

# Predictors of student resilience in higher education

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*Resilience, when coping with stress, can protect against serious negative life outcomes and lead to greater lifetime satisfaction. The current literature suggests that there are internal factors that may moderate the development of resilience. These factors could be used to inform targeted interventions for young people experiencing stress within the educational sphere. The current study extends previous literature by confirming known predictors and testing novel predictors of resilience in female students within a Higher Education context. Psychological measures of resilience, attachment quality, self-esteem, and exposure to stressful and adverse childhood experiences were utilised. Statistical analysis revealed that self-esteem, exposure to stressful events, levels of avoidance in maternal relationships, and levels of anxiety in paternal relationships were significant predictors of levels of resilience. The practical and theoretical implications of these results are discussed alongside potential interventions.*

**T**HE TRANSITION to university and indeed simply studying in Higher Education (HE) can affect stress in young people in many different ways. How a student responds to this stress is intrinsically linked with how they will perform academically, and also a myriad of other social and psychological factors, for instance their mental health (e.g. McPherson, 2012). One factor that has been shown to mediate this stress is ‘resilience’: Current research still lacks an agreed operational definition for resilience, but it has been suggested that resilience consists of both behavioural characteristics, for example, maintaining effectiveness and resisting destructive behaviours (Robertson & Cooper, 2013), and psychological characteristics, such as the ability to maintain good mental health after adversity (Bonanno, 2004). Exhibiting resilience itself has been associated with positive outcomes (e.g. Ou & Reynolds, 2008). Despite the immediate repercussions, individuals who develop resilience following adversity have been found to show long-term favourable psychological outcomes, including greater life satisfaction (Seery, Holman & Silver, 2010; Seery, 2011).

Within an educational context, resilience is loosely viewed as a set of attitudes and behaviours which are associated with an indi-

vidual’s ability to recover from adversity and also to actively adapt in the face of these adversities and stress, resilience has become accepted within the educational community as an essential capacity for a student to fully thrive within an HE context (e.g. Fuller, Belihouse & Johnston 2016;). Resilience is viewed as essential to helping students to manage academic demands to enable positive progress and cope with the pressure of study, work, and life (e.g. Caruana et al. 2011).

Johnson (2008) identified a number of ‘internal’ factors such as optimism, self-efficacy, and psychological wellbeing as the being most important to the development of resilience in young people. However, this study was drawn from qualitative data from an Australian longitudinal study and due to this methodology was, by definition, limited to only internal factors that the participants were aware of. Further Psychological factors that have been linked to student resilience include a young person’s Self-esteem: This is possibly due to its composition of optimism and self-confidence and the subsequent influence of these characteristics on problem-solving and self-efficacy (Smith & Carlson, 1997). Likewise self-enhancing biases that lead to higher self-esteem have been associated with better adjustment after

grief or loss in adults (Bonnano, 2004). This is reflected in the literature on youth and adolescents: Perception of powerlessness has previously been associated with lower levels of resilience in young women, aged 18–25 (Breno & Galupo, 2007). This finding suggests that affective self-efficacy, which is positively associated with self-esteem in young people (Caprara et al., 2013), influences the development of resilience. Higher self-worth in adolescents has also been found to lead to lower levels of anxiety in response to typical stressful experiences, similarly indicating that mechanisms of self-esteem influence resilience (Grills-Taquechel et al., 2010). Finally, in youths exposed to the adversity and risks associated with homelessness, self-esteem had a significant protective role against negative outcomes, including involvement in sex trade, substance abuse, subjective ill-health and suicidal ideation (Kidd & Shahar, 2008).

Another protective factor that has previously been associated with resilience is attachment security. Attachment security is indicative of the quality of relationships with caregivers in infancy through to childhood (Ainsworth, 1978). These early experiences form the internal working model of self and others modulate how individuals respond to stress and form a model for any future social transactions or relationships (e.g. Bretherton, 1996; Sroufe, 1988). Having secure attachment status, assumed to be stable through to adulthood, can lead to positive long-term outcomes, including resilience. Secure attachment is associated with protective resilience against the risk of substance abuse and criminal behaviour in adults (Black-Hughes & Stacy, 2013; Stacy, 2006). Other research indicates that attachment security is a source of protective resilience against the effects of educational disadvantage in adults in the workplace subsequently leading to better adult health behaviours, through effective stress/coping mechanisms, and therefore better long-term health (Bartley, Head & Stansfield, 2007). Finally, in youths living in high-risk neigh-

bourhoods, better bonding within families was found to be associated with higher resilience and better adjustment (Tiet, Huizinga & Byrnes, 2010).

The actual experience of stress or adversity allows for the opportunity to display levels of resilience, but there is still debate within the literature as to whether this may positively or negatively affect the development of resilience. Exposure to some stressors may increase resilience by encouraging the appraisal of stressful situations as manageable, increasing emotional stability under duress, and encouraging the perception of mastery and control in stressful situations. A longitudinal study of adults' experiences of life-time adversity suggested that experiencing some adversity, is more beneficial to the development of resilience, than experiencing none or high levels of adversity (Seery et al., 2010). Typically this data when plotted appears as a U shape and this is reflected in better psychological outcomes being associated with reported experience of moderate adversity. The same study found that experience of prior adversity was associated with better resilience to recent adversity. This finding is also reflected in the developmental literature. Children exposed to moderate levels of early adversity showed more adaptive neurobiological responses to an artificial stressor than those who had experienced low levels of stress (Gunnar et al., 2009).

Despite these findings that suggest the development of resilience may be predicted by childhood experiences of stress and adversity, the vast majority of the literature focuses on the negative outcomes. In the Adverse Childhood Experiences Study, of approximately 13,000 adults, participants who self-reported more adverse childhood experiences were significantly more likely to report poorer general health, depression, and destructive behavioural outcomes, for example, suicide attempts, alcoholism, drug abuse (Felitti et al., 1998). This finding has been replicated many times within the literature, which suggests that experiences of

childhood adversity are associated with poor psychological, neurobiological and medical outcomes, as opposed to resilience (e.g. Chapman, Dube & Anda, 2007; Pechtel & Pizzagalli, 2011; Wegman & Stetler, 2009).

Although global factors have been identified, the development of resilience has also been found to be influenced by contextual or 'external' factors. One study investigated children experiencing adversity in fourteen international sites, including both western and eastern cultures and varying economic contexts. Although participants shared some individual factors, there were differing cultural and contextual variables that affected their development of resilience (Unger, 2008).

Any identified factors that may promote resilience will also have implications for use in interventions with young people who are experiencing adversity, from common social problems to those explicitly linked to a higher education context (Masten, 2014). Intervention programmes to promote resilience in schools and colleges have already been proposed, based on research on predictive factors (Miller & Daniel, 2007). A few existing programmes with the same aim have had some success, however there is still a need for further evidence to guide and support their development (Greenberg, 2006; Leve et al., 2012). Further research is therefore necessary to extend our current knowledge of possible behavioural and psychological factors that may characterise resilience and promote its development. Due to the known differences between genders in experiences of stress, and the serious implications of stress experienced in youth (e.g. Moksnes et al., 2010), it would be beneficial to investigate this in a young participant sample that is controlled for gender differences. The current study hence conducted an exploratory analysis assessing predictors of resilience levels in a young female student cohort, examining the roles of self-esteem, attachment security, and exposure to general stress and adverse life experiences.

## Method

### Design

The current study was quantitative in nature, measuring five variables (self-esteem levels; attachment avoidance/anxiety scores; exposure to stress; exposure to childhood adverse life experiences, and resilience).

### Measures

Five existing psychological questionnaires were utilised alongside a sociodemographic questionnaire that enquired age, ethnicity (categories taken from Census), year of study and marital status of parents.

#### *Connor-Davidson Resilience scale (CD-RISC 25; Connor & Davidson, 2003)*

To measure levels of resilience the CD-RISC 25 was utilised. The test has a very high test-retest reliability (.65–.80), and it has been successfully used in a number of similar resilience studies involving young people experiencing general and university-related stress (e.g. Breno & Galupo, 2007; Wibrowski & Clauss-Ehlers, 2007). The questionnaire comprises 25 statements used to measure coping with stress and challenges. A five-point Likert scale is used, ranging from 'not true at all' to 'true nearly all the time'. The scores can range from 0–100, with higher scores indicating a higher level of resilience.

#### *Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965).*

To measure levels of self-esteem the RSES was utilised. This measure was used because of its reliability, with high test-retest reliability across samples (.82–.88) and a Cronbach's alpha ranging between .77–.88 (Schoenefeld & Webb, 2013). The RSES has also been used to investigate predictors of resilience in a similar age-range (Late adolescence; e.g. Carbonell, Reinherz & Giaconia, 1998; Kidd & Shahar, 2008). The measure includes ten items with statements concerning feelings about self and self-worth, answered using a four-point Likert scale, ranging 'strongly agree' to 'strongly disagree'. Items 2, 5, 6, 8

and 9 are reverse coded and scores on the scale can range from 0–30; higher scores indicating higher levels of self-esteem.

*Experiences in Close Relationships – Relationships Structures Questionnaire (ECR-RS; Fraley et al., 2011).*

To examine global and relationship-specific attachment styles the ECR-RS was utilised. The measure has nine items repeated in five sets to assess attachment anxiety (three items) and avoidance (six items) with mother, father, romantic partner, friend, and in close relationships in general. Each item is rated along a seven-point Likert scale, ranging from ‘strongly disagree’ to ‘strongly agree’. The average of the scores for avoidance and for anxiety can be used to find a global score for each attachment target. Higher levels on either dimension indicate attachment insecurity. The ECR has shown high test-retest reliability across different domains (.65-.80) and has been validated on a large sample with a similar age range to the current study (Feddern Donbaek & Elklit, 2014).

*The Adverse Childhood Experiences International Questionnaire (ACE-IQ, World Health Organisation, 2012).*

The ACE-IQ was utilised to measure participants’ exposure to adverse experiences before age 18. Despite being a pilot measure, the ACE-IQ was chosen due to its use in similar research, investigating associations between adverse childhood experiences and dysfunctional health behaviours in youths across Europe (Bellis et al., 2014). Three of the eight sections were removed from the questionnaire due to overlapping items with the demographics questionnaire (section 1), and the sensitive nature of items in relation to the age of the participants in the school samples (sections 5 and 8). The questions are answered either with ‘Yes’ or ‘No’ options, or answers indicating the frequency of occurrence, depending on the section. A total is calculated that reflects occurrence of events, and higher scores indicate more exposure to adverse childhood experiences.

*College Students Stressful Events Checklist (CSSEC; ‘College Students Stressful Events Checklist’, n.d.; Holmes & Rahe, 1967).*

The CSSEC was utilised to assess participants stress levels which are derived from a wider range of experiences than measured by the ACE-IQ. This particular measure is an adaptation of the Social Re-Adjustment Scale (Holmes & Rahe, 1967); a widely used measure of both typical and atypical stressors (Scully & Banning, 2000). The adaptation contains content appropriate for the sample of students. This measure comprises thirty-two items with statements describing stressful events, ranging from ‘death of a close family member’ to ‘minor traffic violations’, with participants indicating whether or not these have happened recently, or are expected to happen soon. Each event is given a value that represents how stressful it is, ranging from 20 to 100. The sum of all the values for events that the participant selects is the total score. High scores, as defined by the original researchers, are indicative of higher levels of stress as a result of stressful events.

### **Participants**

The sample consisted of 214 female students, with a mean age of 18.84 (range 16–24;  $SD = 1.19$ ). Participants were recruited from the University of Birmingham, in exchange for course credits.

### **Procedure**

The questionnaires were completed either in hard-copy during one 45-minute session at the school, or via the university research participation website.

### **Results**

The data was analysed using IBM SPSS version 22. A ‘forward’ method, multiple regression analysis was undertaken (using 0.05 as the entry criteria) with the scores from the College Students Stressful Events Checklist (CSSEC), Experiences in Close Relationships – Relationships Structures Questionnaire (ECR-RS), Rosenberg Self-Esteem Scale RSES and The Adverse Childhood Experi-

ences International Questionnaire ACE-IQ as predictors. Twelve sub-totals were inserted from the ECR-RS: a score for anxiety and for avoidance (global, mother, father, partner, peer) for each of the five sections, and an average score for anxiety and avoidance overall. All other measures had one total. Age and year of study from the demographics were also included as predictors. The model with these variables aimed to predict scores on the Connor-Davidson Resilience scale (CD-RISC-25). Religion, ethnicity and marital status of parents were also included as independent variables in an ANOVA analysis, to determine any impact these variables had on the mean CD-RISC25 scores.

The regression model included scores on the RSES, CSSEC and attachment anxiety with father, and attachment avoidance with mother from the ECR-RS. This significantly predicted CD-RISC25 scores,  $F(4, 197) = 27.691, p < .001$ . RSES accounted for approximately 28 per cent of the variance within the model, whilst attachment avoidance with mother from the ECR-RS accounted for an additional four per cent, CSSEC – 2 per cent and attachment anxiety with father from the ECR-RS just 2 per cent. Higher scores on the RSES significantly predicted higher CD-RISC25 scores,  $Beta = .435, t(201) = 6.82, p < .001$ , as did higher scores on the CSSEC,  $Beta = .160, t(201) =$

$2.71, p < .007$ . In contrast, higher scores on attachment avoidance with mother from the ECR-RS, negatively predicted scores on the CD-RISC25,  $Beta = -.202, t(201) = -3.088, p < .002$ , as did higher scores on attachment anxiety with father from the ECR-RS anxiety,  $Beta = -.166, t(201) = -2.748, p < .007$ . No other predictors were included in the model.

The univariate analysis of variance of the demographics revealed a significant variation in the CD-RISC25 scores as a function of religion,  $F(9, 213)=2.101, p<0.05$ . The mean scores were comparatively lower within the ‘Hindu’ category (48.5) and higher within the ‘Sikh’ category, (71.5). See Table 1. However as the numbers of participants identifying themselves with some of the religions was low no conclusions can be extrapolated from this finding. No other demographic variables showed a significant variation in the mean CD-RISC25 scores.

**Discussion**

The results of the present study suggest that resilience can be predicted by four protective characteristics: levels of self-esteem, exposure to stressful events, attachment avoidance and anxiety in parental relationships. Specifically, the results indicate that higher self-esteem predicts higher resilience. This corroborates existing research that identifies self-esteem as a protective factor against

**Table 1: Descriptive statistics for resilience levels by Religion**

Religion	Mean CDRISC-25 Scores	Number of Participants
No religion	60.7	74
Christian	68.4	59
Buddhist	65	1
Hindu	48.5	11
Jewish	69.2	6
Muslim	66	14
Sikh	71.5	2
Atheist	54	27
Agnostic	59.4	20
Other	57	1

adverse outcomes in other youth samples (Kidd & Shahar, 2008). An underlying mechanism could be an increase in self efficacy that encourages productive behaviours and decreases anxiety (Smith & Carlson, 1997; Caprara et al., 2013).

Levels of attachment-related maternal avoidance and paternal anxiety were also found to predict resilience, which is consistent with previous research. Avoidance and anxiety are underlying mechanisms of attachment within self-report measures, with high levels being indicative of attachment insecurity (Brennan, Clark & Shaver, 1998). As these factors negatively predicted resilience in this study, this corroborates previous findings such as Tiet et al. (2010) that found that a lack of attachment security leads to lower resilience within youth. The ECR-RS also examines other attachment relationships; however these didn't predict resilience. This primarily could be a reflection of the sample. The average participants age was approximately 18 years, and therefore their experiences of other influential relationships may be limited. However, attachment is considered to be a direct product of early caregiver relationships (Sroufe, 1988), and research has emphasised the impact parenting factors can have on resilience (Masten, 2001). In light of this, the comparative significance of the parenting attachment models in this result is therefore not unexpected. Nevertheless, the significance of the avoidance dimension in the maternal relationship, and the anxiety dimension in the paternal relationship should be explored further. These particular attachment predictors of resilience appear to be a novel finding. It's therefore the recommendation of this paper to extend the research and further explore parental avoidance and anxiety, and why these key aspects of maternal and paternal relationships, respectively, impact resilience.

An increased experience of stressful events also predicted higher resilience. This is partly reflected in the literature, even with childhood experiences of stress predicting

higher resilience (Gunnar et al., 2009). Resilience is often defined as the ability to cope and some experience of stress would allow this to develop. This would also provide an experience of coping that an individual could positively reflect upon when confronted with future challenges. This is evident as experience of some adversity is associated with increased mastery when faced with future challenges (Seery et al., 2010). Conversely this finding does contradict research that associates adversity with negative outcomes. This may be due to the stressful experiences measured by this predictor. The CSSEC lists a range of events, most that are quite common, that may induce mild to severe levels of stress. A more unusual experience of severe trauma may induce levels of stress that are too high to encourage resilience. This is evident in research associating experiences of childhood abuse with negative outcomes (Chapman et al., 2007; Pechtel & Pizzagalli, 2011), and studies that suggest a non-linear relationship between stress and resilience: moderate levels of stress increase resilience, whereas extremely high levels of stress don't (Gunnar et al., 2009; Seery et al., 2010). However, the current study used the ACE-IQ to measure childhood experiences of serious adversity and this wasn't found to predict resilience.

The findings from the present study also have practical implications for educational and therapeutic interventions. Existing programmes to increase resilience in education are based on research that indicates that children who are resilient show better learning behaviours (Padron, Waxman & Huang, 2009), however the success of these programmes has been limited. This may well be due to the focus on cognitive coping strategies instead of the development of internal factors that encourage resilience (Walker, 2014). Outcomes could be improved by encouraging the development of the predictors indicated by these results. For example, this could involve supporting the development of self-esteem in young people, in schools and HE settings. Within a mental

health context 'low self-esteem' is not an individual condition but is seen as being 'trans-diagnostic' and impacting a number of mental health indicators. That said, there are in place protocols that can be run with individuals and small groups and also self run work books that have been demonstrated to have robust effects on improving self-esteem (e.g. Fennell, 2016; Longworth et al., 2016).

Whilst parental attachment styles are relatively stable over time (Fraley et al., 2011), it is possible to temporarily induce attachment security via priming mechanisms (e.g. Rowe & Carnelley, 2003; Otway, Carnelley & Rowe, 2014). Attachment security priming has been found to enhance self-perceptions (Carnelley & Rowe, 2007), and lower depressed and anxious mood (Carnelley, Otway & Rowe, 2016). One such intervention with University students used 'attachment-orientated psychoeducation group-training' and found that this had a positive impact on those factors associated with positive attachment, such as reducing fear and perceived stress (Çelik, 2004).

Identifying ways to improve student resilience within university education is becoming increasingly important. Numbers of students

that are suffering from mental health issues are on the increase (Davies et al., 2013; Gallagher, 2008; Mackenzie, 2011) and this has a direct impact on both the students' experience of university and their academic outcomes, however, often overlooked is the indirect impact on the educators themselves whether that be in terms of their time and/or their emotional resources. Future research might explore whether relatively simple psychological interventions could be used to help build resilience in students (e.g. group CBT programmes). This in turn will help them both to be able to better deal with the inevitable stresses that University will expose them to, but also importantly, to ready them for the inevitable stresses of employment after their studies.

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### References

- Ainsworth, M. (1978). The Bowlby-Ainsworth attachment theory. *Behavioral and Brain Sciences*, 1(3), 436-438.
- Atwool, N. (2006). Attachment and resilience: Implications for children in care. *Child Care in Practice*, 12(4), 315-330.
- Bartley, M., Head, J. & Stansfeld, S. (2007). Is attachment style a source of resilience against health inequalities at work? *Social Science & Medicine*, 64(4), 765-775.
- Bellis, M.A., Hughes, K., Leckenby, N. et al. (2014). Adverse childhood experiences and associations with health-harming behaviours in young adults: Surveys in eight Eastern European countries. *Bulletin of the World Health Organization*, 92(9), 641-655.
- Black-Hughes, C. & Stacy, P. (2013). Early childhood attachment and its impact on later life resilience: A comparison of resilient and non-resilient female siblings. *Journal of Evidence-Based Social Work*, 10(5), 410-420.
- Bonanno, G.A. (2004). Loss, trauma, and human resilience: have we underestimated the Human capacity to thrive after extremely aversive events? *American Psychologist*, 59(1), 20-28.
- Brennan, K.A., Clark, C.L. & Shaver, P.R. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J.A. Simpson & W.S. Rholes (Eds.), *Attachment theory and close relationships* (pp.46-76). New York: Guilford Press.
- Breno, A.L. & Galupo, M.P. (2007). Sexual abuse histories of young women in the US child welfare system: A focus on trauma-related beliefs and resilience. *Journal of Child Sexual Abuse*, 16(2), 97-113.
- Bretherton, I. (1996). Internal working models of attachment relationships as related to resilient coping. In G.G. Noam & K.W. Fischer (Eds.), *The Jean Piaget symposium series. Development and vulnerability in close relationships* (pp.3-27).
- Brietzke, E., Kauer-Sant'anna, M., Jackowski, A. et al. (2012). Impact of childhood stress on psychopathology. *Revista Brasileira de Psiquiatria*, 34(4), 480-488.

- Caprara, G.V., Alessandri, G., Barbaranelli, C. & Vecchione, M. (2013). The longitudinal relations between self-esteem and affective self-regulatory efficacy. *Journal of Research in Personality, 47*(6), 859–870.
- Caruana, V., Clegg, S., Ploner, J. et al. (2011). *Promoting students' 'resilient thinking' in diverse higher education learning environments*. Birmingham: HE Academy Subject Centre for Sociology, Anthropology and Politics.
- Carbonell, D.M., Reinherz, H.Z. & Giaconia, R.M. (1998). Risk and resilience in late adolescence. *Child and Adolescent Social Work Journal, 15*(4), 251–272.
- Celik, Ş. U.L.E. (2004). *The effects of an attachment oriented psychoeducational group training on improving the preoccupied attachment styles of university students*. Unpublished doctoral dissertation. Ankara, Turkey: Middle East Technical University. Available from <http://etd.lib.metu.edu.tr/upload/3/12605253/index.pdf>
- Chapman, D.P., Dube, S.R. & Anda, R.F. (2007). Adverse childhood events as risk factors for negative mental health outcomes. *Psychiatric Annals, 37*(5), 359–364.
- Compas, B.E. (1987). Stress and life events during childhood and adolescence. *Clinical Psychology Review (7)*, 275–302.
- Connor, K. & Davidson, J. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety, 18*(2), 76–82.
- Davies, S. (2013). Annual report of the Chief Medical Officer 2012: Our children deserve better. London: Crown Copyright.
- Educational Outreach and Student Services, Arizona State University. (n.d.). *College Students Stressful Events Checklist*. Retrieved 2 October 2015 from <http://eoss.asu.edu/wellness/stressmanagement>.
- Felitti, V.J., Anda, R.F., Nordenberg, D. et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258.
- Feddern Donback, D. & Elklit, A. (2014). A validation of the Experiences in Close Relationships-Relationship Structures scale (ECR-RS) in adolescents. *Attachment & Human Development, 16*(1), 58–76.
- Fennell, M. (2016). *Overcoming low self-esteem: A self-help guide using cognitive behavioral techniques*. Hachette UK.
- Fraley, R.C., Heffernan, M.E., Vicary, A.M. & Brumbaugh, C.C. (2011). The Experiences in Close Relationships-Relationship Structures questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment, 23*, 615–625.
- Fuller, A., R. Belihouse & G. Johnston. (2016). *Get it – creating resilient learners*. Queenscliff: Inyachhead Press.
- Gallagher, R.P., 2008. National Survey of Counseling Center Directors 2008. Pittsburgh: International Association of Counseling Services.
- Gavranidou, M. & Rosner, R. (2003). The weaker sex? Gender and post-traumatic stress disorder. *Depression and anxiety, 17*(3), 130–139.
- Greenberg, M.T. (2006). Promoting resilience in children and youth. *Annals of the New York Academy of Sciences, 1094*(1), 139–150.
- Grills-Taquechel, A.E., Norton, P. & Ollendick, T.H. (2010). A longitudinal examination of factors predicting anxiety during the transition to middle school. *Anxiety, Stress & Coping, 23*(5), 493–513.
- Gunnar, M.R., Frenn, K., Wewerka, S.S. & Van Ryzin, M.J. (2009). Moderate versus severe early life stress: Associations with stress reactivity and regulation in 10–12-year-old children. *Psychoneuroendocrinology, 34*(1), 62–75.
- Holmes, T.H. & Rahe, R.H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research, 11*(2), 213–218.
- Johnson, B. (2008). Teacher–Student relationships which promote resilience at school: A micro-level analysis of student's views. *British Journal of Guidance & Counselling 36*(4), 385–98.
- Leve, L.D., Harold, G.T., Chamberlain, P., Landsverk, J.A., Fisher, P.A. & Vostanis, P. (2012). Practitioner review: Children in foster care—vulnerabilities and evidence-based interventions that promote resilience processes. *Journal of Child Psychology and Psychiatry, 53*(12), 1197–1211.
- Longworth, C., Deakins, J., Rose, D. & Gracey, F. (2016). The nature of self-esteem and its relationship to anxiety and depression in adult acquired brain injury. *Neuropsychological rehabilitation, 1*–17.
- Lustig, S.L., Kia-Keating, M., Knight, W.G. et al. (2004). Review of child and adolescent refugee mental health. *Journal of the American Academy of Child & Adolescent Psychiatry, 43*(1), 24–36.
- Mackenzie, S., Wiegel, J.R., Mundt, M. et al. (2011). Depression and suicide ideation among students accessing campus health care. *American Journal of Orthopsychiatry, 81*(1), 101–107.
- Masten, A.S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227.
- Masten, A. (2014). Global perspectives on resilience in children and youth. *Child Development, 85*(1), 6–20.
- Matud, M.P. (2004). Gender differences in stress and coping styles. *Personality and individual differences, 37*(7), 1401–1415.
- McPherson, A.V. (2012). *College student life and financial stress: An examination of the relation among perception of control and coping styles on mental health functioning*. Raleigh, NC: North Carolina State University.



- Moksnes, UK., Moljord, I.E., Espnes, G.A. & Byrne, D.G. (2010). The association between stress and emotional states in adolescents: The role of gender and self-esteem. *Personality and Individual Differences*, 49(5), 430–435.
- Ou, S.R. & Reynolds, A.J. (2008). Predictors of educational attainment in the Chicago Longitudinal Study. *School Psychology Quarterly*, 23(2), 199.
- Pechtel, P. & Pizzagalli, D.A. (2011). Effects of early life stress on cognitive and affective function: An integrated review of human literature. *Psychopharmacology*, 214(1), 55–70.
- Robertson, I. & Cooper, C.L. (2013). Resilience. *Stress and Health*, 29(3), 175–176.
- Rosenberg, M. (1965). *Society and the adolescent self image*. Princeton, NJ: Princeton University Press.
- Scully, J.A., Tosi, H. & Banning, K. (2000). Life event checklists: Revisiting the social readjustment rating scale after 30 years. *Educational and psychological measurement*, 60(6), 864–876.
- Schoenfeld, S.J. & Webb, J.B. (2013). Self-compassion and intuitive eating in college women: Examining the contributions of distress tolerance and body image acceptance and action. *Eating behaviors*, 14(4), 493–496.
- Seery, M. (2011). Resilience. *Current Directions in Psychological Science*, 20(6), 390–394.
- Seery, M., Holman, E., Silver, R. & King, L. (2010). Whatever does not kill us: Cumulative lifetime adversity, vulnerability, and resilience. *Journal of Personality and Social Psychology*, 99(6), 1025–1041.
- Smith, C. & Carlson, B. (1997). Stress, coping, and resilience in children and youth. *Social Service Review*, 71(2), 231–256.
- Stacy, P. (2006). Early childhood attachments as a protective factor. *Journal of Evidence-Based Social Work*, 3(2), 49–65.
- Sroufe, L.A. (1988). The role of infant caregiver attachment in development. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp.3–17). Hillsdale, NJ: Lawrence Erlbaum and Associates.
- Tiet, Q.Q., Huizinga, D. & Byrnes, H.F. (2010). Predictors of resilience among inner city youths. *Journal of Child and Family Studies*, 19(3), 360–378.
- Tyrka, A.R., Burgers, D.E., Philip, N.S. et al. (2013). The neurobiological correlates of childhood adversity and implications for treatment. *Acta Psychiatrica Scandinavica*, 128(6), 434–447.
- Ungar, M. (2008). Resilience across cultures. *British Journal of Social Work*, 38(2), 218–235.
- Wegman, H.L. & Stetler, C. (2009). A meta-analytic review of the effects of childhood abuse on medical outcomes in adulthood. *Psychosomatic Medicine*, 71(8), 805–812.
- Wibrowski, C.R. & Clauss-Ehlers, C.S. (2007). Building educational resilience and social support: The effects of the educational opportunity fund program among first-and second-generation college students. *Journal of College Student Development*, 48(5), 574–584.
- World Health Organization. (2012). Adverse Childhood Experiences International Questionnaire (ACE-IQ). Retrieved 2 October 2015 from: [www.who.int/violence\\_injury\\_prevention/violence/activities/adverse\\_childhood\\_experiences/en/index.html](http://www.who.int/violence_injury_prevention/violence/activities/adverse_childhood_experiences/en/index.html)