# BREAKING DOWN THE IMPACT OF RESILIENCE ON MENTAL HEALTH

## An Analysis Utilizing the Resilience Scale for Adults


### Abstract

Resilience is the capacity to recover quickly from difficulties, and previous studies have determined that resilience has a relationship with mental health. However, the association of each aspect of resilience on mental health, depression, and adverse childhood events (ACEs) have not been closely examined. Discerning which aspects of resilience are associated with mental health issues, depression, and ACEs can help psychiatric nurses determine effective treatments and interventions for at-risk patients.

One hundred ninety-five community-dwelling participants (ages 18 to 89) were invited to Purdue University in Indiana and Scripps College in California for the study. Participants completed the Resilience Scale for Adults (RSA), which examines six aspects of resilience: perception of self, planned future, social competence, structured style, family cohesion, and social resources. Additionally, the SF-12® Health Survey, the Center for Epidemiologic Studies Depression (CES-D) scale, and an ACE survey were completed. Using the six aspects of resilience as predictors, three hierarchical regression models were built with SF-12®, CES-D, and ACE as dependent variables. Findings showed that negative perception of self and impaired sense of planned future were associated with mental health issues; additionally, a lack of social resources was associated with depression, and weakened family cohesion was associated with ACEs.

Psychiatric nurses can utilize the RSA during initial assessments to determine the most problematic areas for patients and find ways to target their treatment and interventions. Pediatric nurses can also assess ACEs present in a child's life and encourage family therapy sessions to promote family cohesion.



### Keywords

resilience, mental health, depression, adverse childhood events, ACEs, family cohesion, social resources, perception of self, planned future.

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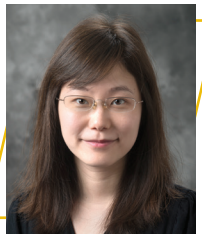
## Mentors



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## INTRODUCTION

Resilience, or the capacity to recover quickly from difficulties, has been studied within the research fields of psychology, medicine, and nursing. In most cases, these studies have focused on resilience as a whole and as a protective factor against hardships, stating that resilience can "buffer the effect of stress" (Morote, Hjemdal, Krysinska, Martinez Uribe, & Corveleyn, 2017, p. 2). Resilience is not a static personality trait but instead is a dynamic characteristic that is possible to be gained across time. This concept is relevant to this study because it means that impaired aspects of resilience can be worked on to strengthen an individual's overall resilience.

As mentioned, resilience is the capacity to recover quickly from difficulties, and until the Resilience Scale for Adults (RSA) was created, most studies and resilience scales centered on resilience as an overall concept or on one specific aspect, such as self-perception (Carter, 2017; Alghamdi, Manassis, & Wilansky-Traynor, 2011). Most of the research done with the RSA was performed to validate the measure across different cultures. The researchers conducted studies in multiple countries and had the participants complete the RSA, the Hopkins symptom checklist (HSCL-25), and the Sense of Coherence (SOC-13). The researchers found a negative correlation between the HSCL-25 (which assesses depression and anxiety) and resilience as a whole, with emphasis on perception of self and planned future. They also found a positive correlation between the SOC-13 (which assesses general positive intrapersonal adjustment) and resilience as a whole, with emphasis on perception of self, planned future, and social resources (Capanna, Stratta, Hjemdal, Collazzoni, & Rossi, 2015; Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2003; Hjemdal, Friborg, Braun, Kempenaers, Linkowski, & Fossion, 2011). Because of these findings, this study aimed to examine if utilizing different scales for depression and mental health would find similar results. This study utilized the RSA to assess what areas of impaired resilience relate to ACEs.

Mental health is one's condition with regard to psychological and emotional well-being. It is a "complete state, with a broader meaning than the absence of mental illness, and strong sense of subjective well being" (Hu, Zhang, & Jinliang, 2015, p. 19). Previous research has shown that those with lower levels of resilience tend to have higher rates of anxiety, depression, hopelessness, and negative affect (Hu et al., 2015; Morote et al., 2017). With regard to age, adults have shown a stronger relationship between trait resilience and negative mental health indicators; conversely, positive mental health indicators have not been shown to be significantly impacted by age. With regard to gender, research shows that trait resilience is lower in females than males, and females experience adversities (a predictor for mental health status) at a higher rate than males (Hu et al., 2015). For this study, age and gender are demographic controls included in the analyses.

Depression involves feelings of severe despondency and dejection. One study found that "average or low levels of resilience" were likely to cause individuals to have depressive symptoms (Gloria & Steinhardt, 2014, p. 154). Another study determined that when one's change in identity is self-perceived as progressive, the person is less likely to experience depression (Carter, 2017). Despite being based on school-aged children, another study found similar results: low self-perception was associated with depressive symptoms, with some variances in gender (Alghamdi et al., 2011). With the above studies in mind, this study aimed to further assess if resilience has a different relationship with the broad concept of mental health than with the more specific concept of depression.

ACEs are traumatic events (e.g., neglect, familial substance use, parental divorce, familial incarceration, violence) that occur in a child's life before the age of 18 ("Adverse Childhood Experiences," n.d.). Previously when resilience had been tested with ACEs, the focus was on whether or not resilience protected people who had experienced ACEs from depression or mental illness (Poole, Pusch, & Dobson, 2017). Many studies were reviewed and assessed to determine that "abuse and neglect are correlated with PTSD, deliberate self-harm, anxiety, and depression" (Scully, McLaughlin, & Fitzgerald, 2019, p. 301). With this in mind, this study wanted to determine what aspect of resilience is most associated with ACEs to better understand what areas to focus on during treatment.

This study focused on examining different aspects of resilience and their associations with impaired mental health, symptoms of depression, and ACEs. Instead of interpreting the aspects of resilience as protective factors, this study focused on identifying impairments in resilience so health care providers can assist in improving aspects of lower resilience.

## METHODOLOGY

### Participants

The study consisted of 195 participants, with ages ranging from 18 to 89. Ninety-five participants were invited to the Purdue Elder Justice Lab at Purdue University in Indiana, and 100 participants were invited to the Wood Lab at Scripps College in California. Table 1

**TABLE 1.** Demographics.

| Demographics | Total Population (n = 195) | Indiana Population (n = 95) |
|---|---|---|
| Age | 45.65 (24.40) | 50.12 (19.84) |
| Gender | | |
| *Male* | 56 (28.7%) | 32 (33.7%) |
| *Female* | 139 (71.3%) | 63 (66.3%) |
| Race | | |
| *White (not Hispanic)* | 155 (79.5%) | 91 (95.8%) |
| *Hispanic or Latino* | 8 (4.1%) | 1 (1.1%) |
| *Black or African American* | 0 (0.0%) | 0 (0.0%) |
| *Asian* | 18 (9.2%) | 2 (2.1%) |
| *Pacific Islander or Native American* | 0 (0.0%) | 0 (0.0%) |
| *American Indian or Alaskan Native* | 1 (0.5%) | 0 (0.0%) |
| *Mixed Ethnicity* | 11 (5.6%) | 1 (1.1%) |
| *Other* | 2 (1.0%) | 0 (0.0%) |
| Education | | |
| *High School/GED* | 25 (12.8%) | 5 (5.3%) |
| *Vocational certificate* | 3 (1.5%) | 2 (2.1%) |
| *Some college* | 64 (32.8%) | 17 (17.9%) |
| *Associate degree* | 15 (7.7%) | 8 (8.4%) |
| *Bachelor's degree* | 42 (21.5%) | 35 (36.8%) |
| *Master's degree* | 34 (17.4%) | 21 (22.1%) |
| *Doctoral degree* | 8 (4.1%) | 6 (6.3%) |
| *Professional doctorate (MD, JD, etc.)* | 4 (2.1%) | 1 (1.1%) |
| Marital Status | | |
| *Single (never married)* | 86 (44.1%) | 24 (25.3%) |
| *Married* | 69 (35.4%) | 50 (52.6%) |
| *Cohabitating* | 2 (1.0%) | 2 (2.1%) |
| *Separated/divorced* | 19 (9.7%) | 10 (10.5%) |
| *Widowed* | 19 (9.7%) | 9 (9.5%) |
| Standard of Living | | |
| *Below average* | 9 (4.6%) | 4 (4.2%) |
| *Average* | 92 (47.2%) | 50 (52.6%) |
| *Above average* | 92 (47.2%) | 40 (42.1%) |
| *Missing* | 2 (1.0%) | 1 (1.1%) |

gives the demographics for all participants'. The ACE survey was not administered in California because Scripps College's Institutional Review Board (IRB) perceived data collection on the ACE survey incurred too much risk for participants. Purdue University and Scripps College's IRB independently reviewed and approved the project.

## Procedures

The data used in this study was taken from a larger project conducted in the Elder Justice Lab and the Wood Lab that focused on financial exploitation. For this larger project, participants were recruited through flyers posted in communities, word of mouth, and local senior centers. Participants reached out to each lab's contact to schedule an appointment. A research assistant was assigned to work with participants by reminding them of their appointment, greeting them at the designated meeting place, and leading them to the lab space for the project. Once participants arrived at the lab, the research assistant explained the project, and the participants signed a consent form after all questions were clarified. The research assistant emphasized that participants could leave any time and could skip any questions they did not want to answer. Participants then completed cognitive tasks and surveys administered by the research assistant. In the end of the project, the research assistant debriefed participants, compensated $20 per hour for their time, and thanked them for participating in the project. This project took participants on average one hour to complete. After data collection was finished for the larger project on financial exploitation, utilization of this data in an analysis on resilience, mental health, depression, and ACEs was able to be conducted.

## Materials

The RSA (Friborg et al., 2005) is a 33-question survey that examines six aspects of resilience: perception of self, planned future, structured style, social competence, family cohesion, and social resources. Each aspect or subscale of resilience had its own section of questions (Section A to Section F), and each question was rated on a 5-point Likert scale (Friborg et al., 2005; Hjemdal et al., 2011). Figure 1 provides the items on the RSA questionnaire. Some questions required reverse coding within each section, so all negative responses were scored as 1, and all positive responses were scored as 5. Each aspect of resilience was summed separately from sections A to F, with lower scores signifying an impairment in said aspect of resilience.

Participants also completed the SF-12® Health Survey, a 12-question survey that measures individuals' perception of their physical and mental health. For the purposes of this study, only the 5-point Likert scale questions related to mental health were coded and calculated (Ware, Kosinski, & Keller, 1996). Lower scores for this survey signified poor mental health.

Participants also completed the Center for Epidemiologic Studies Depression scale (CES-D), a 20-question survey that measures depression based on a 4-point Likert scale (Radloff, 1977). Scoring for this survey was similar to the RSA such that some items had to be reverse-coded before summing the total score. Higher scores for this survey signified symptoms of depression in participants' lives. Please note that this survey was used not to diagnose any participants with depression but instead to quantify their experience of depressive symptoms within the previous week.

The ACE survey has 10 yes-or-no questions that evaluate traumatic childhood events that occurred within the participants' first 18 years of life. The ACE survey was only given to the participants at the Purdue Elder Justice Lab because the Scripps College IRB considered this survey to be more than minimal risk. Scoring for the survey consisted of the answer "no" being assigned the number 0 and the answer "yes" being assigned the number 1; the 10 questions were then summed up to give a final result. Results for this survey could range from 0 to 10. Any result other than 0 would signify that an ACE occurred in the participants life.

A demographics survey was given last to participants to ask about their age, race, education, marital status, and current standard of living (see Table 1). For age, participants answered with a numerical response. Options for other questions were assigned a numerical value between 1 and the final option.

Circle the best answer.

**Part A**

1. When something unforeseen happens

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I always find a solution* | | | | *I often feel bewildered* |

2. My personal problems

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Are unsolvable* | | | | *I know how to solve* |

3. My abilities

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I strongly believe in* | | | | *I am uncertain about* |

4. My judgements and decisions

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I often doubt* | | | | *I trust completely* |

5. In difficult periods, I have a tendency to

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *View everything gloomy* | | | | *Find something good that helps me to thrive* |

6. Events in my life that I cannot influence

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I manage to come to terms with* | | | | *Are a constant source of worry/concern* |

**Part B**

7. My plans for the future

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Are difficult to accomplish* | | | | *Possible to accomplish* |

8. My future goals

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I know how to accomplish* | | | | *I am unsure how to accomplish* |

9. I feel that my future looks

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Very promising* | | | | *Uncertain* |

10. My goals for the future

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Are unclear* | | | | *Well thought through* |

**Part C**

11. I am at my best when I

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Have a clear goal to strive for* | | | | *Can take one day at a time* |

12. When I start on new things/projects

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I rarely plan ahead, just get on with it* | | | | *I prefer to have a thorough plan* |

13. I am good at

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Organizing my time* | | | | *Wasting my time* |

14. Rules and regular routines

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Are absent in my everyday life* | | | | *Simplify my everyday life* |

**Part D**

15. I enjoy

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Begin together with other people* | | | | *By myself* |

16. To be flexible in social settings

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Is not important to me* | | | | *Is really important to me* |

17. New friendships are something

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I make easily* | | | | *I have difficulty making* |

18. Meeting new people is

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Difficult for me* | | | | *Something I am good at* |

19. When I am with others

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I easily laugh* | | | | *I seldom laugh* |

20. For me, thinking of good topics for conversation is

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Difficult* | | | | *Easy* |

**Part E**

21. My family's understanding of what is important in life is

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Quite different than mine* | | | | *Very similar to mine* |

22. I feel

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Very happy with my family* | | | | *Very unhappy with my family* |

23. My family is characterized by

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Disconnection* | | | | *Healthy coherence* |

24. In difficult periods my family

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Keeps a positive outlook on the future* | | | | *Views the future as gloomy* |

25. Facing other people, our family acts

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Unsupportive of one another* | | | | *Loyal towards one another* |

26. In my family, we like to

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Do things on our own* | | | | *Do things together* |

**Part F**

27. I can discuss personal issues with

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *No one* | | | | *Friends/family members* |

28. Those who are good at encouraging me are

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Some close friends/family members* | | | | *No one* |

29. The bonds among my friends are

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Weak* | | | | *Strong* |

30. When a family member experiences a crisis/emergency

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *I am informed right away* | | | | *It takes quite a while before I am told* |

31. I get support from

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Friends/family members* | | | | *No one* |

32. When needed, I

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Have no one who can help me* | | | | *Always have someone who can help me* |

33. My close friends/family members

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Appreciate my qualities* | | | | *Dislike my qualities* |

**FIGURE 1.** A–F. The Resilience Scale for Adults, 33 items (Friborg et al., 2005).

## Analysis Plan

Bivariate correlations were conducted to examine relationships between predictors (aspects of resilience and demographics) and dependent variables (mental health, depression, and ACE). Hierarchical regression models were built to examine the impact of six aspects of resilience on depression, mental health, and ACE, respectively. Demographic variables served as control variables. The regression models were designed to discover the unique effects of each resilience aspect in the presence of other aspects and demographics. Measures of effect size include the Pearson *r* correlation, $R^2$, $\Delta R^2$, and unstandardized and standardized coefficients.

# RESULTS

## Bivariate Correlations

As summarized in Table 2, SF-12 was strongly correlated with components A or perception of self ($r(188) = 0.608$, $p < 0.001$), B or planned future ($r(189) = 0.496$, $p < 0.001$), E or family cohesion ($r(189) = 0.294$, $p < 0.001$), and F or social resources ($r(190) = 0.341$, $p < 0.001$) as well as significantly correlated with components C, or social competence, ($r(189) = 0.193$, $p < 0.01$) and D, or structured style, ($r(190) = 0.204$, $p < 0.01$) .

In addition, CES-D was also found to be strongly correlated with all components of resilience: A or perception of self ($r(190) = -0.579$, $p < 0.001$), B or planed future ($r(191) = -0.526$, $p < 0.001$), C or social competence ($r(189) = -0.265$, $p < 0.001$), D or structured style ($r(192) = -0.311$, $p < 0.001$), E or family cohesion ($r(191) = -0.363$, $p < 0.001$), and F or social resources ($r(192) = -0.444$, $p < 0.001$) (see Table 2).

ACE was strongly correlated with only component E or family cohesion ($r(93) = -0.52$, $p < 0.001$) and significantly correlated with component F or social resources ($r(93) = -0.208$, $p < 0.05$) (see Table 2).

## Linear Regression

Three two-stage hierarchical multiple regression models were conducted with CES-D, SF-12, and total ACE as the

**TABLE 2.** Correlations.

| | Res A (1) | Res B (2) | Res C (3) | Res D (4) | Res E (5) | Res F (6) | SF-12 (7) | CES-D (8) | ACE (9) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | — | 0.617*** 191 | 0.234** 191 | 0.340*** 192 | 0.310*** 191 | 0.376*** 191 | 0.608*** 190 | −0.579*** 192 | −0.049 95 |
| 2 | | — | 0.361*** 193 | 0.313*** 193 | 0.219** 193 | 0.400*** 193 | 0.496*** 191 | −0.526*** 193 | 0.022 95 |
| 3 | | | — | 0.102 193 | 0.216** 193 | 0.174* 193 | 0.193** 191 | −0.265*** 193 | 0.015 95 |
| 4 | | | | — | 0.221** 193 | 0.433*** 194 | 0.204** 192 | −0.311*** 194 | 0.014 95 |
| 5 | | | | | — | 0.528*** 193 | 0.294*** 191 | −0.363*** 193 | −0.520*** 95 |
| 6 | | | | | | — | 0.341*** 192 | −0.444*** 194 | −0.208* 95 |
| 7 | | | | | | | — | −0.701*** 193 | −0.070 94 |
| 8 | | | | | | | | — | 0.120 95 |

*Note.* Res A (1) = perception of self, Res B (2) = planned future, Res C (3) = social competence, Res D (4) = structured style, Res E (5) = family cohesion, Res F (6) = social resources, SF-12 (7) = mental health, CES-D (8) = depression, and ACE (9) = adverse childhood events.

*$p$ <0.05, **$p$ <0.01, ***$p$ <0.001.

dependent variables, respectively, for each. Demographic variables (marital status, race, gender, standard of living, education, and age) were entered at step one to control for participant's background (Table 3). The components of resilience (A to F) were entered at step two to determine the components that were associated with each dependent variable in the presence of others.

It should be noted that the multiple components of resilience did have significant positive correlation with each other. However, multicollinearity was checked for models via the tolerance values of each component. Multicollinearity was not an issue for all three models, with all tolerance statistics equal to or greater than 0.742.

### *SF-12*

At step one, demographics contributed significantly to the regression model ($F(13,173) = 3.693$, $p < 0.001$) and accounted for 21.7% of the variation of SF-12. At step

**TABLE 3.** Final regression analysis.

| Predictor Variables | Mental Health (n = 195) | Depression (n = 195) | ACE (n = 95) |
|---|---|---|---|
| Constant | 30.135 | 59.448 | 3.438 |
| Age | 0.061* | −0.005 | 0.007 |
| Gender[a] | 0.041 | 0.496 | −0.194 |
| *Race* | | | |
| White (non-Hispanic): reference group | | | |
| Hispanic or Latino | −1.501 | 3.372 | 2.272 |
| Black or African American | | | |
| Asian | −1.031 | 0.967 | 1.382 |
| Pacific Islander or Native American | | | |
| American Indian or Alaskan Native | −14.429** | 13.237* | |
| Mixed ethnicity | 1.197 | 3.302 | 2.400 |
| Other | −4.312 | 8.648* | |
| *Marriage Status* | | | |
| Single (never married): reference group | | | |
| Married | −1.897 | −0.312 | 0.717 |
| Cohabiting | 2.144 | −2.628 | 0.804 |
| Separated/divorced | −1.989 | −1.915 | 0.441 |
| Widowed | −1.677 | 2.044 | 0.890 |
| Education | 0.085 | 0.228 | −0.273* |
| Standard of living | −0.958 | 0.759 | 0.081 |
| *Resilience* | | | |
| Perception of self | 3.375*** | −3.501*** | 0.163 |
| Planned future | 1.133* | −1.465* | −0.025 |
| Social competence | −0.304 | −0.291 | 0.065 |
| Structured style | −0.518 | −1.079 | 0.369 |
| Family cohesion | 0.547 | −0.411 | −1.320*** |
| Social resources | 1.248 | −1.757* | 0.347 |

[a]Male is coded as 1; female is coded as 2.

*$p$ <0.05, **$p$ <0.01, ***$p$ <0.001.

two, the addition of the resilience variables to the model led to another 26.1% of the variability of SF-12 being explained, a total of 47.8% for the step two model. This increase in variation explained was a significant improvement from the step one model ($F(19,167) = 8.044$, $p < 0.001$).

At step one, age was shown to be a significant predictor of SF-12 ($p < 0.05$) such that younger adults scored higher on SF-12. Additionally, some race categories (Asian, American Indian, and Alaskan Native) were also significant predictors ($ps < 0.05$), though there was only one American Indian or Alaskan Native in our sample.

At step two, resilience component A was a strong ($p < 0.001$) predictor for SF-12. Component B was also a significant ($p < 0.05$) predictor (see the "Mental Health" column in Table 3).

### *CES-D*

At step one, demographics contributed significantly to the regression model ($F(13,175) = 3.411$, $p < 0.001$) and accounted for 20.2% of the variation of CES-D. At step two, the addition of the resilience variables to the model led to another 26% of the variability of CES-D being explained, a total of 46.2% for the step two model. This increase in variation explained was a significant improvement from the step one model ($F(19,169) = 9.486$, $p < 0.001$).

At step one, several categories of race (Hispanic or Latino, Asian, Other) were shown to contribute significantly to the prediction of CES-D ($ps < 0.05$).

At step two, resilience component A was a strong ($p < 0.001$) predictor for CES-D. Components B and F were also significant ($ps < 0.05$) predictors (see the "Depression" column in Table 3).

### *ACE*

At step one, demographics did not contribute significantly to the regression model ($F(11,82) = 0.707$, $p = 0.729$) and accounted for only 8.7% of the variation of ACE. At step two, the addition of the resilience variables to the model led to another 26.6% of the variability of ACE being explained, a total of 35.3% for the step two model. This increase in variation explained was a significant improvement from the step one model ($F(17,76) = 2.438$, $p < 0.05$).

At step one, there were no demographic variables that were significant predictors for ACE.

At step two, resilience component E was a strong ($p < 0.001$) predictor for ACE (see the "ACE" column in Table 3).

## DISCUSSION

Overall, this study found that a poor perception of mental health was associated with two aspects of resilience: negative perception of self and impaired future planning. The presence of adulthood depressive symptoms was associated with three aspects of resilience: negative perception of self, impaired future planning, and the lack of social resources. Finally, previous ACEs were associated with one aspect of resilience in adulthood as a lack of family cohesion (Table 4).

Past studies tend to assess resilience as a whole. In contrast, this study assessed resilience in six factors by utilizing the RSA. By assessing different aspects of resilience, nursing, medical, and psychological practitioners can determine problematic areas for patients and establish treatments that can help to improve those areas. If practitioners can improve a patient's most problematic aspect of resilience, then the impact it has on depression or impaired mental health might be decreased.

**TABLE 4.** Simple breakdown of results.

| Dependent Variables | Aspects of Resilience Correlated |
|---|---|
| Impaired mental health | ▪ Negative perception of self<br>▪ Poor future planning |
| Symptoms of depression | ▪ Negative perception of self<br>▪ Poor future planning<br>▪ Lack of social resources |
| Occurrence of ACEs | ▪ Impaired family cohesion |

For the purposes of this study, depression and mental health were assessed separately. While depression is a subset of impaired mental health, not everyone with impaired mental health experiences symptoms of depression. As previously mentioned, the main difference is that depression was additionally associated with a lack of social resources, which was not found to be related to impaired mental health. The concept of social resources in resilience focuses on accessibility of social support, whether individuals have a confidant outside their family, and how likely they are to turn to someone outside their family for help if needed (Hjemdal et al., 2011). This relationship shows that patients may be at a higher risk for depression if they do not feel as though they have confidants or social support.

The results also show that individuals who experienced ACEs were likely to demonstrate poor resilience with regard to family cohesion. This brings to light the possible impact of ACEs and how they can affect an individual's adulthood resilience. Because these findings show a decrease in family cohesion resilience with increased ACEs, psychiatric nurses should practice family-focused care for clients at younger ages. Although a causal relationship was unable to be examined in this study, if family-focused care can be given at earlier stages in life, there could be an impact on clients' family cohesion resilience in adulthood by helping to better create a bond and address familial issues within the household.

Knowing these relationships, a practitioner (in this case we focus on nurses, so psychiatric registered nurses, nurse practitioners, and doctors of nursing practice) could utilize the RSA during intake to a psychiatric facility or during any initial therapy sessions with a new adult client. This survey can be used as both a screening tool and a recommendation for further screening and assessments. After administration of the survey, the practitioner can determine the need to further assess for depression, other mental health issues, or a history of ACEs. Learning to understand, score, and compare this survey will allow practitioners to have a better idea of what problematic areas of resilience to focus on during future therapy sessions.

Note that this study focused on adulthood resilience, so the ACEs were assessed retrospectively. With this in mind, the nursing implications related to the ACEs results should mainly focus on the assessments and initiations of treatment during childhood stages if possible. These assessments could be done by practitioners in the general family and pediatric areas of medicine and psychology. Once any ACE is identified with a child, a treatment that might be effective to add to the child's plan of care is to focus on the family bond, such as through family therapy sessions, to strengthen resilience that would be protective of mental health in adult life. If the patient is an adult instead of a child, the therapeutic measures could be used to screen the patient's resilience and ACEs. The practitioner could then create a treatment plan that involves family therapy sessions to focus on family bonding and mending of the relationships to improve the client's resilience with regard to family cohesion.

With the Indiana population, the biggest limitation is that 95% of the population is of the white (non-Hispanic) race, meaning there is little diversity in comparison to the national population. This becomes a limitation for the study with regard to the ACE analysis because the ACE survey was only allowed by the IRB to be given to participants in Indiana and not in California, which is another limitation. With these limitations, the ACE results may not be representative or generalizable to all racial and ethnic groups.

Resilience is a dynamic process, and when assessed in parts, treatments can be created to improve areas of weakness or depend on areas of strength. This study's aim was improving areas of weakness, focusing on assessing the associations of depression, impaired mental health, and ACEs to the various aspects of resilience. Results indicated that a poor perception of mental health was associated with a negative perception of self and impaired future planning, and the presence of depressive symptoms was associated with these same aspects and a lack of social resources. Results also indicated that the presence of past ACEs was associated with an impairment in family cohesion. These findings lead to possible avenues for adulthood treatments to enhance one's resilience with the efforts to improve upon these mental health issues and to help mend family relationships.

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Borchard Foundation research grantees carrying out projects under sponsorship are encouraged to express freely their findings and conclusions. Therefore, points of view or opinions do not necessarily represent official Borchard Foundation policy. Address correspondence to Pi-Ju Liu, PhD, School of Nursing Purdue University, 502 North University Street, West Lafayette, IN 47907, USA. E-mail: marianliu@purdue.edu.

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