World Journal of Educational Research
ISSN 2375-9771 (Print) ISSN 2333-5998 (Online)
Vol. 9, No. 2, 2022
www.scholink.org/ojs/index.php/wjer

Original Paper

Role of Emotional Intelligence and Coping in Dealing with Disinhibition and Aggression among Undergraduates in Private Higher Education

Sarwar Khawaja[1*], Fayyaz H Qureshi[1], & Katarina Sokić[1]

[1] Oxford Business College, 65 George Street, Oxford, United Kingdom

[*] Sarwar Khawaja, Oxford Business College, 65 George Street, Oxford, United Kingdom

Received: January 17, 2022 Accepted: January 29, 2022 Online Published: February 16, 2022

doi:10.22158/wjer.v9n2p12 URL: http://dx.doi.org/10.22158/wjer.v9n2p12

Abstract

This research examined the relationship between emotional intelligence and coping, disinhibition and aggression. Additionally, coping was examined as a potential mediator of the relationship between emotional intelligence, disinhibition and aggression. Participants consisted of 563 students (186 men, 377 women) from various private colleges and faculties. The participants' age ranged from 19 to 30, with a mean age of 23 years (M = 23.2, SD = 4.23). As predicted, disinhibition was uniquely negatively associated with self-emotion appraisal, others' emotion appraisal, use of emotion, regulation of emotion and coping. Also, as predicted, aggression was uniquely negatively associated with the regulation of emotion and coping, suggesting that disinhibition and aggression in a coherent fashion influence emotional intelligence and coping. Additionally, coping mediate the relationships between disinhibition and self-emotion appraisal, use of emotion, and regulation of emotion as well as relationships between aggression and these dimensions of emotional intelligence. The results demonstrate that disinhibition and aggression negatively affect emotional intelligence and coping. The results of mediation analyses corroborated the relationships between disinhibition, aggression and emotional intelligence and the role of coping as its mediator, highlighting the importance of disinhibition and aggression in the prediction of some dimensions of emotional intelligence and the significant role of coping as a mediator in these relationships.

Keywords

emotional intelligence, coping, disinhibition, aggression, private higher education

1. Introduction

Researchers have become increasingly interested in the association between emotional intelligence and socially undesirable qualities such as disinhibition, violence, impulsivity, and psychopathy in recent years. Despite the problems associated with these traits, some abilities can help individuals with high level aversive social traits to adapt their responses to the challenges of everyday life. One of the essential abilities that could enhance an individual's adaptive capacity is emotional intelligence and resilient coping. The comprehension of the emotional intelligence and methods of resilient coping with psychological stress is vital since both are significantly influential in an individual's successful development. Some recent studies have examined relationship between emotional intelligence and socially undesirable traits including disinhibition, aggression, impulsivity, psychopathy (Coccaro et al., 2016; García-Sancho et al., 2014; Merchán-Clavellino et al., 2020; Michels & Schulze, 2021; Schreyer et al., 2021). The findings consistently showed that emotional intelligence significantly predicted different strategies of coping with stress (e.g., Al-Astal, 2010; Fteiha & Awwad, 2020; Geng, 2018). Based on these findings, Fteiha and Awwad (2020) emphasized that stress coping styles are critical adaptable skills that should be a fundamental feature of the students' personalities. These authors highlighted the role of professors who should be well aware of the concept of emotional intelligence, stress coping styles and its dimensions. It seems particularly important that professors give comprehensive guidance to students about dealing with stress. In theory descriptions, disinhibition is used to describe phenotypic traits such as impulse control problems, lack of planning and anticipation, inability to delay achieving satisfaction, and poor behavioural control (Patrick et al., 2009). These traits lead to externalized problems that are reflected in impulsiveness, irresponsibility, and expression of hostility/anger toward others (Krueger et al., 2007). In personality context, disinhibition can be viewed as a link between impulsivity and negative affectivity (e.g., Krueger, 1999; Sher & Trull, 1994). Prominent behavioural manifestations of disinhibition are irresponsibility, impatience, impulsive actions leading to negative outcomes, alienation from others and distrust of others, aggression (especially reactive), the propensity to drug and alcohol addiction and problems related to breaking the law (Krueger et al., 2007). Disinhibition captures different sets of emotional-interpersonal deficits, lack of inhibitory control, impulsiveness, difficulties in regulating emotions, hostility and mistrust (Patrick & Drislane, 2015). Underlying biological dysfunctions of disinhibition are under reactivity of the brain's defensive motivational system and impairment in front-cortical regulatory circuitry, respectively. At the same time, meanness (i.e., callous-unemotionality) is proposed to reflect dysfunction in neural systems/processes that underlie emotional resonance and affiliative capacity (Patrick et al., 2012). Modern concepts of psychopathy do not consider disinhibition to be equivalent to psychopathy and hold that its externalization is associated with heightened negative affectivity as opposed to low anxiety. Research has shown that externalization is positively associated with childhood and adult anxiety (e.g., Achenbach & Edelbrock, 1978; Krueger, 1999) and suicidal behaviour in adulthood (e.g., Verona & Patrick, 2000; Verona et al., 2004). Disinhibition is often associated with high aggression, so combining

these socially undesirable traits can cause severe difficulties in an individual's daily functioning. Aggression is a complex construct that generally refers to any behaviour performed with the intent to inflict any harm or harm on someone or something (Coie & Dodge, 1997). Different authors define the existence of different types and forms of aggression, so direct, indirect, open, covert, relational, instrumental, hostile, reactive, proactive aggression are mentioned in the literature. One of the dominant measures of aggression includes physical aggression, verbal aggression, anger, and Hostility (Buss & Perry, 1992). This study will focus on the relationship between disinhibition, aggression, emotional intelligence, and coping among the student population in private higher education. Given these psychological constructs' interconnectedness, we will particularly examine the role of coping in the relationship between disinhibition and aggression and different dimensions of emotional intelligence.

2. Literature Review

EI may be conceptualized as ability or as a trait. EI as ability is measured as individuals' abilities on emotional tasks (Mayer et al., 2002), and EI as a trait is measured with self-report measures assessing emotional abilities among which crucial are others' emotion recognition and emotion regulation (e.g., Wong et al., 2002). EI is the "ability to reason validly with emotions and with emotion-related information and to use emotions to enhance thought" (Mayer et al., 2016, p. 296). Salovey and Mayer (1990) considered EI to be an aspect of personal intelligence related to feelings. Personal intelligence includes knowledge about the self and others, and accordingly, it is divided into inter and intrapersonal intelligence (Gardner, 1983). The model of EI of Mayer and Salovey (1997) is also known as the cascading model (Joseph & Newman, 2010), and it includes four dimensions of EI: emotion perception, emotion understanding, emotion facilitation, and emotion regulation. Based on this model, Wong and Low (2002) developed a four-factor self-report EI measure (The Wong and Law Emotional Intelligence Scale-WLEIS) composed of four dimensions: a) appraisal and expression of emotion in the self, which reflects the ability to understand and express self-emotions, b) appraisal and recognition of emotion in others, which represents the ability to detect and understand others' emotions, c) regulation of emotion in the self, which encompasses the abilities to regulate self-emotions and successfully recover from emotional distress, and d) use of emotion to facilitate performance, which reflects the ability to use emotions to promote constructive behaviours and better personal performance.

People with developed emotional intelligence use emotions and moods to induce adaptive behaviour. Appraising emotions in others and empathy could help individuals in assessing the affective reactions of others and in choosing socially adaptable behaviours. Also, emotion regulation skills lead to adaptive states of mood. However, in antisocial individuals, emotional regulation may lead to manipulative behaviour such as manipulative scenarios or manipulating to others to achieve illicit goals (Salovey & Mayer, 1990).

The alternative concept of EI considers EI to be a set of affected-related personality traits like

assertiveness, adaptability, empathy (Anglim et al., 2020; Pérez et al., 2005). According to this concept, EI is defined as "a constellation of emotion-related self-perceptions and dispositions located at the lower levels of personality hierarchies" (Petrides et al., 2007, p. 26). The results of meta-analyses showed that correlations between trait EI concept and ability EI concept are low (r = .26, see Joseph & Newman, 2010). Therefore, in the present study, an ability-based model of EI will be used in line with the original proposal by Salovey and Mayer (1990). In our study, a four-factor ability model of EI based on the Wong and Low questionnaire (2002) was used, which represents an operationalization of Salovey and Mayer's (1990) based on the theory that EI involves the abilities to properly understand, use and regulate emotions (Mayer et al., 2016).

Impulsivity and aggression include several deficits in the emotional area. They have reduced selective recognition of fearful, sad, and happy emotional expressions, but not disgusted and angry expressions (Marsh et al., 2008), suggesting the lack of insight into these emotional states in others. The disinhibition components of psychopathy (impulsivity, poor behavioural control) suggest that psychopathy is associated with a diminished ability to regulate emotional states. Also, they have a deficiency in moral emotions such as remorse and guilt and empathy deficit (e.g., Hare, 1999). Taken together, deficiency in the emotional area, which is characteristic of psychopathy, suggests underlying impairment in emotional intelligence in individuals with psychopathic traits.

Findings showed significant associations between all types of aggression and impulsivity and a significant association between emotionality and anger and hostility. In contrast, the total score on aggression significantly correlated with impulsivity, assertiveness and competitiveness (Buss & Perry, 1992). In addition, a recent study (Fayyaz, 2019) indicates that aggression significantly negatively correlated with the dimensions of emotional intelligence. In this study, EI was measured as a construct that consists of three cognitive components: emotional attention (i.e., how much attention individuals pay to their inner feelings and emotional states), emotional clarity (i.e., the ability to understand and discriminate among feelings), and emotional repair (i.e., the ability to regulate moods and repair negative emotional experiences). Results of this study showed that physical and verbal aggression significantly negatively correlated with emotional clarity on a bivariate level, and anger significantly negatively correlated with emotional attention.

Coping assesses cognitive, emotional, and behavioural aspects of dealing with problems and psychological stress. Individuals' ability to cope up in a stressful situation depends on different factors such as emotional capacity, self-management, impulsive control, environmental support, and strength and term of distress and anguish (Brink, 2009). Resilient coping is associated with high EI and may be a more important predictor of EI than some aversive features like disinhibition and aggression. On the other hand, coping is also related to disinhibition and aggression (Kocalevent et al., 2017). Furthermore, Fteiha and Awwad (2020) found a positive correlation between emotional intelligence and stress coping style. Given these findings, coping may be an essential variable in the link between disinhibition, aggression and emotional intelligence. However, to our best knowledge, no study investigated this

mediational role of coping.

2.1 Current study and Hypotheses

The primary focus of this study was to assess the relationships between disinhibition, aggression, emotional intelligence and coping. Additionally, this study examined the role of coping as a potential mediator of the relationship between disinhibition and emotional intelligence as well as aggression and emotional intelligence. Based on the above discussion, the hypotheses were set as follows:

Hypothesis 1. Based on the theory that the disinhibition component of psychopathy is related to a dysregulated responsive emotional system (Patrick & Drislane, 2015), empirical evidence showing that disinhibition is related to neuroticism (Poy, Segarra, Esteller, López, & Moltó, 2014), and evidence of the association of disinhibition with measures of a maladaptive function (Drislane et al., 2014), disinhibition is expected to be negatively related to EI and resilience coping.

Hypothesis 2. Since aggression includes lack of empathy, cruelty and low affiliation and is therefore associated with poor relationships and low emotional intelligence (García-Sancho et al., 2014; Lomas et al., 2012), and good social relations are necessary for happiness (Diener & Seligman, 2002), aggression is expected to be negatively related to EI and coping.

Hypothesis 3. Based on the link between disinhibition, aggression, and EI (Fayaz, 2019; Sokić & Horvat, 2019), and the relationship between EI and coping (Al-Astal, 2010; Fteiha & Awwad, 2020), we expected that coping would mediate the link between EI dimensions and disinhibition and link between EI dimensions and aggression.

3. Method

3.1 Participants

The sample consisted of 563 students (186 males, 377 females) from various private colleges and faculties located in Zagreb, the capital of Croatia. The participants' age ranged from 19 to 30, with a mean age of 23 years (M = 23.2, SD = 4.23). In this research, students participated voluntarily during their regular course and completed a battery of self-report measures anonymously. The study protocol was authorised by the Ethics Panel of Oxford Business College UK.

3.2 Measures

3.2.1 Emotional Intelligence

Emotional intelligence as ability was measured by the Wong and Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002) is a self-report measure of emotional intelligence. It consists of four subscales each having four items:

1) Self-emotion appraisal (SEA; e.g., I really understand what I feel).

2) Others' emotion appraisal (OEA; e.g., I have good understanding of the emotions of people around me).

3) Use of emotion (UOE; e.g., I always tell myself I am a competent person).

4) Regulation of emotion (ROE, e.g., I have good control of my own emotions).

All items were scored on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A higher mean score indicates a higher degree of EI. In this study, Chronbach's alpha of WLEIS subscales ranged from 0.78 to 0.88.

3.2.2 Coping

The 4-item Brief Resilient Coping Scale (BRCS; Sinclair & Wallston, 2004) assessed resilience coping with stress. Some of the items are: "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". Items are scored using a 5-point Likert-type scale ranging from 1 (Describes me not at all) to 5 (Describes me very well). In the current study, the internal consistency (Cronbach's α) for the BRCS scale was 0.73, which is in line with previous findings (e.g., Kocalevent et al., 2017), and adequately for this short measure.

3.2.3 Disinhibition

Disinhibition was measured by the 20-item Disinhibition scale from The Triarchic Psychopathy Measure (TriPM; Patrick, 2010, for Croatian adaptation see Sokić, 2017). TriPM is a 58-item self-report measure of triarchically conceptualized sub-clinically psychopathy, yielding scores on three scales of Boldness, Meanness, and Disinhibition, and a Total Psychopathy score. Disinhibition scale consists of facet of impatient urgency (e.g., I often act on immediate needs), facet of dependability (e.g., I've often missed things I promised to attend), facet of problematic impulsivity (e.g., I jump into things without thinking), facet of irresponsibility (e.g., I have lost a friend because of irresponsible things I've done), and facet of theft (e.g., I have taken items from a store without paying for them). Items are scored using a 4-point Likert-type scale ranging from 0 (False) to 3 (True). In the current sample, the Cronbach's alpha of the disinhibition scale was 0.83. Substantial research has accumulated in support of the adequate reliability and construct validity of the TriPM (e.g., Poy et al., 2014), including the Croatian version (Sokić, 2017; Sokić & Wertag, 2018).

3.2.4 Aggression

Aggression was assessed by The Aggression Questionnaire (AQ; Buss & Perry, 1992) is a 29—item self-report questionnaire for measuring different forms of aggression: physical aggression (9 items, e.g., "I get into fights a little more than the average person", verbal aggression (5 items, e.g., "I tell my friends openly when I disagree with them"), anger (7 items, e.g., "When frustrated, I let my irritation show"), and hostility (8 items, e.g., I sometimes feel that people are laughing at me behind my back). Items are scored using a 5-point Likert-type scale ranging from 1 (Completely false for me) to 5 (Completely accurate for me). In this study, items of all subscales were summed and created a composite measure of aggression, such that a higher score indicates more significant levels of aggression. In the current sample, the Cronbach's alpha of the AQ was adequate (0.78).

3.3 Statistical Analyses

In order to obtain the first impression about data, gender-specific descriptive statistics and Person product-moment correlation analysis was performed. To determine the relationship between

disinhibition, aggression, EI and coping, zero-order correlations (the Pearson product-moment correlation) were calculated. We also calculated semi partial correlations to assess the relationships of disinhibition and aggression with EI and coping while controlling for the overlap with each other. Independent samples t-tests were conducted across disinhibition, aggression, emotional intelligence and coping variables to examine significant gender differences. Since there were gender differences in disinhibition, some EI dimensions, and coping hierarchical regression analyses were performed, with gender and age included as a control variable in each case at Step 1, and disinhibition and aggression scale scores at Step 2. In addition, to explore interaction effects between disinhibition, aggression and gender, six hierarchical linear regression models were computed with emotional intelligence and coping as the criteria. In all models, gender was entered as a predictor in Step 1, aggression, and disinhibition domains were entered as predictors in Step 2, and the two interactions (disinhibition x gender, aggression x gender) were entered at Step 3. A significant increase in R2 in the second step would indicate an interaction effect between disinhibition, aggression, and gender. However, the increase in R2 at Step 3 did not emerge as significant for any of the EI dimensions and coping, thus indicating that the relationship between disinhibition, aggression, EI and coping did not vary across gender. Given this, and to simplify the presentation, we report findings for regression analyses combining men and women participants. After that, regression analysis and mediation analysis were run to estimate the direct effects of disinhibition and aggression on EI and coping and indirect effects of psychopathy to EI mediated by coping. Finally, eight independent mediation analyses were done using a bootstrapping approach with 5,000 bootstraps resamples and a confidence interval of 95 levels of confidence. The effect size of the mediated relationship is estimated by the completely standardized direct and indirect effects (Ccs). This approach is widely used and has an advantage compared to Baron and Kenny's approach (Baron & Kenny, 1986) since type II error is reduced due to fewer inferential tests required. In mediation analyses, disinhibition and aggression were introduced as independent variables (X), self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation of emotion as dependent variable (Y), and coping as a mediator variable (M) (see Figure 1. Hypothetical mediational model). Other significant variables were included in these models as covariates. We tested the mediation model (Model 4) using the PROCESS macro v.19 (Hayes, 2015).

4. Results

4.1 Preliminary Analyses: Descriptive Statistics and Gender Differences

Before examining the association between studies variables, we first performed descriptive analyses. Psychometric properties of all used scales and gender differences in scale scores are presented in Table 1. Cronbach's alphas for all scales all exceeded .70 (disinhibition $\alpha = .83$, aggression $\alpha = 0.78$, EI total $\alpha = 0.87$, self-emotion appraisal $\alpha = 0.85$, others' emotion appraisal $\alpha = 0.78$, use of emotion $\alpha = 0.87$, regulation of emotion $\alpha = 0.88$, and coping $\alpha = 0.73$), indicating adequate internal consistency. All items showed significant corrected item-total correlations within their assigned scales. Gender

differences in disinhibition, others' emotion appraisal, use of emotion, regulation of emotion and coping scores were found, with men scoring higher in each case than women except in others' emotion appraisal. Regarding aggression, EI total score, and self-emotion appraisal, there were no gender differences. Skewness and kurtosis for all scales were between –2 to +2, with recommended values for normal distribution (Gravetter & Wallnau, 2014). Mean scores on emotional intelligence were in line with previous findings (Sokić & Horvat, 2019), indicating that most participants have pronounced abilities to recognise their own and others' emotions and regulation and use of emotions.

Table 1. Descriptive Statistics and Alpha Reliabilities

	Men	Women				
	M(*SD*)	*M*(*SD*)	*t*	*Sk*	*Ku*	*α*
Disinhibition	37.56(8.14)	36.23(7.49)	2.14*	0.94	1.21	0.83
Aggression	14.94(6.66)	12.53(6.20)	-.23	0.33	-0.15	0.78
EI total	84.03(12.84)	83.63(13.14)	.37	-0.69	0.76	0.87
Self-emotion appraisal	21.49(4.15)	21.15(4.94)	.91	-0.86	0.76	0.85
Others' emotion appraisal	19.82(4.09)	21.55(3.95)	-5.20***	-0.53	0.18	0.78
Use of emotion	21.97(4.65)	21.03(4.96)	2.37*	-0.71	0.24	0.87
Regulation of emotion	20.76(4.98)	19.58(5.08)	2.82**	-0.63	0.01	0.88
Coping	12.16(2.09)	10.78(2.75)	7.15***	-0.37	-0.17	0.73

*$p < .05$, **$p < .01$, ***$p < .001$.

4.2 Zero Order and Residualized Correlations between Disinhibition, Aggression, Emotional Intelligence and Coping

The zero-order and residualized correlations of disinhibition and aggression with emotional intelligence dimensions and coping are presented in Table 2. These correlations indicate that disinhibition showed negative relationships with the total score on EI and all emotional dimensions. Furthermore, disinhibition low negatively correlated to coping.

Aggression showed negative zero-order correlations with EI total, self-emotion appraisal, use of emotion, regulation of emotion, and coping while others' emotion appraisal was unrelated to aggression. It is noticeable that the correlations between disinhibition and emotional intelligence are lower compared to the correlations between disinhibition and emotional intelligence although they are in the same direction (negative). The residualized correlations highlight the differential relationship of disinhibition and aggression with emotional intelligence and coping. Specifically, when variance overlapping between disinhibition and aggression was removed only regulation of emotion stayed negatively correlated to both disinhibition and aggression, while correlations between aggression and self-emotion appraisal, others' emotion appraisal, and use of emotion become insignificant.

Table 2. Bivariate Correlations between Disinhibition, Aggression, Emotional Intelligence and Coping

	Zero-order correlations						Semi-partial correlations					
	EI	SEA	OEA	UOE	ROE	COP	EI	SEA	OEA	UOE	ROE	COP
Disinhibition	**-.43**	**-.31**	**-.17**	**-.30**	**-.41**	-.11**	**-.34**	**-.26**	**-.18**	**-.28**	**-.23**	-.05
Aggression	**-.29**	**-.17**	.05	-.12**	**-.43**	-.12**	.09*	-.04	.05	.04	**-.26**	-.10*

Note. EI = total score on EI, SEA = self-emotion appraisal, OEA = others' emotion appraisal, UOE = use of emotion, ROE = regulation of emotion, COP = coping. Semi-partial correlations control for overlap between disinhibition and aggression. Bolded values are statistically significant at $p < 001$. $^{**}p < 0.01$, $^{*}p < 0.05$.

4.3 Regression Analyses: Predicting EI and Coping from Disinhibition and Aggression for Men and Women

Table 3 reports standardized regression coefficients and adjusted R2 for regression models predicting trait EI and coping from disinhibition and aggression. In terms of regression model betas in predicting emotional intelligence and coping, disinhibition and aggression showed common directional associations indicating that these two components are somewhat similar, especially concerning regulation of emotion and coping). Disinhibition showed a unique relationship with EI total, all EI dimensions and coping, as indicated by a significant beta coefficient in the regression analysis. Aggression showed a unique relationship with EI total, regulation of emotions and coping but not with the other three EI dimensions (self-emotion appraisal, others' emotion appraisal, and use of emotion). Our results suggest that the zero-order association between aggression and self-emotion appraisal as well as association between aggression and use of emotion, was attributable to the overlap of aggression and disinhibition. These results align with previous semi-partial correlations (see Table 2).

In percentage terms, regression models accounted uniquely for 20% of the total score variance in Total EI ($F\Delta$ [2,558] = 67.349, $p < .001$), 11% in self-emotion appraisal ($F\Delta$ [2,558] = 32.006, $p < .001$), 7% in others' emotion appraisal ($F\Delta$ [2,558] = 7.468, $p < .01$), 10% in use of emotion ($F\Delta$ [2,558] = 30.445 $p < .001$), 25% in regulation of emotion ($F\Delta$ [2,558] = 91.098 $p < .001$), and 9% in coping ($F\Delta$ [2,558] = 8.363, $p < .001$). As we can see, on EI dimensions level, most variance was explained in regulation of emotion. However, a significant percentage of variance is also explained for other criterion variables.

Table 3. Standardized Regression Coefficients and Adjusted R^2 for Regression Models Predicting Trait EI and Coping from Disinhibition and Aggression

	Total EI	Self-emotion appraisal	Others' emotion appraisal	Use of emotion	Regulation of emotion	Coping
Model 1						
Gender	-.02	-.03	.21***	-.09*	-.11**	-.10*
Age	.09	.12*	.09*	.08	.01	.03
Adjusted R^2	.01	.01*	.05***	.01*	.01*	.01*
Model 2						
Gender	-.06	.06	.20***	-.12**	-.14***	-.09*
Age	.08*	.11*	.09*	.08*	-.02	.03
Disinhibition	-.39***	-.31***	-.18***	-.33***	-.28***	-.09*
Aggression	-.09*	-.03	.06	.05	-.29***	-.09*
R^2 change	.20***	.10***	.02**	.10***	.24***	.02***
Adjusted R^2	.20***	.11***	.07**	.10***	.25***	.09***

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 001$.

4.4 Indirect Effect Analyses: The Mediational Role of Coping in the Link between Emotional Intelligence, Disinhibition, and Aggression

Table 4 summarises the total, direct and indirect effects of disinhibition and aggression on the dimension of emotional intelligence through coping. In order to explore the mediational role of coping between disinhibition, aggression and EI dimensions, eight multiple mediator models were tested using a bootstrapped multivariate procedure (Hayes, 2015). Figure 1. presents a hypothetical mediational model. In addition, indirect effects were estimated in 5.000 random samples that were taken from the data. This procedure determines the independent effect of each mediator while controlling for the other. Given that the results of regression analysis have shown that there is a significant impact of gender on others' emotion appraisal, use of emotion, regulation of emotion and coping, as well as the significant impact of age on self and others' emotion appraisal, possible effects of these predictors variables were controlled as covariates in all mediation analyses.

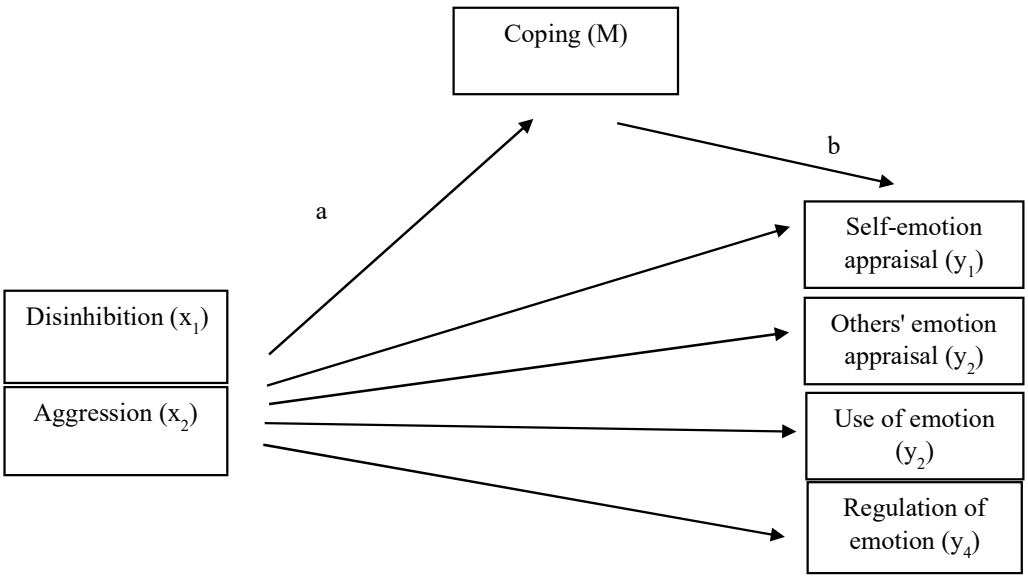

Figure 1. Hypothetical Mediational Model

The mediation analyses showed that the total effects of disinhibition mediated by coping on dimensions of emotional intelligence were statistically significant, indicating that 16% of self-emotional appraisal, 16% of the use of emotion, and 32% of regulation of emotion were explained by these models. Also, total effects of aggression mediated by coping on dimensions of emotional intelligence were statistically significant: 11% of the self-emotion appraisal, 9% of the use of emotion, and 33% of regulation of emotion were explained by these models. As expected, (Hypothesis 3), the effect size for the indirect effect of coping in the relationship between disinhibition and self-emotion appraisal, use of emotion, and regulation of emotion (Wen & Fan 2015) was statistically significant (Table 4).

Table 4. The Mediating Effect of Coping in the Relationship between Disinhibition and Emotional Intelligence

	Total effect		Direct effect		Indirect effect	
	Effect	SE	Effect	SE	Effect	SE
Self-emotion appraisal	-.18***	.02	-.16***	.02	-.02*	.01
Others' emotion appraisal	-.09***	.02	-.09***	.02	.01	.00
Use of emotion	-.18***	.02	-.16***	.02	-.02*	.01
Regulation of emotion	-.26***	.02	-.23***	.02	-.03**	.01

Note. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 001$.

Table 5 presented statistically significant effect size for indirect effect of coping in relationship between aggression and self-emotion appraisal (ES = -.04, $p < 0.01$), use of emotion (ES = -.04, $p < 0.01$), and

regulation of (ES = -.06, $p < 0.01$). Contrary to expectations, disinhibition and aggression had direct effect on others' emotion appraisal. Given that, Hypothesis 3 was partly confirmed.

Table 5. The Mediating Effect of Coping in the Relationship between Aggression and Emotional Intelligence

	Total effect		Direct effect		Indirect effect	
	Effect	SE	Effect	SE	Effect	SE
Self-emotion appraisal	-.18***	.02	-.16***	.02	-.02*	.01
Others' emotion appraisal	-.09***	.02	-.09***	.02	.01	.00
Use of emotion	-.18***	.02	-.16***	.02	-.02*	.01
Regulation of emotion	-.26***	.02	-.23***	.02	-.03**	.01

Note: $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 001$

5. Discussion

The current study investigated the relationship between disinhibition, aggression, and four emotional intelligence dimensions (self-emotion appraisal, others' emotion appraisal, use of emotion and regulation of emotion) and the meditational role of coping in the link between disinhibition, aggression and EI dimensions. In general, the results supported the hypotheses and showed that disinhibition and aggression were negatively associated with EI and coping.

As predicted, disinhibition was found to be a negative predictor in explaining EI and coping. It was negatively and uniquely related to all dimensions of EI, i.e., self-emotion appraisal, others' emotion appraisal, use of emotion and regulation of emotion, and negatively related to coping. This result is in line with a conceptualization of disinhibition as maladaptive traits (Patrick et al., 2009). Disinhibition is theoretically related to tendencies toward impulsiveness, irresponsibility, oppositionality, anger and hostility (Patrick et al., 2009), and is associated with low self-confidence, pessimism, low resilience to frustrations, intolerance for provoking, and low social assurance. Impulsivity may lead to negative emotions, such as fury, anger, and revenge, which then turn into psychological distress. The other mechanism for relating disinhibition and EI is through lower resilience due to higher anxiety and sensitivity. Namely, research shows that disinhibition is associated with low life satisfaction, high negative affectivity, and high antagonism, but also disinhibition is positively associated with empathy (Ruchensky & Donnellan, 2017). Dysregulation of emotions and behavioural inhibition is suggested to underlie disinhibition. Our results are in line with this, suggesting that disinhibition is related to lower EI mainly through negative emotions, which are one of the essential components of EI.

Also, in line with predictions, on bivariate level zero-order correlations, aggression was found to be negatively associated with EI total and three EI dimensions (self-emotion appraisal, use of emotion, regulation of emotion). On this level, a negative correlation was found between aggression and coping.

Aggression was found unrelated to other emotions others' emotion appraisal. This EI dimension represents the ability to detect and understand others' emotions. Appraising emotions in others and empathy could help individuals assess the affective reactions of others and choose socially adaptable behaviours. Emotion regulation skills led to adaptive states of mood. However, in aggressive and antisocial individuals, emotional regulation may lead to manipulative behaviour such as manipulative scenarios or manipulation to others in order to achieve illicit goals (Salovey & Mayer, 1990). However, residualised correlations highlight the differential relationship of disinhibition and aggression with emotional intelligence dimensions. Significant relationships on a zero-order bivariate level between aggression and self-emotion appraisal, others' emotion appraisal, and use of emotion become insignificant after controlling for the variance which aggression shared with the disinhibition.

In line with prediction, the results showed that disinhibition and aggression were associated with self-emotion appraisal, emotion use, and emotion regulation via different mechanisms, both indirectly via coping and directly. As expected, aggression was indirectly related to self-emotion appraisal, use of emotion and regulation of emotion via tendency to adopt positive attitudes towards cheating. Contrary to our expectations, disinhibition and aggression directly affect the regulation of emotions. Thus, our third hypothesis was partly confirmed.

It should be noted that there are other important psychological features which are overlapping with disinhibition and aggression such as impulsivity, meanness, sadism, agonism. Therefore, it would be interesting in future studies of EI and coping to include also these other aversive personality components. In addition, the replication of the results of our study, particularly in other countries would be beneficial. This may be especially useful for cross-cultural validity since the disinhibition-aggression-coping link has not yet been evaluated with some measure of EI as a trait.

6. Study Limitations

Certain limitations must be borne in mind in interpreting findings from this study. First, the study is correlational and, therefore, no causal relationships are confirmed. Second, the samples used are undergraduate students, which limits external validity. Therefore, future studies should also use general population samples, as well as other students' populations such as a student in private higher educations and postgraduates. Third, coping was measured with a four-item measure. Although it has proven validity, more comprehensive measures of coping which include items focusing on cognitive and emotional approaches, are needed.

7. Conclusions

Overall, the results of this study indicate that disinhibition and aggression have both a negative effect on EI and coping. The results of mediation analyses corroborated the relationships between disinhibition, aggression, and emotional intelligence and the role of coping as its mediator, highlighting the importance of disinhibition and aggression in the prediction dimensions of emotional intelligence,

and the significant role of coping as a mediator in these relationships.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

Achenbach, T. M., & Edelbrock, C. S. (1978). The classification of child psychopathology: A review and analysis of empirical efforts. *Psychological Bulletin*, *85*, 1275-1301. https://doi.org/10.1037/00332909.85.6.1275

Al-Astal, M. (2010). *Emotional intelligence and its relationship with the skills of coping with stress among the students of faculties of education at the University of Gaza* (Master Degree). Islamic University, Gaza, Palestine.

Anglim, J., Morse, G., Dunlop, P. D., Minbashian, A., & Marty, A. (2020). Predicting trait emotional intelligence from HEXACO personality: Domains, facets, and the general factor of personality. *Journal of Personality*, *88*, 324-338. https://doi.org/10.1111/jopy.12493

Brink, E. (2009). *The relationship between occupational stress, emotional intelligence and coping strategies in air traffic controllers* (Doctoral dissertation). University of Stellenbosch, Stellenbosch.

Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology*, *63*(3), 452-459. https://doi.org/10.1037/0022-3514.63.3.452

Coccaro, E. F., Zagaja, C., Chen, P., & Jacobson, K. (2016). Relationships between perceived emotional intelligence, aggression, and impulsivity in a population-based adult sample. *Psychiatry Research*, *246*, 255-260. https://doi.org/ 10.1016/j.psychres.2016.09.004

Coie, J. D., & Dodge, K. A. (1997). *Aggression and antisocial behavior*. In P. Mussen, W. Damon, I. N., & Eisenberg (Eds.), *Handbook of Child Psychology* (5th ed., Vol. 3). Social, emotional and personality development (str. 779-862). New York: Wiley.

Diener, E., & Seligman, M. E. P. (2002). Very Happy People. *Psychological Science*, *13*, 81-84. https://doi.org/10.1111/1467-9280.00415

Fayaz, I. (2019). Aggression and emotional intelligence among adolescents boys of Kashmir. *Asian Journal of Multidimensional Research* (*AJMR*), *8*(2). https://doi.org/10.5958/2278-4853.2019.00052.1

Fteiha, M., & Awwad, N. (2020). Emotional intelligence and its relationship with stress coping style.

Health psychology open, *7*(2), 2055102920970416. https://doi.org/10.1177/2055102920970416

García-Sancho, E., Salguero, J. M., & Fernández-Berrocal, P. (2014). Relationship between emotional intelligence and aggression: A systematic review. *Aggression and Violent Behavior*, *19*(5), 584-591. https://doi.org/10.1016/j.avb.2014.07.007

Gardner, H. (1983). *Frames of Mind*. Basic Books, New York, 1983.

Geng, Y. (2018). Gratitude mediates the effect of emotional intelligence on subjective well-being: A structural equation modeling analysis. *Journal of Health Psychology*, *23*(10), 1378-1386. https://doi.org/10.1177/1359105316677295

Gravetter, F., & Wallnau, L. (2014). *Essentials of statistics for the behavioral sciences* (8th ed.). Belmont, CA: Wadsworth.

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research*, *50*(1), 1-22. https://doi.org/10.1080/00273171.2014.962683

Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, *95*, 54-78. https ://doi.org/10.1037/a0017286

Kocalevent, R. D. et al. (2017). Resilient coping in the general population: Standardization of the brief resilient coping scale (BRCS). *Health Qual Life Outcomes*, *15*, 251. https://doi.org/10.1186/s12955-017-0822-6

Krueger, R. F. (1999). Personality traits in late adolescence predict mental disorders in early adulthood: A prospective-epidemiological study. *Journal of Personality*, *67*, 39-65. https://doi.org/10.1111/14676494.00047

Krueger, R. F., Markon, K. E., Patrick, C. J., Benning, S. D., & Kramer, M. (2007). Linking antisocial behavior, substance use, and personality: An integrative quantitative model of the adult externalizing spectrum. *Journal of Abnormal Psychology*, *116*, 645-666. http://dx.doi.org/10.1037/0021-843X.116.4.645

Lomas, J., Stough, C., Hansen, K., & Downey, L. A. (2012). Brief report: Emotional intelligence, victimization and bullying in adolescents. *Journal of Adolescence*, *35*, 207-211, http://dx.doi.org/10.1016/j.adolescence.2011.03.002

Marsh, A. A., Finger, E. C., Mitchell, D. G., Reid, M. E., Sims, C., Kosson, D. S., ... Blair, R. J. (2008). Reduced amygdala response to fearful expressions in children and adolescents with callous-unemotional traits and disruptive behavior disorders. *American Journal of Psychiatry*, *165*(6), 712-720. https://doi.org/10.1176/appi.ajp.2007.07071145

Mayer, J. D., Caruso, D. R., & Salovey, P. (2016). The ability model of emotional intelligence: Principles and updates. *Emotion Review*, *8*, 290-300. https://doi.org/10.1177/1754073916639667.

Mayer, J. D., & Salovey, P. (1997). *What is emotional intelligence?* In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Implications for educator*s (pp. 3-34). New York, NY: Basic Books

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory, findings, and

implications. *Psychological Inquiry*, *15*(3), 197-215. https://doi.org/10.1207/s15327965pli1503_02

Merchán-Clavellino, A., Salguero-Alcañiz, M. P., Guil, R., & Alameda-Bailén, J. R. (2020). Impulsivity, Emotional Intelligence, and Alcohol Consumption in Young People: A Mediation Analysis. *Foods*, *9*(1), 71. https://doi.org/10.3390/foods9010071

Michels, M., & Schulze, R. (2021). Emotional intelligence and the dark triad: A meta-analysis. *Personality and Individual Differences*, *180*, 10961. https://doi.org/10.1016/j.paid.2021.110961

Patrick, C. J. (2010). *Operationalizing the triarchic conceptualization of psychopathy: Preliminary description of brief scales for assessment of boldness, meanness, and disinhibition* (Unpublished manual). Department of Psychology, Florida State University, Tallahassee. Retrieved from https://patrickcnslab.psy.fsu.edu/wiki/images/b/b2/TPMmanual.pdf

Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology*, *21*, 913-938. https://doi.org/10.1017/S0954579409000492

Patrick, C. J., & Drislane, L. E. (2015). Triarchic model of psychopathy: Origins, operationalizations, and observed linkages with personality and general psychopathology. *Journal of Personality*, *83*(6), 627-643. https://doi.org/10.1111/jopy.12119

Patrick, C. J., Drislane, L. E., & Strickland, C. D. (2012). Conceptualizing psychopathy in triarchic terms: Implications for treatment. *International Journal of Forensic Mental Health*, *11*, 253-266.

Pérez, J. C., Petrides, K. V., & Furnham, A. (2005). *Measuring trait emotional intelligence*. In R. Schulze, & R. D. Roberts (Eds.), *Emotional intelligence: An international handbook* (pp. 181-201). Cambridge, WA: Hogrefe & Huber.

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

Poy, R., Segarra, P., Esteller, À., López, R., & Moltó, J. (2014). FFM description of the triarchic conceptualization of psychopathy in men and women. *Psychological Assessment*, *26*(1), 69-76. https://doi.org/10.1037/a0034642

Ruchensky, J. R., & Donnellan, M. B. (2017). Integrating the HEXACO model with the Triarchic conceptualization of psychopathy. *Personality and Individual Differences*, *119*, 129-133. http://dx.doi.org/10.1016/j.paid.2017.07.006

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, *9*(3), 185-211. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG

Schreyer, H., Plouffe, R. A., Wilson, C. A., & Saklofske, D. H. (2021). What makes a leader? Trait emotional intelligence and Dark Tetrad traits predict transformational leadership beyond HEXACO personality factors. *Current Psychology*. https://doi.org/10.1007/s12144-021-01571-4

Sher, K. J. i., & Trull, T. (1994). Personality and disinhibitory psychopathology: Alcoholism and

antisocial personality disorder. *Journal of Abnormal Psychology*, *103*, 92-102. http://dx.doi.org/10.1037/0021843X.103.1.92

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/25814410.1177/1073191103258144

Sokić, K. (2017). *Examination of the Triarchic model of psychopathy* (Unpublishead doctoral thesis). University of Zagreb, Croatia, Faculty of Humanities and Social Sciences. Retrieved from http://darhiv.ffzg.unizg.hr/id/eprint/9239/

Sokić, K., & Horvat, Đ. (2019). Examining the Role of Boldness in the Prediction of Emotional Intelligence in Men and Women. *Interdisciplinary Description of Complex Systems*, *17*(2-B), 315-325. https://doi.org/10.7906/indecs.17.2.8

Sokić, K., & Wertag, A. (2018). *Examine the effects of disinhibition in understanding empathy and attachment*. In Damjanovic, K. (Ed.), *24th Scientific Conference Empirical Studies in Psychology, 23-25*. March, Faculty of Philosophy, University of Belgrade, pp. 43-45.

Verona, E., & Patrick, C. J. (2000). *Suicide risk in externalizing syndromes: Temperamental and neurobiological underpinnings*. In T. E. Joiner (Ed.), *Suicide science: Expanding the boundaries* (str. 137-173). Boston, MA: Kluwer Academic Publishers.

Verona, E., Patrick, C. J., Curtin, J. J., Bradley, M. M., & Lang, P. J. (2004). Psychopathy and physiological response to emotionally evocative sounds. *Journal of Abnormal Psychology*, *113*, 99-108. https://doi.org/10.1037/0021-843X.113.1.99

Wong, C.-S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude. *The Leadership Quarterly*, *13*(3), 243-274. https://doi.org/10.1016/s1048-9843(02)00099-1