- Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., & Keane, T. M. (1995). The development of a clinician-administered PTSD scale. *Journal of Traumatic Stress, 8*(1), 75–90. <https://doi.org/10.1002/jts.2490080106>
- Blanchard, E. B., Jones-Alexander, J., Buckley, T. C., & Forneris, C. A. (1996). Psychometric properties of the PTSD checklist (PCL). *Behaviour Research and Therapy, 34*(8), 669–673.
[https://doi.org/10.1016/0005-7967\(96\)00033-2](https://doi.org/10.1016/0005-7967(96)00033-2)
- Boyratz, G., Granda, R., Baker, C. N., Tidwell, L. L., & Waits, B. J. (2016). Posttraumatic stress, effort regulation, and academic outcomes among college students: A longitudinal study. *Journal of Counseling Psychology, 63*(4), 475–486. <https://doi.org/10.1037/cou0000102>
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology, 53*(1), 371–399. <https://doi.org/10.1146/annurev.psych.53.100901.135233>
- Breslau, N., Kessler, R. C., Chilcoat, H. D., Schultz, L. R., Davis, G. C., & Andreski, P. (1998). Trauma and posttraumatic stress disorder in the community: The 1996 Detroit area survey of trauma. *Archives of General Psychiatry, 55*(7), 626–632. <https://doi.org/10.1001/archpsyc.55.7.626>

- Carver, C. S., & Scheier, M. F. (2014). Dispositional optimism. *Trends in Cognitive Sciences*, 18(6), 293–299. <https://doi.org/10.1016/j.tics.2014.02.003>
- Center for Collegiate Mental Health. (2022, January). *2021 annual report*.
<https://ccmh.psu.edu/assets/docs/2021-CCMH-Annual-Report.pdf>
- Chang, E. C., & Banks, K. H. (2007). The color and texture of hope: Some preliminary findings and implications for hope theory and counseling among diverse racial/ethnic groups. *Cultural Diversity and Ethnic Minority Psychology*, 13(2), 94–103. <https://doi.org/10.1037/1099-9809.13.2.94>
- Chang, E. C., Jilani, Z., Yu, T., Lin, J., Muyan, M., & Hirsch, J. K. (2017). Relation between sexual assault and negative affective conditions in female college students: Does loss of hope account for the association? *Journal of Interpersonal Violence*, 32(8), 1249–1266.
<https://doi.org/10.1177/0886260515588534>
- Chang, E. C., Yu, T., Chang, O. D., & Hirsch, J. K. (2016). Hope and trauma: Examining a diathesis-stress model in predicting depressive and anxious symptoms in college students. *Personality and Individual Differences*, 96, 52–54. <https://doi.org/10.1016/j.paid.2016.02.060>
- Cheavens, J. S., Feldman, D. B., Gum, A., Michael, S. T., & Snyder, C. R. (2006). Hope therapy in a community sample: A pilot investigation. *Social Indicators Research*, 77(1), 61–78.
<http://dx.doi.org/10.1007/s11205-005-5553-0>
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences*. Academic Press.
<https://doi.org/10.4324/9780203771587>
- Cull, J. G., & Gill, W. S. (1982). *Suicide Probability Scale*. Western Psychological Services.
- Cusack, K. J., Frueh, B. C., & Brady, K. T. (2004). Trauma history screening in a community mental health center. *Psychiatric Services*, 55(2), 157–162. <https://doi.org/10.1176/appi.ps.55.2.157>

- Cusack, S. E., Hicks, T. A., Bourdon, J., Sheerin, C. M., Overstreet, C. M., Kendler, K. S., Dick, D. M., & Amstadter, A. B. (2019). Prevalence and predictors of PTSD among a college sample. *Journal of American College Health, 67*(2), 123–131. <https://doi.org/10.1080/07448481.2018.1462824>
- Daugherty, D. A., Runyan, J. D., Steenbergh, T. A., Fratzke, B. J., Fry, B. N., & Westra, E. (2018). Smartphone delivery of a hope intervention: Another way to flourish. *PLoS One, 13*(6), e0197930. <https://doi.org/10.1371/journal.pone.0197930>
- Davidson, O. B., Feldman, D. B., & Margalit, M. (2012). A focused intervention for 1st-year college students: Promoting hope, sense of coherence, and self-efficacy. *The Journal of Psychology, 146*(3), 333–352. <https://doi.org/10.1080/00223980.2011.634862>
- Ebert, D. D., Buntrock, C., Mortier, P., Auerbach, R., Weisel, K. K., Kessler, R. C., Cuijpers, P., Green, J.G., Kiekens, G., Nock, M. K., Demyttenaere, K., & Bruffaerts, R. (2018). Prediction of major depressive disorder onset in college students. *Depression and Anxiety, 36*(4), 294–304. <https://doi.org/10.1002/da.22867>
- Feldman, D. B., & Dreher, D. E. (2012). Can hope be changed in 90 minutes? Testing the efficacy of a single-session goal-pursuit intervention for college students. *Journal of Happiness Studies, 13*(4), 745–759. <https://doi.org/10.1007/s10902-011-9292-4>
- Gallagher, R. P. (2013). *National survey of counseling center directors*. The International Association of Counseling Services. <http://d-scholarship.pitt.edu/28176/>
- Hamilton, M. (1959). The assessment of anxiety states by rating. *British Journal of Medical Psychology, 32*(1), 50–55. <https://doi.org/10.1111/j.2044-8341.1959.tb00467.x>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional analysis: A regression-based approach*. Guilford Press. <https://doi.org/10.1111/jedm.12050>

- Hinton-Nelson, M. D., Roberts, M. C., & Snyder, C. R. (1996). Early adolescents exposed to violence: Hope and vulnerability to victimization. *American Journal of Orthopsychiatry*, *66*(3), 346–353.
<https://doi.org/10.1037/h0080185>
- Hooper, L. M., Stockton, P., Krupnick, J. L., & Green, B. L. (2011). Development, use, and psychometric properties of the Trauma History Questionnaire. *Journal of Loss and Trauma*, *16*(3), 258–283.
<https://doi.org/10.1080/15325024.2011.572035>
- Humphreys, J., Lee, K., Neylan, T., & Marmar, C. (1999). Trauma history of sheltered battered women. *Issues in Mental Health Nursing*, *20*(4), 319–332. <https://doi.org/10.1080/016128499248510>
- Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*(6), 617–627. <https://doi.org/10.1001/archpsyc.62.6.617>
- Kleinsasser, A., Jouriles, E. N., McDonald, R., & Rosenfield, D. (2015). An online bystander intervention program for the prevention of sexual violence. *Psychology of Violence*, *5*(3), 227–235.
<https://doi.org/10.1037/a0037393>
- Koenen, K. C., Harley, R., Lyons, M. J., Wolfe, J., Simpson, J. C., Goldberg, J., Eisen, S. A., & Tsuang, M. (2002). A twin registry study of familial and individual risk factors for trauma exposure and posttraumatic stress disorder. *The Journal of Nervous and Mental Disease*, *190*(4), 209–218.
<https://doi.org/10.1097/00005053-200204000-00001>
- Kraus, M. W., Piff, P. K., Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: How the rich are different from the poor. *Psychological Review*, *119*(3), 546–572. <https://doi.org/10.1037/a0028756>
- Lucas, A. G., Chang, E. C., Li, M., Chang, O. D., Yu, E. A., & Hirsch, J. K. (2020). Trauma and suicide risk in college students: Does lack of agency, lack of pathways, or both add to further risk? *Social Work*, *65*(2), 105–113. <https://doi.org/10.1093/sw/swaa007>

- Muyan, M., Chang, E. C., Jilani, Z., Yu, T., Lin, J., & Hirsch, J. K. (2016). Loneliness and negative affective conditions in adults: Is there any room for hope in predicting anxiety and depressive symptoms? *The Journal of Psychology, 150*(3), 333–341. <https://doi.org/10.1080/00223980.2015.1039474>
- Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kopper, B. A., & Barrios, F. X. (2001). The Suicidal Behaviors Questionnaire-Revised (SBQ-R): Validation with clinical and nonclinical samples. *Assessment, 8*(4), 443–454. <https://doi.org/10.1177/107319110100800409>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Prince, J. P. (2015). University student counseling and mental health in the United States: Trends and challenges. *Mental Health & Prevention, 3*(1-2), 5–10. <https://doi.org/10.1016/j.mhp.2015.03.001>
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385–401. <https://doi.org/10.1177/014662167700100306>
- Raudales, A. M., Short, N. A., & Schmidt, N. B. (2019). Emotion dysregulation mediates the relationship between trauma type and PTSD symptoms in a diverse trauma-exposed clinical sample. *Personality and Individual Differences, 139*, 28–33. <https://doi.org/10.1016/j.paid.2018.10.033>
- Riggs, S. A., & Han, G. (2009). Predictors of anxiety and depression in emerging adulthood. *Journal of Adult Development, 16*(1), 39–52. <https://doi.org/10.1007/s10804-009-9051-5>
- Schulenberg, J. E., Bryant, A. L., & O'Malley, P. M. (2004). Taking hold of some kind of life: How developmental tasks relate to trajectories of well-being during the transition to adulthood. *Development and Psychopathology, 16*, 1119–1140. <https://doi.org/10.1017/S0954579404040167>
- Schulenberg, J. E., Sameroff, A. J., & Cicchetti, D. (2004). The transition to adulthood as a critical juncture in the course of psychopathology and mental health. *Development and Psychopathology, 16*(4), 799–806. <https://doi.org/10.1017/S0954579404040015>

- Sharma, S. (2016). Adjustment: Process, achievement, characteristics, measurement, and dimensions. *International Journal of Academic Research*, 3(1), 42–25. [http://ijar.org.in/stuff/issues/v3-i1\(2\)/v3-i1\(2\)-a006.pdf](http://ijar.org.in/stuff/issues/v3-i1(2)/v3-i1(2)-a006.pdf)
- Sheline, K. T., & Rosén, L. A. (2017). Posttraumatic growth moderates suicide risk among trauma exposed undergraduates. *Journal of College Student Development*, 58(3), 402–412. <https://doi.org/10.1353/csd.2017.0030>
- Shinar, D., Gross, C. R., Price, T. R., Banko, M., Bolduc, P. L., & Robinson, R. G. (1986). Screening for depression in stroke patients: The reliability and validity of the Center for Epidemiologic Studies Depression Scale. *Stroke*, 17(2), 241-245. <https://doi.org/10.1161/01.STR.17.2.241>
- Snyder, C. R. (1995). Conceptualizing, measuring, and nurturing hope. *Journal of Counseling & Development*, 73(3), 355–360. <https://doi.org/10.1002/j.1556-6676.1995.tb01764.x>
- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, 13(4), 249–275. https://doi.org/10.1207/S15327965PLI1304_01
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60(4), 570–585. <https://doi.org/10.1037/0022-3514.60.4.570>
- Snyder, C. R., Lehman, K. A., Kluck, B., & Monsson, Y. (2006). Hope for rehabilitation and vice versa. *Rehabilitation Psychology*, 51(2), 89–112. <https://doi.org/10.1037/0090-5550.51.2.89>
- Straus, M. A. (1979). Measuring intra family conflict and violence: The Conflict Tactics Scales. *Journal of Marriage and Family*, 41(1), 75–88. <https://doi.org/10.2307/351733>
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, 96(3), 465–490. <https://doi.org/10.1037/0033-2909.96.3.465>

- Weathers, F. W., Litz, B. T., Huska, J. A., & Keane, T. M. (1994). PTSD Checklist-Civilian version. National Center for PTSD, Behavioral Science Division.
https://www.mirecc.va.gov/docs/visn6/3_ptsd_checklist_and_scoring.pdf
- Wilcox, H. C., Storr, C. L., & Breslau, N. (2009). Posttraumatic stress disorder and suicide attempts in a community sample of urban American young adults. *Archives of General Psychiatry*, 66(3), 305–311. <https://doi.org/10.1001/archgenpsychiatry.2008.557>
- Yamokoski, C. A., Scheel, K. R., & Rogers, J. R. (2011). The role of affect in suicidal thoughts and behaviors. *Suicide and Life-Threatening Behavior*, 41(2), 160–170. <https://doi.org/10.1111/j.1943-278X.2011.00019.x>
- Zung, W.W. (1965) A self-rating depression scale. *Archive of General Psychiatry* 12(1), 63–70.
<https://doi.org/10.1001/archpsyc.1965.01720310065008>