Pre-print copy 12/07/2013 (the manuscript in this form had not yet been accepted for publication).

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Abstract

Emotional intelligence (EI) is reliably associated with better mental health. A growing body of evidence suggests that EI acts as a protective buffer against some psychosocial stressors to promote adaptation. However, little is known about how the two principle forms of EI (trait and ability) work together to impact underlying stressor-health processes in adolescence. 1,170 British adolescents (mean age = 13.03 years; *SD* = 1.26) completed a variety of standardised instruments assessing EI; coping styles; family dysfunction; negative life events; socio-economic adversity; depression and disruptive behaviour. Path analyses found that trait and ability EI work in tandem to modify the selection *and* efficacy of avoidant coping to influence the indirect effect of stressors on depression but not disruptive behaviour. Nevertheless, *actual* emotional skill (ability EI) appears dependent on *perceived* competency (trait EI) to realise advantageous outcomes. Findings are evaluated and discussed with reference to theoretical and practical implications.

Keywords

emotional intelligence; mental health; coping; stress; adolescence

Introduction

Emotional intelligence (EI) captures individual differences in how we perceive, communicate, regulate and understand our own emotions and the emotions of others (Zeidner, Matthews, & Roberts, 2009). EI is construed as either an *ability* (hereafter AEI) or *trait* (TEI). AEI is a distinct form of intelligence for reasoning about emotion, which lends itself to assessment via maximal performance, analogous to traditional cognitive testing (Mayer, Roberts, & Barsade, 2008). Conversely, TEI is viewed as a cluster of emotion-related self-perceptions and dispositions, partially determined by existing higher-order personality dimensions (Petrides, Pita, & Kokkinaki, 2007), that can be tapped via typical performance, akin to traditional personality testing. AEI and TEI are negligibly related and each shares divergent associations with personality and general cognitive ability (e.g., Saklofske, Austin, & Minski, 2003; Zeidner & Olnick-Shemesh, 2010). A burgeoning evidence base links EI to a range of adaptive outcomes and in particular psychological adjustment (for review see Martins, Ramalho, & Morin, 2010). Emotionally 'intelligent' individuals typically report high levels of wellbeing (e.g., Austin, Saklofske, & Egan, 2005) and low levels of psychological maladjustment, such as depression and deviant behaviour (e.g., Williams, Daley, Burnside, & Hammond-Rowley, 2009).

How does EI operate to promote psychological adaptation?

A growing body of evidence now supports the notion that EI acts as an individual-level protective resource in stressor-health pathways. Ciarrochi, Dean and Anderson (2002) found higher levels of TEI directly buffered the effects of daily hassles on suicidal ideation in a group of young adults, but *higher* levels of AEI appeared to confer *vulnerability* for depression, hopelessness and suicidal ideation in the same group. In adolescents with a history of self-harm, the impact of sexual abuse on suicidal behaviour appeared *exacerbated* in those with *lower* levels of AEI, although a statistically significant 'protective' effect at high levels of AEI was notably absent (Cha & Nock, 2009). Moreover, very high levels of AEI were found to *amplify* the effect of socio-economic adversity on adolescent depression, yet high levels of TEI significantly *attenuated* the effects of family dysfunction on disruptive behaviour (Davis & Humphrey, 2012a). This suggests that both types of EI operate selectively, with protective effects contingent upon the type of stressor encountered and outcome examined. However, very high levels of emotional skill may be harmful or, at best, irrelevant, for young people facing chronic stressors.

These discrepancies may arise from the modeling of simplistic stressor-health pathways. It is quite plausible that as well as *directly* influencing perception/understanding of emotive environmental cues to modify reactivity to stressors, EI might play a secondary, more *indirect* role in key vulnerability/protective processes. It has been suggested that EI could indirectly reduce the effects of stress by promoting coping processes (Zeidner et al., 2009) and cross-sectional associations hint at an 'emotionally intelligent' coping profile. For instance, emotional and avoidant coping mediate the association between low levels of EI and increased psychological distress (Chan, 2005), self-harming behaviours (Mikolajczak, Petrides, & Hurry, 2009) and externalizing and internalising symptoms in adolescents (Downey, Johnston, Hansen, Birney, & Stough, 2010). Moreover, AEI and TEI may assume different roles in this guise. While AEI is referred to as a driver

of coping processes (Salovey, Bedell, Detweiler, & Mayer, 1999), TEI is described as integral to coping (Petrides, Perez-Gonzalez, & Furnham, 2007). Hence, it is plausible that AEI could link to effective *selection* of coping strategies in response to stressors (i.e., superior emotional awareness enables individuals to choose an adaptive strategy at an early, 'upstream' stage), whereas TEI may influence later *implementation* (i.e., those who feel more emotionally confident, exploit this self-belief to effectively apply a given coping style to a stressor-situation further 'downstream'). Preliminary evidence from the authors' own programme of research confirmed this distinction; AEI influenced the *selection* of coping strategies, yet TEI modified the *effectiveness* of these to reduce depression and disruptive behaviour (Davis & Humphrey, 2012b). It is patent therefore, that both TEI and AEI might work together to exert a *combined* effect to simultaneously influence both the selection and implementation of coping *under stress* to impact adaptation. Such interplay may offer a plausible explanation for the protective effect of high levels of perceived emotional competency but not skill. However, formal testing of the influence of both forms of EI on stressor-health relations has been neglected.

The current study

Research implies that TEI and AEI both contribute to adaptive outcomes, although they may exert qualitatively and quantitatively different roles. Evidence suggests that trait and ability EI could play a role in more complex pathways to disorder by supporting key coping processes – either as 'mobilisers' or 'implementers' of coping styles. This raises the possibility that a specific skill/trait profile exists to *collectively* underscore optimal adaptation under stress. To date, however, researchers have not examined this possibility. The goal of the present study is to assess the combined influence of both TEI and AEI on coping processes and mental health (depression and

disruptive behaviour) in adolescents exposed to a range of psychosocial stressors (family dysfunction; negative life events; socio-economic adversity). To examine these relationships, a series of moderated mediation models will be specified (see Figure 1). Models will examine a) whether EI (trait or ability) interacts with stressors to affect 'upstream' choice of coping strategy ('a' path moderation model), or b) whether T/AEI influences 'downstream' coping implementation, interacting with coping styles to affect disorder ('b' path moderation model).   Specificity with respect to stressor (i.e., whether relationships hold in the context of family dysfunction, negative life events and socio-economic adversity) and outcome (depression or disruptive behaviour) will be examined, with effects probed to establish how these differ according to level of EI. Since it is widely acknowledged that traits can influence perception *and* action of key stress related processes (Bolger & Zuckerman, 1995) both forms of EI will be tested as potential drivers of coping selection or modifiers of coping effectiveness (i.e., in both 'a' and 'b' path positions).

Method

Participants

Data were obtained from 1170 adolescents (558 females; 612 males) aged 11 to 16 years (M = 13.03 SD = 1.26) who attended one of seven schools located across the West Midlands and North Yorkshire, UK. Schools were selected via opportunity sampling, with study participation contingent upon parental consent and student assent.

Measures & Procedure

Students were given verbal and written instructions and counterbalanced questionnaire booklets were individually completed within the whole-class setting.

The Children's *Coping* Strategies Checklist (Ayers, Sandler, West, & Roosa, 1996) requires adolescents respond to 60 items (e.g., "I thought about what would happen before I decided what to do") using a 4-point scale ("never" through to "most of the time"). Four super-ordinate coping styles can be scored: *active*, *avoidant*, *distraction* and *support seeking*. However, in line with previous literature (Gaylord-Harden, Gipson, Mance, & Grant, 2008) a three-factor model comprising *active* (α = .90), *avoidant* (α = .75), and *support seeking* (α = .93) coping resulted in a superior fit to the current data (MLM X^2 (55) = 204.76, p < .001, CFI = .97, TLI = .96, SRMR = .03, RMSEA =.05 [CI = 0.04–0.06].

The Mayer-Salovey-Caruso Emotional Intelligence Test-Youth Version: Research Edition (Mayer, Salovey, & Caruso, in press), taps *Ability EI* through 101 items testing skill in perception (rating faces for emotional content), use (matching sensory experiences to emotion), understanding (knowledge of emotion definitions) and management of emotion (rating the usefulness of strategies for attaining a target feeling). Items are scored in line with expert consensus opinion to generate branch and total AEI scores. Current analyses were restricted to the global AEI construct (i.e., total scores).

The *Trait Emotional Intelligence* Questionnaire-Adolescent Short Form (Petrides, 2009) consists of 30 statements (e.g., "I find it hard to control my feelings") which tap *sociability, emotionality*, *self-control* and *well-being*. Participants respond using a seven-point scale ("strongly disagree" to "strongly agree"). In the present sample the full-scale α = .84.

The general functioning subscale of the McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) assesses *family dysfunction.* The tool comprises 12 short statements

(e.g., "we don't get along well together"), responded to using a 4-point scale ("strongly agree" to "strongly disagree"). Full-scale α = .85.

The 20-item *depression* and *disruptive behaviour* scales from the Beck Youth Inventories of Emotional and Social Impairment, 2nd edition (Beck, Beck, Jolly, & Steer, 2005) measured internalising and externalising symptoms. Participants indicate how often each statement (e.g., "I feel lonely"; "I break into cars, houses or other places") has been true for them recently using a 4-point scale ("never" through to "always"). In the current sample, α = .93 (depression) and α =.89 (disruptive behaviour).

The Adolescent Perceived Events Scale-Short Form (Compas, Davis, Forsythe, & Wagner, 1987) is a cumulative checklist of 90 items pertaining to normative and non-normative major (e.g., "arrest of a family member") and daily *negative life events* (e.g., "doing poorly on an exam/test"). A total weighted sum of events was calculated from items rated by participants as occurring within the past four months and having a negative impact (using a 9-point scale – "extremely bad" to "extremely good").

Socio-economic adversity was indicated by responses to 4 items from the Family Affluence Scale (Currie et al., 2004), e.g., "Does your family own a car, van or truck?". Categorical responses are assigned a value (e.g., "no" = 2; "yes, one" = 1; "yes, more than one" = 0) with summed scores giving an indication of family material affluence/deprivation. Student free school meal eligibility (coded non-eligible= 0; eligible= 1) was also obtained from school records to supplement scores.

Results

Data screening and descriptive statistics

5 univariate outliers (z-scores ± 3.29 *SD* from the mean) and 6 multivariate outliers (Mahalanobis distance > X^2 (20) = 45.315, *p* < .001) were removed from the data set yielding a total sample *N* of 1159 adolescents (554 females; 605 males; mean age = 13.30, *SD* = 1.26). Table 1 displays descriptive statistics and correlations between study variables. Missing data were distributed randomly throughout the dataset (Little's MCAR test: X^2 = 812.018 (758) *p* = .085). As expected, measures of AEI and TEI were only weakly related. Depression was associated with less active and more avoidant coping, lower TEI and greater experience of family dysfunction and negative life events. Disruptive behavior was linked to greater exposure to the same two stressors together with less frequent use of all three coping styles and lower levels of both TEI and AEI. The influence of age and sex were controlled in the main analysis.

The effect of stressors on mental health through coping conditioned on trait and ability EI

Effects were estimated using PROCESS for SPSS version 2.04 (Hayes, 2013). 12 path models were specified to model the effects of each of the three stressors (family dysfunction, negative life events, socio-economic adversity) on depression and disruptive behaviour. 6 models estimated conditional indirect effects when ability EI moderated the 'a' paths (i.e., stressor x AEI) and trait EI influenced the 'b' paths (i.e., coping x TEI). The remaining 6 models tested the reverse pattern (i.e., 'a' paths moderated by TEI; 'b' path interactions involving AEI). All predictor variables were mean-centred with analyses based on complete cases only. Asymmetric, bias-corrected bootstrap confidence intervals and standard errors were generated for robust estimation of conditional indirect effects (1, 000 re-samples).

None of the models predicting *disruptive behaviour* from stressors contained significant conditional indirect effects. However, the impact of all three stressors on *depression* could be explained with reference to indirect pathways through coping, conditional on AEI moderating the 'a' path and TEI the 'b' path (modelling the reverse positions yielded n.s. findings). Models explained 33-38% of the variance in depression (family dysfunction: F (10, 796) = 48.42, $p < 0.001$; R^2 = .38; negative life events: F (10, 740) = 41.13, $p < 0.001$; R^2 = .36; socio-economic adversity: F (10, 814) = 40.86, $p < 0.001$; R^2 = .33). As Table 2 shows, pathways involving avoidant coping were significantly influenced by AEI (predicting selection of avoidant coping with exposure to stressors) *and* TEI (effects of avoidant coping reduce as a function of TEI across all models). While TEI also amplified the effects of active coping on depression (in all models) and AEI influenced the selection of support seeking coping under family dysfunction, only the specific conditional indirect effect through avoidant coping was detectably different from zero, conditioned on both TEI and AEI.

Each specific indirect effect of stressors on depression via avoidant coping was estimated at high (95th percentile) through to low (10th percentile) values of AEI and TEI. The direct effect of family dysfunction on depression was .46 (*SE* = .63, *p* < .001) where at mean levels of EI (i.e., 50th percentile), a single unit change in family dysfunction triggers an *increase* of .08 in depression, per a *increase* of .05 in avoidant coping. However, as figure 2A illustrates, the indirect effect significantly differentiates at above average levels of AEI (≥ 75th percentile), becoming *negative* in individuals with extremely *high* levels of TEI (90th percentile = -.22, *SE* = .18, [95% CI: -.69, -.02]), but remaining *positive* in those with *low to average* levels of TEI (10th percentile = .53, *SE* = .28, [95% CI: .13, 1.33]). This suggests that high levels of TEI (scores ≥ 160) coupled with above average to extremely high levels of AEI (scores of 108.67 or more) are beneficial in reducing the impact of family dysfunction on depression via avoidant coping. Yet at lower levels of TEI, outcomes are poorer

despite above average levels of emotional skill, with this effect stronger. Although not detectably different from zero, it is notable that indirect effects reversed with *decreasing* AEI, transitioning at the 25th percentile (for the bottom 10% of AEI/TEI scorers: conditional effect = - .22, SE = .28 [95% CI: -.86, .27]).

Similar patterns of findings were detected for both negative life events (direct effect = .04, *SE* = .01, *p* < .001) and socio-economic adversity (direct effect = -.11, *SE* = .15, *p* = .48), though both were of a lesser magnitude. For every single unit change in negative life events and socio-economic adversity, depression is expected to *increase* by .003 and .02 respectively, per an *increase* of .01 in avoidant coping at average levels of TEI and AEI. Figures 2B and 2C depict how, in both cases, the indirect effect changes at higher levels of AEI. When facing stressful life events, *average to extremely high* levels of AEI (scores ≥ 99.44/50th percentile) coupled with *low to average* levels of TEI (scores ≤ 131.50) results in an *increase* in depression, with the strongest effect seen in individuals with extremely high emotional ability (top 10% of scorers) yet extremely low emotional self-efficacy (bottom 10%); conditional effect = .01, *SE* = .01, [95% CI: .004, .03]. Specific indirect effects were not detectably different from zero at low to average levels of AEI (i.e., below the 50th percentile), or in those with above average to extremely high levels of TEI (75th percentile and above). Likewise, exposure to socio-economic adversity teamed with extremely high levels of AEI (scores ≥ 115.12/90th percentile) but extremely low levels of TEI (scores ≤ 108.00/10th percentile) results in the largest increase in depression through avoidant coping (conditional effect = .13, *SE* = .01, [95% CI: .004, .03]).   Indirect effects were not detectably different from zero at low to average levels of AEI (i.e., <75th percentile) or in those with above average to extremely high levels of TEI (>75th percentile).

Discussion

TEI and AEI work in tandem, modifying the *selection* and *efficacy* of avoidant coping, to influence the indirect effect of stressors on depression. The differing roles assumed by AEI and TEI (i.e., driver versus implementer of coping) correspond to theoretical predictions (Salovey et al., 1999; Petrides, Perez-Gonzalez, et al., 2007). Yet possessing an emotionally 'intelligent' skill-set is, by itself, insufficient for successful adaptation. A profile of high emotional skill coupled with low emotional self-confidence is deleterious under stress (particularly with exposure to family dysfunction and socio-economic adversity). With increasing emotional skill there is a tendency to *activate* avoidant coping under stress, perhaps in an effort to minimise any negative emotional reactivity arising as a consequence of the emotional hyper-acuity associated with high levels of skill. Some adult research suggests that AEI underscores differences in early attentional biases governing detection and filtering of emotional cues (Farrelly & Austin, 2007; Martin & Thomas, 2011). Given attentional deployment is central to emotion regulation processes (Gross & Thompson, 2007) and effortful coping (i.e., threat evaluation and strategy selection) (Carver & Connor-Smith, 2010) this could explain the current findings, although testing in adolescents is awaited. Nevertheless, this avoidant defense can fail to protect individuals with low levels of TEI. These *self-effacing* individuals lack confidence in their abilities and cannot (or are unwilling to) implement avoidant strategies appropriately to circumvent the negative emotionality arising from stress - potentially shedding light on why AEI has previously appeared less effective in mitigating the effects of stressors on mental health at high levels of emotional skill (e.g., Cha & Nock, 2009; Ciarrochi et al., 2002).

Better outcomes were found with increasing levels of emotional confidence and, at very high levels of TEI, the effects of family dysfunction on depression were significantly attenuated. These individuals have good levels of actual emotional ability yet crucially also possess *accurate perceptions* and confidence in their skills (i.e., believe they can identify, control, express emotions and make a positive impact on their situation). This positive self-belief confers protection against any negative emotion arising from cognitive/behavioural avoidance to reduce depression. This fits with existing literature that considers internal belief sets (e.g., perceived competence, positive self-evaluation) and personality as central to resilience processes given their impact on appraisal and behaviour under adversity (Compas, Connor-Smith, & Jaser, 2004; Sandler, 2001). Results also suggested that the EI-driven coping process is more central to depression than disruptive behaviour. Since externalising disorders are more strongly determined by *shared* environmental effects than other psychiatric syndromes (Kendler, Prescott, Myers, & Neale, 2003), EI may exert an effect in more complex pathways involving additional family-level intervening variables.

Limitations and directions for future research

Finding that it is important to boost emotional skills *in tandem* with emotional self-concept to bolster coping processes in specific groups of adolescents (i.e., at-risk for depression; exposed to family dysfunction), carries important implications for school-based interventions tasked with promoting social and emotional learning (Zins & Elias, 2007). However, significant effects were small and while this is anticipated in non-experimental studies (e.g., McClelland & Judd, 1993) it is clear that the current analyses require replication in order to lend credence to the trends found. Future work should model measurement error (something which was precluded in the current analyses given the complexity of non-linear modelling required). A person-centered, multi-trait

multi-method analysis of these variables (e.g., via latent class analysis) would allow any *within* person variability to be detected by scrutinising how particular sub-factors/branches of trait and ability EI combine into different profiles that relate differentially to stressor-health processes. For instance, exemplary performance in perceiving emotion coupled with lower levels of proficiency in emotion management yet high TEI may lead to a 'vulnerable' EI profile that amplifies stressor reactivity and poor coping choices. It is also likely that there will be *developmentally sensitive* time points within pathways to adjustment. Literature suggests the use of specific coping styles changes with age (Amirkhan & Auyeung, 2007) potentially paralleling increases or decreases in the experience of stressors in mid adolescence (Sanchez, Lambert, & Ialongo, 2012). Research must now examine prospective associations via longitudinal designs to capture developmental change. Linking self-reported to objective markers of EI-influenced adaptive change in adolescents (i.e., attentional, regulatory and biological processes) also represents a vital next step for research.

References

Amirkhan, J., & Auyeung, B. (2007). Coping with stress across the lifespan: Absolute vs. relative changes in strategy. *Journal of Applied Developmental Psychology, 28*(4), 298-317.

Austin, E. J., Saklofske, D. H., & Egan, V. (2005). Personality, well-being and health correlates of trait emotional intelligence. *Personality and Individual Differences, 38*(3), 547-558.

Ayers, T. S., Sandler, I. N., West, S. G., & Roosa, M. W. (1996). A dispositional and situational assessment of children's coping: Testing alternative models of coping. *Journal of Personality, 64*(4), 923-958.

Beck, J. S., Beck, A. T., Jolly, J. B., & Steer, R. A. (2005). *Manual for the Beck Youth Inventories of Emotional and Social Impairment* (2nd ed.). San Antonio, TX: Psychological Corporation.

Bolger, N., & Zuckerman, A. (1995). A Framework for Studying Personality in the Stress Process. *Journal of Personality and Social Psychology, 69*(5), 890-902.

Carver, C. S., & Connor-Smith, J. (2010). Personality and Coping. *Annual Review of Psychology, 61*(1), 679-704. doi: doi:10.1146/annurev.psych.093008.100352

Cha, C. B., & Nock, M. K. (2009). Emotional Intelligence Is a Protective Factor for Suicidal Behavior. *Journal of the American Academy of Child and Adolescent Psychiatry, 48*(4), 422-430.

Chan, D. W. (2005). Emotional intelligence, social coping, and psychological distress among Chinese gifted students in Hong Kong. *High Ability Studies, 16*(2), 163 - 178.

Ciarrochi, J., Dean, F. P., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences, 32*(2), 197-209.

Compas, B. E., Connor-Smith, J., & Jaser, S. S. (2004). Temperament, Stress Reactivity, and Coping: Implications for Depression in Childhood and Adolescence. *Journal of Clinical Child & Adolescent Psychology, 33*(1), 21 - 31.

Compas, B. E., Davis, G. E., Forsythe, C. J., & Wagner, B. M. (1987). Assessment of major and daily stressful events during adolescence: The Adolescent Perceived Events Scale. *Journal of Consulting and Clinical Psychology, 55*(4), 534-541. doi: 10.1037/0022-006X.55.4.534

Currie, C., E., Roberts, C., Morgan, A., Smith, R., Settertobulte, W., & Samdal, O. (2004). *Young people's health in context*. Copenhagen, Denmark: WHO Regional Office for Europe.

Davis, S. K., & Humphrey, N. (2012a). Emotional intelligence as a moderator of stressor - mental health relations in adolescence: Evidence for specificity. *Personality and Individual Differences, 52*(1), 100-105.

Davis, S. K., & Humphrey, N. (2012b). The influence of emotional intelligence (EI) on coping and mental health in adolescence: Divergent roles for trait and ability EI. *Journal of Adolescence, 35*(5), 1369-1379.

Downey, L. A., Johnston, P. J., Hansen, K., Birney, J., & Stough, C. (2010). Investigating the mediating effects of emotional intelligence and coping on problem behaviours in adolescents. *Australian Journal of Psychology, 62*(1), 20 - 29.

Epstein, N. B., Baldwin, L., M., & Bishop, D. S. (1983). The McMaster Family Assessment Device. *Journal of Marital and Family Therapy, 9*, 171-180.

Farrelly, D., & Austin, E. J. (2007). Ability EI as an intelligence? Associations of the MSCEIT with performance on emotion processing and social tasks and with cognitive ability. *Cognition & emotion, 21*(5), 1043 - 1063.

Gaylord-Harden, N. K., Gipson, P., Mance, G., & Grant, K. E. (2008). Coping Patterns of African American Adolescents: A Confirmatory Factor Analysis and Cluster Analysis of the Children's Coping Strategies Checklist. *Psychological Assessment, 20*(1), 10-22.

Gross, J. J., & Thompson, R. A. (2007). Emotion regulation conceptual foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3-25). New York: Guildford Press.

Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York: Guildford Press.

Kendler, K. S., Prescott, C. A., Myers, J. M. S., & Neale, M. C. (2003). The Structure of Genetic and Environmental Risk Factors for Common Psychiatric and Substance Use Disorders in Men and Women. *Archives of General Psychiatry, 60*(9), 929-937.

Martin, S. L., & Thomas, T. (2011). Emotional intelligence: Examining construct validity using the emotional stroop. *International Journal of Business and Social Science, 2*(1), 209 -215.

Martins, A., Ramalho, N., & Morin, E. (2010). A comprehensive meta-analysis of the relationship between Emotional Intelligence and health. *Personality and Individual Differences, 49*(6), 554-564.

Mayer, J. D., Roberts, R. D., & Barsade, S. G. (2008). Human abilities: Emotional intelligence. *Annual Review of Psychology, 59*, 507-536.

Mayer, J. D., Salovey, P., & Caruso, D. R. (in press). *Mayer-Salovey-Caruso Emotional Intelligence Test: Youth Version - Research Edition (MSCEIT-YV)*. Toronto: Multi-Health Systems.

McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin, 114*(2), 376-390.

Mikolajczak, M., Petrides, K. V., & Hurry, J. (2009). Adolescents choosing self-harm as an emotion regulation strategy: The protective role of trait emotional intelligence. *British Journal of Clinical Psychology, 48*(2), 181-193. doi: 10.1348/014466508X386027

Petrides, K. V. (2009). *Technical manual for the trait emotional intelligence questionnaires (TEIQue)* (1st ed.). London: London Psychometric Laboratory.

Petrides, K. V., Perez-Gonzalez, J. C., & Furnham, A. (2007). On the criterion and incremental validity of trait emotional intelligence. *Cognition and Emotion, 21*(1), 26-55. doi: 10.1080/02699930601038912

Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology, 98*(2), 273-289.

Saklofske, D. H., Austin, E. J., & Minski, P. S. (2003). Factor structure and validity of a trait emotional intelligence measure. *Personality and Individual Differences, 34*(4), 707-721.

Salovey, P., Bedell, B. T., Detweiler, J. B., & Mayer, J. D. (1999). Coping intelligently: Emotional intelligence and the coping process. In C. R. Synder (Ed.), *Coping: The psychology of what works* (pp. 141-164). New York: Oxford university press.

Sanchez, Y., Lambert, S., & Ialongo, N. (2012). Life Events and Depressive Symptoms in African American Adolescents: Do Ecological Domains and Timing of Life Events Matter? *Journal of Youth and Adolescence, 41*(4), 438-448. doi: 10.1007/s10964-011-9689-8

Sandler, I. N. (2001). Quality and Ecology of Adversity as Common Mechanisms of Risk and Resilience. *American Journal of Community Psychology, 29*(1), 19-61. doi: 10.1023/a:1005237110505

Williams, C., Daley, D., Burnside, E., & Hammond-Rowley, S. (2009). Measuring emotional intelligence in preadolescence. *Personality and Individual Differences, 47*(4), 316-320. doi: 10.1016/j.paid.2009.03.019

Zeidner, M., Matthews, G., & Roberts, R. D. (2009). *What we know about emotional intelligence: How it affects learning, work, relationships, and our mental health*. Cambridge, MA: MIT Press.

Zeidner, M., & Olnick-Shemesh, D. (2010). Emotional intelligence and subjective well-being revisited. *Personality and Individual Differences, 48*(4), 431-435.

Zins, J. E., & Elias, M. J. (2007). Social and Emotional Learning: Promoting the Development of All Students. *Journal of Educational and Psychological Consultation, 17*(2-3), 233-255. doi: 10.1080/10474410701413152

Figure 1: General conceptual model. The effects of stressors (X) on disorder (Y) moderated by emotional intelligence (Z = TEI; AEI) through coping (M). EI may moderate pathways from X to M ('a' path) or M to Y ('b' path).
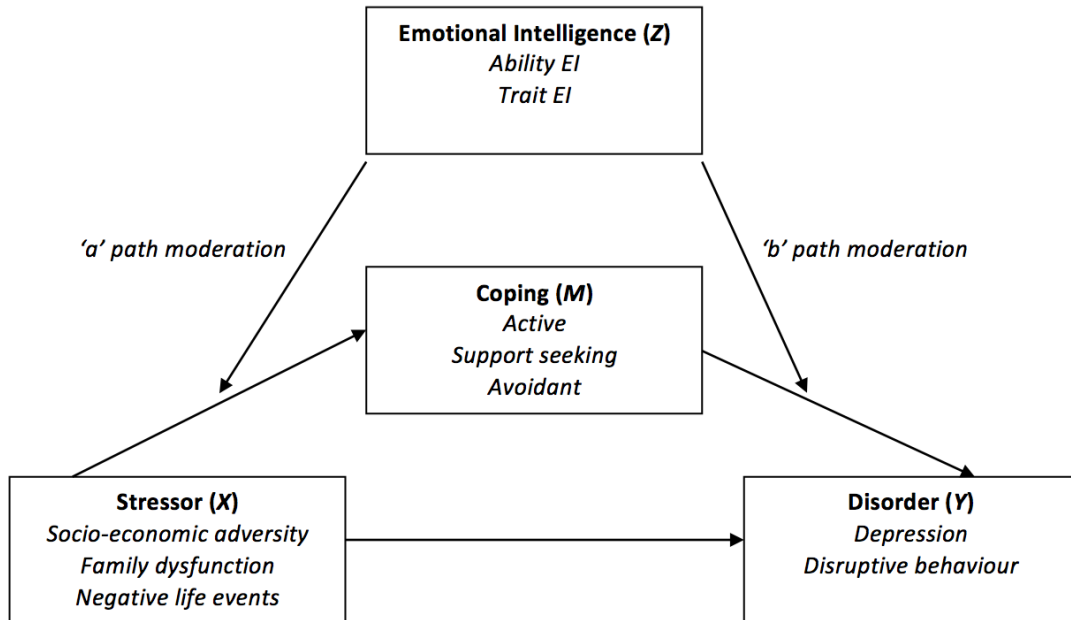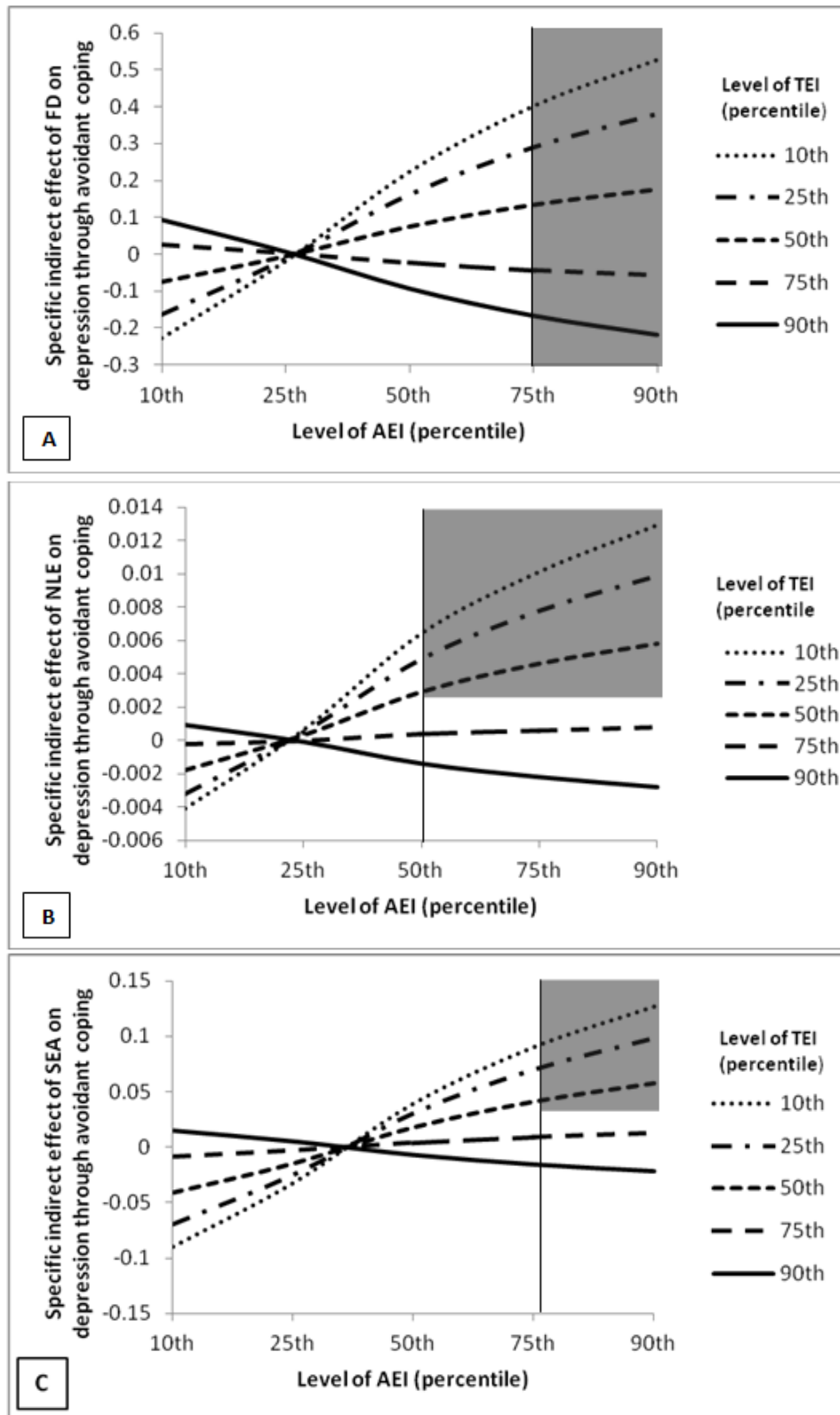
Figure 2: The specific indirect effect of (A) family dysfunction (FD) (B) negative life events (NLE) and (C) socio-economic adversity (SEA) on depression through avoidant coping versus the moderators, AEI and TEI.

Note: Vertical lines represent the boundary of the region of significance highlighted within the shaded area

Table 1 Correlations and descriptive statistics for EI, mental health, coping and stressors

Variable	1	2	3	4	5	6	7	8	9
1. Depression	-								
2. Disruptive behaviour	.48***	-							
3. Active coping	-.07*	-.16***	-						
4. Avoidant coping	.14***	-.07*	.59***	-					
5. Support seeking	-.06	-.14***	.62***	.48***	-				
6. TEI	-.55***	-.35***	.23***	-.09**	.17***	-			
7. AEI	-.05	-.16***	.10**	.01	.12***	.17***	-		
8. Family dysfunction	.42***	.38***	-.22***	.02	-.24***	-.48***	-.24***	-	
9. Negative life events	.26***	.27***	-.03	.05	.02	-.24***	-.13***	.23***	-
10. Socio-economic adversity	.04	.02	-.05	.06	.03	-.11***	-.16***	.08*	.04
11. Age	.05	.12***	.04	-.06	-.14***	-.01	.27***	.07*	.07*
n	1148	1144	1015	1015	1015	1034	1011	1115	973
Mean	11.52	7.25	2.38	2.38	2.02	132.64	96.98	1.93	33.50
(SD)	(9.53)	(6.91)	(.57)	(.53)	(.63)	(21.33)	(15.04)	(.50)	(32.78)

* p < .05; **p < .01; ***p < .001

Table 2 Parameter estimates for models predicting depression conditional on ability and trait EI

Predictor	Active coping		Avoidant coping		Support seeking		Depression	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Model: Family dysfunction (FD) (N=807)								
Active	-	-	-	-	-	-	.29	.71
Avoidant	-	-	-	-	-	-	1.19	.68
Support	-	-	-	-	-	-	.32	.58
FD	-.21***	.04	.05	.04	-.29***	.04	4.63***	.63
AEI	.00	.01	-.00	.00	-.01***	.01	-	-
FD x AEI	-.01	.01	.01*	.01	-.01 **	.01	-	-
TEI	-	-	-	-	-	-	-.21***	.02
TEI x Active	-	-	-	-	-	-	.08*	.03
TEI x Avoid	-	-	-	-	-	-	-.11***	.03
TEI x Support	-	-	-	-	-	-	.01	.03
Age	.04*	.02	-.02	.02	-.10**	.02	.50*	.23
Sex	.04	.04	.12*	.04	.34**	.07	2.08**	.57
Model: Negative life events (NLE) (N=751)								
Active	-	-	-	-	-	-	-.06	.75
Avoidant	-	-	-	-	-	-	1.45*	.72
Support	-	-	-	-	-	-	-.07	.62
NLE	-.00	.00	.01*	.01	.00	.00	.04**	.01
AEI	.00	.00	-.00	.00	-.01**	.01	-	-
NLE x AEI	.00	.00	.01*	.01	.00	.00	-	-
TEI	-	-	-	-	-	-	-.24***	.02
TEI x Active	-	-	-	-	-	-	.07*	.03
TEI x Avoid	-	-	-	-	-	-	-.08**	.03
TEI x Support	-	-	-	-	-	-	.02	.03
Age	.04	.04	-.03	.02	-.04	.02	.43	.25
Sex	.07	.07	.12*	.04	.20***	.05	1.56**	.60
Model: Socio-economic adversity (SEA) (N=825)								
Active	-	-	-	-	-	-	-.18	.73
Avoidant	-	-	-	-	-	-	1.74*	.69
Support	-	-	-	-	-	-	-.11	.59
SEA	-.01	.01	.01	.01	-.01	.01	.42**	.08
AEI	.00	.00	-.00	.00	-.01**	.00	-	-
SEA x AEI	-.00	.00	.01*	.01	.00	.00	-	-
TEI	-	-	-	-	-	-	-.25***	.01
TEI x Active	-	-	-	-	-	-	.08**	.03
TEI x Avoid	-	-	-	-	-	-	-.09**	.03
TEI x Support	-	-	-	-	-	-	.01	.03
Age	.01	.02	-.01	.02	-.04*	.02	.57*	.24
Sex	.04	.04	.11*	.04	.22***	.04	1.72**	.58

Note: Unstandardised estimates presented; predictor variables standardised prior to analysis.
*** $p < .001$, ** $p < .01$; * $p < .05$