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Psychological Resilience and Benevolent Childhood Experiences Amongst Egyptian Young Adults

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Abstract: Benevolent Childhood Experiences (BCEs) may be associated with resilience in young adulthood, despite exposure to Adverse Childhood Experiences (ACEs). Yet, past research did not consider BCEs with ACEs when studying resilience. Accordingly, the current study investigated the combined effect of Benevolent and Adverse Childhood Experiences on resilience in a sample of 102 Egyptian young adults who completed the Brief Resilient Coping Scale, Behavior Risk Factor Surveillance System Adverse Childhood Experience Module, and Benevolent Childhood Experiences scale. Bootstrapped multiple linear regression was used to test the association between BCEs, ACEs, and resilience. Our results showed that BCEs, but not ACEs, were significantly associated with psychological resilience. BCEs significantly correlated with resilience even after controlling for the presence of ACEs. Our findings suggest that educational interventions aimed at promoting positive experiences during childhood and adolescence may help in nurturing better mental health outcomes. We recommend working towards adopting positive psychology-based policies and programs for young children to promote BCEs, besides preventing ACEs, as this could help strengthen resilience and psychological wellbeing in young adult populations.

تجارب الطفولة الإيجابية (BCEs) قد تكون مرتبطة بالمرونة النفسية في مرحلة البلوغ المبكر، على الرغم من التعرض لتجارب الطفولة السلبية (ACEs). ومع ذلك، لم تأخذ الأبحاث السابقة في الاعتبار تجارب الطفولة الإيجابية جنبًا إلى جنب مع التجارب السلبية عند دراسة المرونة. بناءً على ذلك، قامت الدراسة الحالية بالتحقيق في التأثير المشترك لتجارب الطفولة الإيجابية والسلبية على المرونة النفسية في عينة مكونة من 102 شابًا مصريًا بالغًا، أكملوا مقياس التكيف المرن المختصر، ونموذج تجارب الطفولة السلبية لنظام مراقبة عوامل الخطر السلوكية، ومقياس تجارب الطفولة الإيجابية. تم استخدام تحليل الانحدار الخطي المتعدد مع التمهيد لاختبار العلاقة بين تجارب الطفولة الإيجابية والسلبية والمرونة النفسية. أظهرت نتائجنا أن تجارب الطفولة الإيجابية، وليس التجارب السلبية، كانت مرتبطة بشكل كبير بالمرونة النفسية. كانت تجارب الطفولة الإيجابية مرتبطة بشكل كبير بالمرونة حتى بعد التحكم في وجود تجارب الطفولة السلبية. تشير نتائجنا إلى أن التدخلات التعليمية التي تهدف إلى تعزيز التجارب الإيجابية خلال مرحلة الطفولة والمراهقة قد تساعد في تحقيق نتائج أفضل للصحة النفسية. نوصي بالعمل على تبني سياسات وبرامج تستند إلى علم النفس الإيجابي للأطفال الصغار لتعزيز تجارب الطفولة الإيجابية، بالإضافة إلى الوقاية من التجارب السلبية، حيث أن ذلك قد يساعد في تعزيز المرونة النفسية والرفاه النفسي لدى فئات الشباب.

Keywords: resilience, benevolent childhood experiences, low-middle-income, young adults, Egypt

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One out of eight people struggle with a mental disorder worldwide (WHO, 2019). Although mental disorders have been more prevalent in high-income countries (HICs) (GBD 2019 Mental Disorders Collaborators, 2022), they may be similarly prevalent in low-middle income countries (LMICs), where many cases remain undiagnosed or unreported (Erskine et al., 2017; Rathod et al., 2017). This is likely to lead to what is defined by the World Health Organization (WHO, 2016) as the *mental health treatment gap,* the difference between those who experience mental distress and would require appropriate support and treatment and those who receive or access it in reality. The mental health treatment gap is estimated to be larger in LMICs compared to HICs (WHO, 2016). Considering that more than 80% of the world population lives in a LMIC (Jacob et al., 2007) - where resources for identification, assessment and treatment of mental disorders are scarcer than in HICs - understanding the factors underlying mental wellbeing and health is crucial. This is especially relevant for developing culturally sensitive interventions that are focused on positive psychology and involve local communities, which often lack adequate public health services and financial resources, both identified as levers in addressing the treatment gap in LMICs (Ndetei et al., 2023).

During a child's life, a wide range of experiences may influence health and mental wellbeing, affecting social functioning and behavior, and promoting or lowering psychological resilience in the long term. In the literature, there are multiple definitions of *resilience* (Morgan et al., 2021). According to some researchers, resilience is a mental process that helps people cope with stress (Windle et al., 2018), while for others it is an innate personality or behavioral trait that helps a person adapt to challenges in life (Block & Kremen, 1996). Resilience is also seen as an outcome stemming from adversity (e.g., chronic stress or trauma) that subsequently aids better coping with adverse situations and life stressors (Hu et al., 2015). Importantly, increased resilience has been associated with more positive indicators of mental health – such as life satisfaction and positive emotions – and fewer negative indicators, e.g., depression or negative emotions (Hu et al., 2015). In their meta-analysis of 60 studies, Hu et al. (2015) found that adversities early in life are likely to moderate the relationship between resilience and mental health, so that children who face adversities may develop less resilience and be more susceptible to life stressors during adolescence and young adulthood, negatively impacting their mental health and wellbeing, as well as quality of life.

Negative and traumatic experiences during early life, including emotional, physical, and sexual abuse, emotional and physical neglect, serious household dysfunction (e.g., parent abusing of alcohol or drugs, negative family dynamics, or disadvantaged family socio-economic background), and peer, community, or collective violence are defined as *Adverse Childhood Experiences* (ACEs) (WHO, 2016). Conversely, *Benevolent Childhood Experiences* (BCEs) often include positive and

nurturing experiences such as living in a stable household, positive relationships between children and parents, family and peer social support, strong family socio-economic background, feelings of safety and involvement in positive communities (Crandall et al., 2019).

Both BCEs and ACEs affect mental health and wellbeing later in life. For example, longitudinal associations between more ACEs, lower psychological resilience, and negative health outcomes have been found. Several empirical studies and meta-analyses – mostly from Western HICs (Felitti et al., 1998; Herringa et al., 2013; Hughes et al., 2017; Webster, 2022) – found an association between more ACEs and worse developmental and health outcomes, including alcoholism, smoking, drug abuse, mental illness, and suicide attempts. In non-Western countries, findings are similar. For example, studies conducted in Uganda (Ashaba et al., 2022) and Egypt (Amr et al., 2019) found that ACEs predicted alcohol or substance abuse in adulthood. In Saudi Arabia, ACEs have been related to higher risk of mental and physical illnesses (AlHemyari et al., 2022). Lastly, some studies found that more ACEs were associated with lower psychological resilience in adolescence (Kairyte et al., 2023) or young adulthood (Chen et al., 2023). Nevertheless, these studies did not consider the combined effect of ACEs and BCEs on psychological resilience.

According to Zimmerman's Resiliency Theory (2013), *positive* or *promotive* factors protect against the adverse effects of ACEs. Among these, BCEs promote psychological resilience (Masten & Barnes, 2018) and self-confidence during adolescence and adulthood (Crandall et al., 2019; Li et al., 2020), which may serve as protective factors from the negative impact and consequences of ACEs on mental health (Bethell et al., 2019; Li et al., 2020). For example, a study of 570 Turkish university students found that BCEs were positively associated with self-esteem and resilience (Kocatürk & Çiçek, 2023). Others have examined the combined effects of ACEs and BCEs, and their interaction on factors such as adult family health, mental health, and psychopathology (Daines et al., 2021; Narayan et al., 2018). For example, a study aimed to understand how ACEs and BCEs alter family health during adulthood in a sample of 1030 adults from the USA found that adults with less ACEs reported better family health and socio-emotional wellbeing, and more BCEs were associated with better family health regardless of the presence of ACEs (Daines et al., 2021).

Similarly, another study on a sample of low-income, ethnically diverse pregnant women from the USA (Narayan et al., 2018) showed that greater levels of BCEs were associated with reduced PTSD symptoms, despite the presence of ACEs. In line with these findings, a longitudinal study by Skodol et al. (2007) followed a sample of 525 adults (aged between 18 and 45 years) with a personality disorder that were or had been in mental health treatment for over four years and found that BCEs predicted remission from both avoidant and schizotypal personality disorders. Taken together, these findings (replicated in other samples, i.e., Crandall et al., 2019; Morris & Hays-Grudo, 2023) suggest that, even in the presence of trauma and ACEs, BCEs could potentially mitigate the negative effect of ACEs in adults by promoting psychological resilience (Zimmerman, 2013).

Accordingly, we designed a study exploring the combined effects of ACEs and BCEs on psychological resilience in Egyptian young adults. There is no available literature examining how BCEs influence resilience in Egyptian samples, nor studies investigating the combined effects of ACEs and BCEs on psychological resilience. Existing studies only partly point in the same direction of studies from HICs. For example, studies conducted on Egyptian samples found that psychological

resilience was associated with lower levels of anxiety amongst adults (Miller-Graff et al., 2024), lower levels of stress, anxiety, and depression amongst physicians (Khalaf et al., 2020), and better mental health and lower emotional labor amongst psychiatric nurses (Taha et al., 2020). Based on the literature reviewed to date, we expected more BCEs to be associated with increased psychological resilience in our sample of Egyptian young adults, despite the presence of ACEs.

The Present Study

Methods

Participants and Procedure

A convenience sample of participants were recruited via online social media channels such as Facebook or WhatsApp groups by posting a short description of the study. Inclusion criteria included being of Egyptian nationality and aged between 18 and 25 years old. Participants were 102 Egyptian young adults (Mean age = 21.40 ± 1.79 years; 52% female), with 77 of the 102 participants residing outside of Egypt. No monetary compensation was given; however, Psychology students at the University of Nottingham Malaysia obtained 0.5 credits for their participation. The study was granted ethical approval from the university's Science and Engineering Research Ethics Committee. The study employed a cross-sectional within-subject design and was conducted online between June and August 2023 through the Qualtrics platform (Qualtrics, Provo, UT). Informed consent was obtained, particularly as the measured contained potentially sensitive questions, e.g., asking them about sexual assault during childhood and other ACEs experienced. Participants were free to discontinue the study at any point or not answer certain questions.

Measures

All the measures are available in the Appendices.

The *Brief Resilient Coping Scale* (BRCS; Sinclair & Wallston, 2004) is a four item self-rating survey measuring resilience (Kocalevent et al., 2017). Its questions aim to capture coping strategies and tendencies, such as optimism or helplessness, allowing researchers to estimate resilient coping strategies. Specifically, the BRCS asks participants to consider how much each of the four statements describes them using a Likert scale ranging from 1 (Does not describe me at all) to 5 (Describes me very well). A total score is calculated by summing the scores for each question, with higher scores suggesting more resilience. The BRCS has adequate internal consistency (r = .76) and test-retest reliability (r = .71), and total scores negatively correlate with depression, anxiety, and negative affect (Limonero et al., 2014). The BRCS has been used in a study of 170 Egyptian physicians during the COVID-19 pandemic to assess depression symptoms, stress levels, and coping strategies (Khalaf et al., 2020). Like the current study, Khalaf et al. (2020) used the BRCS within an anonymous online survey, where scores significantly negatively correlated with depression and anxiety levels. Additionally, BRCS scores were not significantly affected by gender, marital status, academic degree, specialty, years of experience, living with vulnerable family members, or chronic disease.

The *Behavior Risk Factor Surveillance System* (BRFSS) is a telephone survey developed by the Centers for Disease Control and Prevention (CDC, 2021) to collect data about health-related risk behaviors, chronic conditions, and service use. Here, we used one of the modules of the BRFSS, the Adverse Childhood Experience (ACE) module, which includes 13 items and assesses ACEs

during the first 18 years of life, including questions about emotional abuse, sexual abuse, physical abuse, household challenges, abuse, emotional and physical neglect. For the present study, the 2021 BRFSS survey questions were used. Examples include: "Now, looking back before you were 18 years of age, did you live with anyone who was a problem drinker or alcoholic?", which could be answered with 1 = Yes, 2 = No, 3 = Don't know / Not sure, 4 = Prefer not to say.

A total ACE score was calculated for every participant based on original BRFSS guidance; every self-reported exposure to a single ACE was counted as one point toward the final ACE score; and responses "No", "Don't know/Not sure" and "Prefer not to say" did not add any points to the total score (Gupta, 2022). For the last two questions regarding neglect, items were reverse scored to reflect the framing of the question. The BRFSS ACE Module has an acceptable degree of internal consistency ($\alpha = .75$) (Ford et al., 2014). Additionally, the items within the scales of the BRFSS ACE Module were found to be correlated with one another with alphas ranging from .61 (Household Dysfunction) to .80 (Sexual Abuse and Overall ACE) (Ford et al., 2014). The BRFSS has demonstrated cross-cultural validity; for example, a Persian version was recently validated to be used in the general population in Iran (Davtalab Esmaeili et al., 2024).

The *Benevolent Childhood Experiences* (BCEs) scale (Narayan et al., 2015) was developed as a counterpart to the Adverse Childhood Experiences questionnaire to assess positive early life experiences in adults. It is a 10-item self-report scale asking questions such as "Did you have at least one caregiver with whom you felt safe?" and "Did you have a predictable home routine, like regular meals and a regular bedtime?". Higher scores indicate more positive childhood experiences (Merrick et al., 2019). The BCEs scale is culturally sensitive with excellent test-retest reliability amongst different racial/ethnic groups, $r = .80$, $p < .01$ (Merrick et al., 2019; Narayan et al., 2018), and insensitive to differences in socio-economic and urban-rural background, or immigration status (Narayan et al., 2018). The BCEs scale was validated in Turkish samples, where it was found to be a reliable and valid measure of positive childhood experiences, with an internal consistency coefficient of 0.61 and test-retest validity coefficient of 0.91 (Oge et al., 2020).

Data Analysis

Data was exported from Qualtrics and imported in MS Excel (16.66.1) where a total score for each of the three scales was formulated for every participant as per their published guidelines. Specifically, an ACE score (computed as the total score on the BRFSS ACE Module 2021), a BCE score (computed as the total score on the BCEs scale), and a Resilience score (computed as the total score on the BRCS) were used for the main analyses, conducted on IBM SPSS (V27.0.0.0).

In line with our primary hypotheses, we conducted a multiple regression analysis with the Resilience score as main outcome, using BCE and ACE scores as predictors. Before conducting this analysis, assumption checks were performed. Absence of multicollinearity was confirmed since tolerance was > 0.2 (= 0.877) and VIF was < 10 (= 1.140). Moreover, the Durbin-Watson test reported a coefficient of 1.815 indicating no autocorrelation, and maximal Cook's distance was 0.176, hence < 1, suggesting there were no outliers. Since residuals for BRCS scores displayed a non-normal and right-skewed distribution, an initial attempt to normalize the data using "min-max" normalization (i.e., transforming the data into a 0-1 range, a method often used for data inputted in regression models; Akanbi et al., 2015) was made. This, however, was not successful, hence our

second normalization attempt by using Z-score normalization, a technique that ensures all data has a mean of 0 and an SD of 1 (Akanbi et al., 2015). As Z-score normalization also failed to achieve data normalization, regression models were tested on bootstrapped, i.e., re-sampled, data. Thus, we used non-normalized raw data and tested the regression model on 10,000 bootstrapped samples.

Results

An A-priori power analysis using G*power version 3.1.9.6 (Faul et al., 2007) revealed that with a significance of $\alpha = 0.05$ and power of 0.80, a minimum sample size of 77 participants was needed for our planned multiple regression analysis. Descriptive statistics of ACE, BCE, and resilience scores, for our sample, can be found in Table 1.

Table 1

Descriptive Statistics of study variables (non-normalized scores)

	Mean	Standard Deviation
Resilience score (BRCS)	14.47	2.70
ACE score (BRFSS ACE)	2.74	1.83
BCE score (BCEs scale)	8.13	1.86

The regression model was statistically significant ($R^2 = 0.090$, Adjusted $R^2 = 0.071$, $F_{2,98} = 4.846$, $p = 0.010$). BCEs were significantly positively associated with psychological resilience ($\beta = 0.314$, t (98) = 3.049, p = 0.003; 95% Bias-corrected and accelerated (BCa) Confidence Interval (BCa CI) = [0.091; 0.811]), but resilience was not predicted by ACEs ($\beta = 0.049$, t (98) = 0.481, p = 0.632; 95% BCa CI = [-0.183; 0.417]). Based on the model, predicted psychological resilience was equal to 10.576 + 0.073 (ACEs) + 0.454 (BCEs).

To ensure potentially confounding effects of ACEs on the relationship between BCEs and resilience were considered, bootstrapped partial correlations were conducted to test if BCEs were associated with higher psychological resilience despite the presence of ACEs. We found a significant positive correlation between BCEs and psychological resilience, controlling for ACEs (r = 0.294, p = 0.003), in line with the main findings of the regression analysis, and our hypotheses.

Discussion

The present study examined the effects of Adverse Childhood Experiences (ACEs) and Benevolent Childhood Experiences (BCEs) on psychological resilience in a sample of Egyptian young adults. In line with previous literature (i.e., Crandall, 2019; Kocatürk & Çiçek, 2023), we found an association between resilience and BCEs, but not ACEs. Specifically, we found that young adults who reported being exposed to more positive experiences during childhood and early adolescence reported greater psychological resilience during young adulthood despite being exposed to ACEs. Our findings suggest that BCEs, which include among others, receiving emotional

and social support, living in a balanced family and an educational environment with positive role models, is linked to the development of resilience in adulthood.

Implications of our Findings

In the context of this study and the scales utilized to measure ACEs and BCEs, resilience is viewed as maintained or regained positive functioning despite adversity (Masten & Cicchetti, 2016; Narayan, 2015; Narayan et al., 2018; Wright et al., 2013). The fact that an association between BCEs and resilience – independently of ACEs – was found in previous studies, including our own (e.g., Crandall et al., 2019; Morris & Hays-Grudo, 2023) suggests that resilience may not be an innate personality or behavioral trait as suggested by some (i.e., Block & Kremen, 1996), or an outcome of early adversity. Promoting the exposure of children and adolescents to positive experiences and educational or family environments may be more helpful for nurturing positive mental health outcomes improving quality of life and allowing young adults to identify and adopt functional coping strategies in the face of life adversities.

Our study thus supports Zimmerman's Resiliency Theory (2003), whereby resiliency appears to develop *despite* negative childhood experiences and *due to* positive experiences. Specifically, Zimmerman's theory suggests that focusing on positive factors nurtured via BCEs that could work in opposition to risk factors for negative mental health outcomes arising from ACEs. Amongst these promotive factors, *assets* are individual characteristics, such as self-esteem and certain personality traits, e.g., extraversion, while *resources* are factors external to the individual, such as parental support. Accordingly, assets and resources are promotive factors that strengthen resiliency.

We highlight the importance of encouraging and cultivating BCEs in children. An example of such an intervention is a framework called HOPE: *Health Outcomes from Positive – Experiences* (Sege & Harper Browne, 2017). The HOPE framework highlights the importance of promoting positive childhood experiences (such as being in nurturing relationships or having opportunities to engage socially to develop a sense of connectedness) for children who experienced or are experiencing ACEs. Additionally, the framework points to the importance of educating parents on BCEs and strengthening their capabilities as nurturing and supportive caregivers, with governments, schools, families, caregivers, and communities supporting them in turn. Governmental entities responsible for children's welfare and development, as well as NGOs operating in LMICs (including Egypt) shall be encouraged to run public awareness programs and advocate for the benefits of BCEs, particularly for children with a history of adversity. Schools should also implement programs or frameworks like HOPE to cultivate BCEs through community engagement programs, highlight positive role models, and promote positive peer relations from a young age. At home, it is important that parents and caregivers are instructed about the long-term consequences of ACEs and BCEs, and the importance of creating a positive and supportive environment for their children.

LMICs have a scarcity of mental health professionals relative to HICs. As an example, in Egypt, 3% of the government's mental health workforce works in child and adolescent services, compared to a global average of 9% (WHO, 2018). Additionally, poverty and financial instability at both individual and national levels mean that mental health services and psychotherapies may not be feasible for children with ACEs within LMICs. Yet, lay providers may be trained to provide inexpensive therapies and evidence-based interventions (Ndetei et al., 2023), providing more

affordable and accessible community and individual psychosocial support. Cost-effective mental health services via digital technology may also help decrease the mental health treatment gap between HCIs and LMICs and provide culturally appropriate support for children with ACEs and fostering BCEs at the same time.

Limitations and Future Directions

A few limitations in our study are identified. First, the cross-sectional nature of the study did not allow for causal conclusions about the relationships between childhood experiences and resilience. Further, the reliance on anonymous self-report measures may have limited the generalizability of the findings; yet this strategy helped us reach a heterogenous sample of young adults who may not have been willing to participate with a different data collection methodology, e.g., interviews or focus groups. Our choice of using retrospective scales, including the BCEs scale and BRFSS ACE module, is another limitation, as it posed a potential risk of bias. Still, these scales were designed and validated to minimize such risks and are widely used to investigate BCEs and ACEs in adults.

As our data were non-normally distributed, we used bootstrapped regression analyses; using non-normalized raw data in regression models can lead to biased coefficients, poor model convergence, and unreliable bootstrapped estimates due to scale differences and violated model assumptions. ACE and BCE scores were negatively correlated ($r = -.351$, $p > 0.001$), suggesting that individuals who reported more BCEs also reported less ACEs. Lastly, we were unable to control for factors that could have affected the self-reporting of ACEs and BCEs, such as current mood/emotional state, social desirability, cultural norms, history of or current diagnosis of mental disorder(s).

While our study found a link between BCEs and resilience, more research is needed. Exploring the relationship ACEs and BCEs have on psychological resilience in the rest of the Middle East and North Africa (MENA) region is essential in examining whether such findings are replicable in other Arab samples. Future work disentangling the longitudinal associations between different types of ACEs (e.g., sexual abuse vs. emotional neglect) and BCEs (family vs. peer social support) and resilience is also key. Understanding other factors that may influence resilience will also further enrich our understanding of how resilience develops in children and young people. For example, other early childhood protective factors – besides BCEs – may also mitigate the effect of ACEs later in life. Lastly, developing intervention frameworks and mental health services that cultivate resilience via BCEs in children who experience ACEs may prove extremely beneficial and contribute to their wellbeing later in life.

Conclusion

In summary, the present study enhanced our understanding of the influence of ACEs and BCEs on resilience in young Egyptian adults, contributing to a growing body of research and evidence that highlights the importance of promoting positive childhood experiences to nurture resilience later in life. We hope these findings encourage further research on this topic in the rest of the Arab world, considering the importance of promoting psychological wellbeing and mental health across populations living in LMICs, such as Egypt.

References

Akanbi, O. A., Amiri, I. S., & Fazeldehkordi, E. (2015). Feature extraction. In *A machine-learning approach to phishing detection and defense* (pp. 45–54). Elsevier. https://doi.org/10.1016/B978-0-12-802927-5.00004-6

AlHemyari, A. H., Al-Zamil, N. A., Shaikh, A. Y., Al-Eidi, D. A., Al-Dahlan, H. W., & Al-Shamekh, S. S. (2022). Prevalence of adverse childhood experiences and their relationship to mental and physical illnesses in the Eastern Region of Saudi Arabia. *Brain and Behavior*, *12*(7), e2668. https://doi.org/10.1002/brb3.2668

Amr, S., Garas, M., Boulos, D. N. K., Saleh, D. A., Jillson, I. A., & Loffredo, C. A. (2019). Circumstances of substance use by street youth in Egypt support the case for intervening to prevent adverse childhood experiences. *Journal of Substance Use*, *24*(3), 341–345. https://doi.org/10.1080/14659891.2019.1572804

Ashaba, S., Kakuhikire, B., Baguma, C., Satinsky, E. N., Perkins, J. M., Rasmussen, J. D., Cooper-Vince, C. E., Ahereza, P., Gumisiriza, P., Kananura, J., Bangsberg, D. R., & Tsai, A. C. (2022). Adverse childhood experiences, alcohol consumption, and the modifying role of social participation: Population-based study of adults in southwestern Uganda. *SSM - Mental Health*, *2*, 100062. https://doi.org/10.1016/j.ssmmh.2022.100062

Bethell, C., Jones, J., Gombojav, N., Linkenbach, J., & Sege, R. (2019). Positive childhood experiences and adult mental and relational health in a statewide sample. *JAMA Pediatrics*, *173*(11), e193007. https://doi.org/10.1001/jamapediatrics.2019.3007

Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology*, *70*(2), 349–361. https://doi.org/10.1037/0022-3514.70.2.349

Chen, Y., Huang, C.-C., Yang, M., & Wang, J. (2023). Relationship between adverse childhood experiences and resilience in college students in China. *Journal of Family Violence*, *38*(4), 623–632. https://doi.org/10.1007/s10896-022-00388-4

Crandall, A., Miller, J. R., Cheung, A., Novilla, L. K., Glade, R., Novilla, M. L. B., Magnusson, B. M., Leavitt, B. L., Barnes, M. D., & Hanson, C. L. (2019). ACEs and counter-ACEs: How positive and negative childhood experiences influence adult health. *Child Abuse & Neglect*, *96*, 104089. https://doi.org/10.1016/j.chiabu.2019.104089

Daines, C. L., Hansen, D., Novilla, M. L. B., & Crandall, A. (2021). Effects of positive and negative childhood experiences on adult family health. *BMC Public Health*, *21*(1), 651. https://doi.org/10.1186/s12889-021-10732-w

Davtalab Esmaeili, E., R Kalankesh, L., Zeinalzadeh, A. H., Ghaffari, A., & Dastgiri, S. (2024). Development, validation, and cross cultural adoption of Persian version of Behavioral Risk Factor Tool. *Medical Journal of the Islamic Republic of Iran*, *38*, 21. https://doi.org/10.47176/mjiri.38.21

Erskine, H. E., Baxter, A. J., Patton, G., Moffitt, T. E., Patel, V., Whiteford, H. A., & Scott, J. G. (2017). The global coverage of prevalence data for mental disorders in children and adolescents. *Epidemiology and Psychiatric Sciences*, *26*(4), 395–402. https://doi.org/10.1017/S2045796015001158

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, *14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Ford, D. C., Merrick, M. T., Parks, S. E., Breiding, M. J., Gilbert, L. K., Edwards, V. J., Dhingra, S. S., Barile, J. P., & Thompson, W. W. (2014). Examination of the factorial structure of adverse childhood experiences and recommendations for three subscale scores. *Psychology of Violence*, *4*(4), 432–444. https://doi.org/10.1037/a0037723

GBD 2019 Mental Disorders Collaborators. (2022). Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990-2019: A systematic analysis for the Global Burden of Disease Study 2019. *The Lancet. Psychiatry*, *9*(2), 137–150. https://doi.org/10.1016/S2215-0366(21)00395-3

Gupta, S. (2022). First-time exploration of adverse childhood experiences among adults in Delaware using BRFSS data: A cross-sectional study. *Public Health in Practice*, *3*, 100233. https://doi.org/10.1016/j.puhip.2022.100233

Herringa, R. J., Birn, R. M., Ruttle, P. L., Burghy, C. A., Stodola, D. E., Davidson, R. J., & Essex, M. J. (2013). Childhood maltreatment is associated with altered fear circuitry and increased internalizing symptoms by late adolescence. *Proceedings of the National Academy of Sciences*, *110*(47), 19119–19124. https://doi.org/10.1073/pnas.1310766110

Hu, T., Zhang, D., & Wang, J. (2015). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences*, *76*, 18–27. https://doi.org/10.1016/j.paid.2014.11.039

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health*, *2*(8), e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Jacob, K. S., Sharan, P., Mirza, I., Garrido-Cumbrera, M., Seedat, S., Mari, J. J., Sreenivas, V., & Saxena, S. (2007). Mental health systems in countries: Where are we now?. *The Lancet, 370*(9592), 1061–1077. https://doi.org/10.1016/S0140-6736(07)61241-0

Kairyte, A., Truskauskaite, I., Daniunaite, I., Gelezelyte, O., & Zelviene, P. (2023). Resilience trajectories and links with childhood maltreatment in adolescence: A latent growth modeling approach. *Child and Adolescent Psychiatry and Mental Health*, *17*(1), 10. https://doi.org/10.1186/s13034-023-00558-2

Khalaf, O. O., Khalil, M. A., & Abdelmaksoud, R. (2020). Coping with depression and anxiety in Egyptian physicians during COVID-19 pandemic. *Middle East Current Psychiatry*, *27*(1), 63. https://doi.org/10.1186/s43045-020-00070-9

Kocalevent, R. D., Zenger, M., Hinz, A., Klapp, B., & Brähler, E. (2017). Resilient coping in the general population: Standardization of the brief resilient coping scale (BRCS). *Health and Quality of Life Outcomes*, *15*(1). https://doi.org/10.1186/s12955-017-0822-6

Kocatürk, M., & Çiçek, İ. (2023). Relationship between positive childhood experiences and psychological resilience in university students: The mediating role of self-esteem. *Journal of Psychologists and Counsellors in Schools*, *33*(1), 78–89. https://doi.org/10.1017/jgc.2021.16

Li, J., Chen, Y., Zhang, J., Lv, M., Välimäki, M., Li, Y., Yang, S., Tao, Y., Ye, B., Tan, C., & Zhang, J. (2020). The mediating role of resilience and self-esteem between life events and coping styles among rural left-behind adolescents in China: A cross-sectional study. *Frontiers in Psychiatry*, *11*. https://doi.org/10.3389/fpsyt.2020.560556

Limonero, J. T., Tomás-Sábado, J., Gómez-Romero, M. J., Maté-Méndez, J., Sinclair, V. G., Wallston, K. A., & Gómez-Benito, J. (2014). Evidence for validity of the Brief Resilient Coping Scale in a young Spanish sample. *The Spanish Journal of Psychology*, *17*, E34. https://doi.org/10.1017/sjp.2014.35

Masten, A., & Barnes, A. (2018). Resilience in children: Developmental perspectives. *Children*, *5*(7), 98. https://doi.org/10.3390/children5070098

Merrick, J. S., Narayan, A. J., DePasquale, C. E., & Masten, A. S. (2019). Benevolent Childhood Experiences (BCEs) in homeless parents: A validation and replication study. *Journal of Family Psychology*, *33*(4), 493–498. https://doi.org/10.1037/fam0000521

Miller-Graff, L. E., Paulson, J., Hosny, N., & Ellis, K. (2024). Trauma, resilience, and distress in post-revolution Egypt. *Psychological Trauma: Theory, Research, Practice, and Policy, 16*(1), 49–56. https://doi.org/10.1037/tra0001239

Morgan, C. A., Chang, Y.-H., Choy, O., Tsai, M.-C., & Hsieh, S. (2021). Adverse childhood experiences are associated with reduced psychological resilience in youth: A systematic review and meta-analysis. *Children*, *9*(1), 27. https://doi.org/10.3390/children9010027

Morris, A. S., & Hays-Grudo, J. (2023). Protective and compensatory childhood experiences and their impact on adult mental health. *World Psychiatry*, *22*(1), 150–151. https://doi.org/10.1002/wps.21042

Narayan, A. J., Rivera, L. M., Bernstein, R. E., Harris, W. W., & Lieberman, A. F. (2018). Positive childhood experiences predict less psychopathology and stress in pregnant women with childhood adversity: A pilot study of the benevolent childhood experiences (BCEs) scale. *Child Abuse & Neglect*, *78*, 19–30. https://doi.org/10.1016/j.chiabu.2017.09.022

Ndetei, D. M., Mutiso, V., & Osborn, T. (2023). Moving away from the scarcity fallacy: Three strategies to reduce the mental health treatment gap in LMICs. *World Psychiatry, 22*(1), 163–164. https://doi.org/10.1002/wps.21054

Oge, R. G. (2020). Validity and reliability of the benevolent childhood experiences (BCEs) scale in Turkish. *Dusunen Adam: The Journal of Psychiatry and Neurological Sciences, 33*(2), 146-154. https://doi.org/10.14744/dajpns.2020.00074

Rathod, S., Pinninti, N., Irfan, M., Gorczynski, P., Rathod, P., Gega, L., & Naeem, F. (2017). Mental health service provision in low- and middle-income countries. *Health Services Insights*, *10*, 1178632917694350. https://doi.org/10.1177/1178632917694350

Sege, R. D., & Harper Browne, C. (2017). Responding to ACEs with HOPE: Health Outcomes from Positive Experiences. *Academic Pediatrics*, *17*(7S), S79–S85. https://doi.org/10.1016/j.acap.2017.03.007

Sinclair, V. G., & Wallston, K. A. (2004). The development and psychometric evaluation of the Brief Resilient Coping Scale. *Assessment*, *11*(1), 94–101. https://doi.org/10.1177/1073191103258144

Skodol, A. E., Bender, D. S., Pagano, M. E., Shea, M. T., Yen, S., Sanislow, C. A., Grilo, C. M., Daversa, M. T., Stout, R. L., Zanarini, M. C., McGlashan, T. H., & Gunderson, J. G. (2007). Positive childhood experiences. *The Journal of Clinical Psychiatry*, *68*(07), 1102–1108. https://doi.org/10.4088/JCP.v68n0719

Taha, S. M., Zoromba, M. A., & Wahba, N. M. I. (2020). Relationship between psychological resilience and emotional labor with mental health among sample of Egyptian mental health nurses. *Egyptian Journal of Health Care*, *11*(1), 1085-1094. https://doi.org/10.21608/ejhc.2020.230386

Webster, E. M. (2022). The impact of adverse childhood experiences on health and development in young children. *Global Pediatric Health*, *9*, 2333794X2210787. https://doi.org/10.1177/2333794X221078708

Windle, M., Haardörfer, R., Getachew, B., Shah, J., Payne, J., Pillai, D., & Berg, C. J. (2018). A multivariate analysis of adverse childhood experiences and health behaviors and outcomes among college students. *Journal of American College Health*, *66*(4), 246–251. https://doi.org/10.1080/07448481.2018.1431892

World Health Organization. (2016). *mhGAP Intervention guide for mental, neurological and substance use disorders in non-specialized health settings: Mental health gap action programme (mhGAP).* https://www.who.int/publications-detail-redirect/9789241549790

World Health Organization. (2018). *Mental health atlas 2017: Resources for mental health in the Eastern Mediterranean Region.* World Health Organization. Regional Office for the Eastern Mediterranean (pp. 116). https://www.who.int/publications/i/item/9789241514019

Zimmerman, M. A. (2013). Resiliency theory. *Health Education & Behavior*, *40*(4), 381–383. https://doi.org/10.1177/1090198113493782

APPENDIX A. Benevolent Childhood Experiences [BCE's] (Narayan et al., 2018)

To get a BCE score, the survey-taker is asked how many of these ten items he or she experienced before the age of 18. Would you respond "yes" or "no" to the prompt, "Growing up, I had..."

Item	Yes	No
1. At least one caregiver with whom you felt safe?		
2. At least one good friend		
3. Beliefs that gave you comfort		
4. Enjoyment at school		
5. At least one teacher that cared		
6. Good neighbours		
7. An adult (not a parent/ caregiver or the person from *1) who could provide you with support or advice		
8. Opportunities to have a good time		
9. Like yourself or feel comfortable with yourself		
10. Predictable home routine, like regular meals and a regular bedtime		

APPENDIX B. BRFSS Adverse Childhood Experience (ACE) Module Updated (as of 2021)

The following questions refer to the time period before you were 18 years of age. Now, looking back before you were 18 years of age---.

1) Did you live with anyone who was depressed, mentally ill, or suicidal?
2) Did you live with anyone who was a problem drinker or alcoholic?
3) Did you live with anyone who used illegal street drugs or who abused prescription medications?
4) Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?
5) Were your parents separated or divorced?
6) How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up?
7) Not including spanking, (before age 18), how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way?
8) How often did a parent or adult in your home ever swear at you, insult you, or put you down?
9) How often did anyone at least 5 years older than you or an adult, ever touch you sexually?
10) How often did anyone at least 5 years older than you or an adult, try to make you touch them sexually?
11) How often did anyone at least 5 years older than you or an adult, force you to have sex?
12) For how much of your childhood was there an adult in your household who made you feel safe and protected? Would you say never, a little of the time, some of the time, most of the time, or all of the time?
13) For how much of your childhood was there an adult in your household who tried hard to make sure your basic needs were met? Would you say never, a little of the time, some of the time, most of the time, or all of the time?

<u>Scoring</u>

Response Options

Questions 1-4

1=Yes 2=No 7=DK/NS 9=Refused

Question *5*

1=Yes 2=No 8=Parents not married 7=DK/NS 9-Refused

Questions 6-11

1=Never 2=Once 3=More than once 7=DK/NS 9=Refused

Questions 12-13

1=Never 2=A little of the time 3=Some of the time 4=Most of the time
5=All of the time 7=DK/NS 9=Refused

APPENDIX C. Brief Resilient Coping Scale (Sinclair & Wallston, 2004)

BRCS Instructions: Consider how well the following statements describe your behavior and actions.	(1) Does not describe me at all	(2) Does not describe me	(3) Neutral	(4) Describes me	(5) Describes me very well
I look for creative ways to alter difficult situations.					
Regardless of what happens to me, I believe I can control my reaction to it.					
I believe I can grow in positive ways by dealing with difficult situations.					
I actively look for ways to replace the losses I encounter in life.					