Depression and Emotional Intelligence—
Gender and Age Differences in Youth

Dario Vučenović¹, Ljerka Hajncl², Lovorka Brajković¹

¹Sveučilište u Zagrebu, Fakultet hrvatskih studija
²Zavod za vještačenje, profesionalnu rehabilitaciju i zapošljavanje osoba s invaliditetom, Područni ured Osijek

Abstract: The presented research sought to examine differences in the results of measures of depression and emotional intelligence regarding age and gender and to determine their correlation in a sample of adolescents. The survey was conducted on a sample of 502 participants of both genders, ranging from 12 to 18 years (average age 14.9). Significant gender differences were found on the variable of emotional intelligence, more precisely on the dimensions of ability to express and label emotions and the ability to manage emotions. In other words: girls express, label, and manage emotions better than boys, and the highest values were obtained in 7th-grade students (primary school). A gender difference in the degree of depression was also obtained, with girls having a higher level of depression than boys, regardless of age. A negative association of depression with two dimensions of emotional intelligence was also obtained: the ability to express, label and manage emotions. A key finding from the research is that of a higher level of depression in participants with lower emotional intelligence, suggesting that emotional intelligence could be one of the protective and preventative factors of depression in adolescents.

Key words: depression, emotional intelligence, adolescents

Introduction

Changes in affective, cognitive and biological motor processes during development are linked to the onset of depression in children and adolescents. The prevalence of depression during early and middle adolescence is about 3% for boys and 10% for girls. The clinical picture of depression usually changes with age. Preschoolers’ predominant symptoms of depression are irritability, apathy, physical complaints (somatization) and tearfulness. In middle childhood, low self-esteem, pessimism, physical complaints, psychomotor agitation, and phobias are typically signs of depression. Finally, adolescents express a heightened sense of guilt, helplessness, hopelessness, anhedonia, hypersomnia, alcohol, and drug abuse (Vulić-Prtorić, 2002; 2004). It is important to note that depression typically originates in late childhood and early adolescence but increases significantly after puberty.
Attention deficit hyperactivity disorder (ADHD), behaviour problems, anxiety, and depression are among children’s most diagnosed mental disorders. Depression in children often co-occurs with comorbid disorders, including anxiety, aggression, and behavioural disorders. About 75% of children aged 3-17 years with depression also have anxiety, and almost 50% have behaviour problems (47.2%), according to the research by Ghandour et al. (2018). One particular group of depressive symptoms is associated with motivation, such as fear of failure, withdrawal, escapism, loss of interest and grit, noneffective decision-making, and increased dependence on others (Hautzinger, 2002). The risk of depression is higher for women, and gender differences are stable up to middle age (Hautzinger, 2002).

In previous studies among pupils from the age of 12, girls scored higher on depression measures than boys (Ghandour, 2019; Maughan et al., 2013; Živčić-Bećirević, 1994). Further research in determining gender and age differences in the expression, prevalence, and/or intensity of individual symptoms is vital because they could significantly contribute to understanding the aetiology and phenomenology of depression in children, predicting depression in adulthood (Carr, 1999).

One of the newly researched constructs in explaining depression variance is emotional intelligence (EI) and its key components. Children learn to hide their emotions at a very early age, and poor differentiation of simple emotions is linked to various disorders (Goleman, 2015) or interpersonal problems rooted in emotions. Also, children with poor emotional adjustment report an inability to regulate their emotional states (Salovey, 2001). Depressed adolescents generally have poorer social interactions. Previous studies (Goleman, 2015; Vučenović, 2009) have shown that a lack of social skills also plays a very important role in developing and maintaining depression. Therefore, EI is a mediating variable since improved social skills lead to the reduction of depression symptoms.

Children with developed emotional skills manage their actions, thoughts, and feelings in an adjusted and flexible manner; they express self-efficacy, self-confidence, and a sense of belonging; show fewer problems in adjustment, cooperation, and emotional regulation and withstand various life challenges in a healthy, nonpathological manner. They use more adaptable defence mechanisms, such as sublimation and humour, instead of less adaptive mechanisms, like denial or projection. They are less likely to express socially unacceptable behaviour, deviance, and drug use (Gutiérrez-Cobo et al., 2018; Mayer et al., 2004).

Research on gender differences suggests that women are better at expressing and predicting emotions, interpersonal skills, and empathy (Goleman, 2015; Bar-On, 2000) and have a broader range of emotional experiences. In contrast, men score higher in adaptability and stress management.

When perceived as a trait, emotional intelligence is a protective factor negatively correlated with depressive symptoms (Gomez-Baya et al., 2017). Goleman (2015) proposed an interesting hypothesis that EI can be developed over a lifetime, which correlates with the depression pathway, varying as a function of age and gender (Vučenović, 2009). Lower levels of EI offer greater insight when explaining aggressive behaviour and bullying (Zych et al., 2018), and many school preventive programs are developed based on social and emotional learning theories. These science-based programs efficiently improve social and mental health aspects, reducing antisocial and de-
pressive outbursts (Gomez-Baya et al., 2016; Ciarrochi et al., 2003; Takšić, 1998), even in the adult population (Mattingly & Kraiger, 2019).

Given the existing knowledge on age and gender differences in depression and the importance of emotional skills in the disclosure of certain psychopathological phenomena, this study aimed to determine levels of EI and depression in adolescent students, as well as age and gender differences and their interaction effects.

**Method**

**Participants and procedure**

The research was conducted in schools, with principals’ permission, on 502 participants (261 girls and 241 boys), in the seventh and eighth grades of primary schools and all four grades of secondary school. The age range of the respondents was 12-18 years, with an average M = 14.9 years. Details about age groups are presented in the Results section. Participants were examined in groups from 12 to 25, after giving informed consent and with guaranteed anonymity. The entire procedure took up to 45 minutes.

**Instruments**

*The Emotional Skills and Competence Questionnaire (ESCQ-45, Takšić 2002)* contains 45 items distributed in three subscales:

- the ability to perceive and understand emotions (15 items),
- the ability to express and label emotions (14 items) and
- the ability to regulate and manage emotions (16 items).

ESCQ-45 is a shortened version of the Emotional Skills and Competence Questionnaire ESCQ-136 (Takšić, 2002) constructed upon the model of Mayer and Salovey (1997). The respondents assess the extent to which an individual item refers to him/her on a 5-degree Likert scale. The ability to perceive and understand emotions is measured with items like: *If I observe a person in the presence of others, I can determine precisely her or his emotions*; the ability to express and label emotions with: *I usually understand why I feel bad* and the ability to regulate and manage emotions with: *I study and learn the best, when I am in a good mood and happy.*

The reliability of the entire ESCQ on different samples ranges from 0.88 to 0.92. Convergent and discriminant validity of ESCQ-45 was proven with a high correlation between the scales and total scores of ESCQ-45 and Schutte Emotional Intelligence Scale (SEIS; r = 0.65), since both conceptualize EI as a personality trait. It correlated moderately with the Toronto Alexithymia Scale (TAS-20), specifically with the ability to express and label emotions (r = -0.50) which is linked to alexithymia symptoms.

*Depression Scale for Children and Adolescents - SDD* (Vulić-Prtorić, 2003) consists of 26 items that describe the most common symptoms of depression in childhood and adolescence: e.g., mood disorders, loss of interest in usual activities, appetite and sleep, psychomotor disturbances, feelings of sadness and hopelessness. Items were selected based on the list of symptoms from the DSM-IV classification, among items used in various psychodiagnostic instruments and based on the results of numerous studies in this area. For each item, there is a 5-degree Likert response scale. Scale is appropriate to use on children from 10 to 18 years. A total score is obtained by summing every item response. Example of items: *I lost all hope for the future.* Cronbach alpha of 0.895 was obtained...
on a sample of over 2500 respondents. The total range of responses to individual items was used as an indicator of sensitivity. It was found that all observed age groups of boys and girls have a maximum possible range (1-5) on all SDD items.

Results

Table 1 shows the distribution of participants according to their age and gender, and Table 2 descriptive data of the Depression Scale for Children and adolescents and the Emotional Skills and Competence Questionnaire.

Table 1. The proportion of participants in each group according to their age group and gender

<table>
<thead>
<tr>
<th></th>
<th>Primary school</th>
<th>Secondary school</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7th grade</td>
<td>8th grade</td>
</tr>
<tr>
<td>F</td>
<td>49</td>
<td>33</td>
</tr>
<tr>
<td>M</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>68</td>
</tr>
</tbody>
</table>

Table 2. Average values and the range of results for the observed variables

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Range</th>
<th>K-S</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDD</td>
<td>501</td>
<td>51.36</td>
<td>16.30</td>
<td>26</td>
<td>110</td>
<td>84</td>
<td>0.10</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>ESCQ-45 PU</td>
<td>502</td>
<td>54.25</td>
<td>9.09</td>
<td>15</td>
<td>75</td>
<td>60</td>
<td>0.05</td>
<td>&lt;.15</td>
</tr>
<tr>
<td>ESCQ-45 EL</td>
<td>499</td>
<td>47.97</td>
<td>9.10</td>
<td>17</td>
<td>68</td>
<td>51</td>
<td>0.06</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>ESCQ-45 RM</td>
<td>502</td>
<td>59.69</td>
<td>7.69</td>
<td>29</td>
<td>78</td>
<td>49</td>
<td>0.07</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

Note: SDD = Depression Scale for Children and Adolescents; ESCQ-45 PU = The ability to perceive and understand emotions; ESCQ-45 EL = The ability to express and label emotions; ESCQ-45 RM = The ability to regulate and manage emotions; K-S: Kolmogorov Smirnov test
The presented results found no significant age differences in depression. However, we could determine age differences in the ability to express and label emotions and the ability to regulate and manage emotions (Table 4). Figure 1 shows detailed differences: the highest average results were found in seventh-grade pupils. Younger adolescents tend to have insufficient knowledge of their emotional competencies and cannot objectively evaluate their abilities. They are also highly motivated to preserve their self-esteem, so they often overestimate themselves. However, the

### Table 3. Results of one-way ANOVA analyses of gender differences in depression and emotional competencies

<table>
<thead>
<tr>
<th></th>
<th>Girls</th>
<th></th>
<th>Boys</th>
<th></th>
<th>df</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>SDD</td>
<td>260</td>
<td>54.93</td>
<td>17.36</td>
<td>241</td>
<td>47.97</td>
<td>14.40</td>
<td>1.499</td>
</tr>
<tr>
<td>ESCQ-45 PU</td>
<td>261</td>
<td>55.28</td>
<td>8.41</td>
<td>241</td>
<td>53.83</td>
<td>11.68</td>
<td>1.500</td>
</tr>
<tr>
<td>ESCQ-45 EL</td>
<td>260</td>
<td>49.64</td>
<td>8.87</td>
<td>239</td>
<td>46.86</td>
<td>10.49</td>
<td>1.497</td>
</tr>
<tr>
<td>ESCQ-45 RM</td>
<td>261</td>
<td>59.87</td>
<td>7.29</td>
<td>241</td>
<td>60.19</td>
<td>10.04</td>
<td>1.500</td>
</tr>
</tbody>
</table>

**Note**: SDD = Depression Scale for Children and Adolescents; ESCQ-45 PU = The ability to perceive and understand emotions; ESCQ-45 EL = The ability to express and label emotions scale; ESCQ-45 RM = The ability to regulate and manage emotions scale

### Table 4. Results of one-way ANOVA analyses of age differences in depression and emotional competencies

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDD</td>
<td>5.495</td>
<td>0.63</td>
<td>.674</td>
</tr>
<tr>
<td>ESCQ-45 PU</td>
<td>5.496</td>
<td>2.19</td>
<td>.054</td>
</tr>
<tr>
<td>ESCQ-45 EL</td>
<td>5.493</td>
<td>2.56</td>
<td>.026*</td>
</tr>
<tr>
<td>ESCQ-45 RM</td>
<td>5.496</td>
<td>2.68</td>
<td>.021*</td>
</tr>
</tbody>
</table>

**Note**: SDD = Depression Scale for Children and Adolescents; ESCQ-45 PU = The ability to perceive and understand emotions; ESCQ-45 EL = The ability to express and label emotions scale; ESCQ-45 RM = The ability to regulate and manage emotions scale

The presented results found no significant age differences in depression. However, we could determine age differences in the ability to express and label emotions and the ability to regulate and manage emotions (Table 4). Figure 1 shows detailed differences: the highest average results were found in seventh-grade pupils. Younger adolescents tend to have insufficient knowledge of their emotional competencies and cannot objectively evaluate their abilities. They are also highly motivated to preserve their self-esteem, so they often overestimate themselves. However, the

![Figure 1. Changes in emotional competencies according to participant’s age and grade](image-url)
The correlation analysis (Pearson) results indicate a moderate relationship between depression and emotional competencies (Table 5). Adolescents with lower EI, on average, reported higher levels of depression, as was expected from previous research. For instance, Foster et al. (2018) disclosed that emotional recognition and expression combined with emotional management and control mediated the relationship between mindfulness and depression in adolescents.

### Discussion

Following previous studies examining depression in adolescents, our results confirmed a higher incidence among girls. Regardless of age, girls have significantly higher average results on the SDD scale. Entering puberty, girls become more prone to depressive symptoms (Vannucci et al., 2018; Angold & Costello, 2000) and gender differences in circuits of depressive symptoms become noticeable. Such differences stay relatively stable through the lifespan since major depressive disorder is twice more frequent in females (BlueCross BlueShield, 2018; Angold & Costello, 2000), as are milder depression episodes.

We found no extreme values, indicating a relatively healthy sample of adolescents. In their population, clinical depression rates vary from 4% (Bitsko et al., 2018) to 18% (Bansal et al., 2009), and the global prevalence of depression among youth has risen in the last decade. Some meta-analyses claim up to 25% of pooled prevalence (Bueno-Notivol et al., 2021).

Depressed girls manifest more negative moods and internal problems, while boys manifest more uncontrolled behaviours (Živčić-Bećirević, 1994). Gender differences in depression are explained by the interaction of personality and behaviour differences which may be present before adolescence and activated along with the intensive developmental changes (Nolen-Hoeksema et al., 1992). Developmental divergence, meaning girls reaching puberty earlier, is associated with the internalization of depressive symptoms and coincide with a qualitative change in abstract thinking. Also, the main contributing factor could be parental rearing styles that can affect the prevalence and reverberation of depression.

Analysis of gender and age differences in emotional skills suggests some gender differences, indicating that girls have a more developed ability to express and label emotions. This finding is aligned with previous studies (Vučenović, 2009). Differences in psychological characteristics may arise from different parental expectations, rearing styles and pa-

<p>| Table 5. Correlation analysis between SDD and ESCQ-45 questionnaires (N = 458) |
|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th></th>
<th>SDD</th>
<th>ESCQ-45 PU</th>
<th>ESCQ-45 EL</th>
<th>ESCQ-45 RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDD</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESCQ-45 PU</td>
<td>-0.29*</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESCQ-45 EL</td>
<td>-0.18*</td>
<td>0.51*</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>ESCQ-45 RM</td>
<td>-0.32*</td>
<td>0.45*</td>
<td>0.56*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note: *p < .01
rental behaviour in childhood. Socialization pressure for emotional control is more notable for boys. Parents are more inclined to talk about emotional content with their daughters; hence girls develop verbal and emotional competence earlier and become more successful in expressing emotions. The only exception is anger in early adolescence (Vučenović, 2012). Girls are less prone to direct aggression and use more subtle methods, such as rejection, gossiping, and indirect aggression. Women in every age group demonstrate better perception and understanding of emotions than men (Vučenović & Hajncl, 2018; Brackett et al., 2004), but some studies show that men are better at managing emotions. For example, McRae et al. (2008) suggest specific neural differences. Compared to women, men show less increase in the prefrontal region, a decrease in the amygdala and less engagement in the ventral striatal region. It translates to men being able to regulate emotions more efficiently with less effort, suggesting emotional reactivity and hormonal effect are not the only plausible explanation for gender differences. Additionally, Fischer et al. (2018) did not confirm the emotional sensitivity hypothesis since women were not more sensitive in perceiving subtle, ambiguous emotion cues. On the other hand, men were better at perceiving non-target emotions, and lower scores in their self-reported emotional competencies were a product of chosen stimuli, not a reflection of their abilities.

Examining the effects of the participant’s age on emotional competencies, we found differences in two dimensions: the ability to express and label emotions and the ability to regulate and manage emotions. The highest average values were obtained among seventh-grade pupils on both dimensions. Notably, emotional regulation was highest in the 3rd grade, which could mean that school prevention programs in the 2nd grade are effective in raising socio-emotional literacy. Younger adolescents most likely overestimate their competence due to limited cognitive development and the adolescents’ egocentrism. Non-existing differences in the ability to perceive and understand emotions confirm Mayer & Salovey’s (1997) hierarchy of emotional competencies since it is the first ability to develop in early childhood. More complex competencies are linked to cognitive development. After puberty, cognitive structures become more reflective and complex. While comparisons and feedback from others are essential for building self-images in earlier periods, adolescents are beginning to realize that self-understanding lies within themselves and thus develop more insight through which their understanding of emotions rises.

Moderate but significant correlations between ESCQ-45 subscales indicate they are related to the same general ability (emotional intelligence) but also measure slightly different factors, as suggested by its author (Takšić, 1998). This research’s results support the emotional intelligence model as an ability (Mayer & Salovey, 1997) where managing emotions represents the highest levels. Parents encourage the management and regulation of emotions by forming a suitable frame for emotional expressions. Emotion management includes the ability to monitor emotions, which is known as meta-evaluation. Managing emotions is fundamental for successful adjustment and problem-solving, managing and alleviating stressful life events (Matthews et al., 2004). Findings suggest a strong link between high emotional intelligence and depression, with EI being one of the strongest predictors of happiness among adolescents (Abdollahi et al., 2015).

Most research has investigated the role of perceived emotional intelligence in depressive symptoms among adolescents, but not many were longitudinal. Existing longitudi-
nal results show that greater emotional intelligence was associated with a lower presence of depressive symptoms after a one-year follow-up, which underlines the importance of promoting programs for the development of emotional intelligence to prevent depression in adolescents and later in life (Gomez-Baya et al., 2016). Such findings are expected considering the emotional symptoms of depressive disorder. Further research should focus on social and contextual factors and include different methods and data sources over extended periods. It is also crucial to determine early cues and predictors of depressive disorder in youth. For example, a lack of social skills frequently leads to depression, and depressed children withdraw from social contact and sometimes even express aggressive behaviour (Bracket et al., 2004) or behavioural addiction. There is strong evidence in favour of emotional intelligence being a protective factor for depression and anxiety, especially in females (Salavera et al., 2019).

Conclusion

To conclude, this study points out the critical role of emotional intelligence (EI) in the development of depression in adolescents. The results suggest the existence of differences in depression, with girls being more depressed in every age group. Also, girls have a more developed ability to express and label emotions. Depression and various aspects of EI are negatively correlated, meaning participants who scored lower on EI scales also expressed higher levels of depression. In other words, a reduction of depressive symptoms can occur with the development of EI in adolescence. Contrary to previous findings, participant age was not relevant for depression. Rather than exploring age differences, we should focus on predictors such as emotional control, stress-regulating strategies and school engagement since studies show they correlate with youth wellbeing and mental health in every age group.

References


Rudolph, K. D. (2017). Advances in conceptual and empirical approaches to understanding the interpersonal context of youth depression: Commentary. *Journal of Applied Devel-
Vučenović, D., Hajncl, Lj., Brajković, L., Depression and Emotional Intelligence
Klinička psihologija 15 (2022), 1-2, 15-25

Vučenović, D., Hajncl, Lj., Brajković, L., Depression and Emotional Intelligence
Klinička psihologija 15 (2022), 1-2, 15-25


Takšić, V. (2002). Upitnici emocionalne inteligencije (kompetentnosti). In K. Lacković-Grgin, A. Bautović, V. Ćubela i Z. Penezić (Eds.), *Zbirka psihologijskih skala i upitnika* (pp. 27-45). Faculty of Humanities and Social Sciences Zadar.


Depresivnost i emocionalna inteligencija – spolne i dobne razlike kod adolescenata

Sažetak: Prezentiranim istraživanjem nastojalo se istražiti postoje li razlike u rezultatima na mjerama depresivnosti i emocionalne inteligencije s obzirom na dob i spol te utvrditi njihov međusobni odnos kod adolescenata. Ispitivanje je provedeno na uzorku od 502 sudionika oba spola (M = 241; Ž = 261), učenika osnovnih i srednjih škola u dobi od 12 do 18 godina (prosjek 14,9 godina). Dobivene su značajne spolne razlike na varijabli emocionalne inteligencije, preciznije na dimenzijama izražavanja i imenovanja emocija i sposobnosti upravljanja emocijama. Drugim riječima, djevojke bolje izražavaju, imenuju i upravljaju emocijama od mladića, a najviše vrijednosti dobivene su na učenicima 7. razreda. Dobivena je i spolna razlika na mjeri depresivnosti, pri čemu djevojke imaju višu razinu depresivnosti od mladića, neovisno o dobi. Također je dobivena i negativna povezanost depresivnosti s dvije dimenzije emocionalne inteligencije: sposobnosti izražavanja i imenovanja emocija te sposobnosti upravljanja emocijama. Ključni nalaz istraživanja o višoj razini depresivnosti kod sudionika s nižom emocionalnom inteligencijom upućuje na to da bi emocionalna inteligencija mogla biti jedan od zaštitnih faktora depresivnosti kod adolescenata.

Ključne riječi: depresija, emocionalna inteligencija, adolescenti

Korespondencija: Dario Vučenović
dvucenovi@hrstud.hr

Received: 22.12.2021.
Corrected: 17.05.2022.
Accepted: 03.06.2022.
Online: 15.06.2023.