REVISTA INVECOM
ISSN en línea: 2739-0063

Emotional intelligence and anger in students from Adventist educational institutions in the eastern Peru mission

Inteligencia emocional e ira en estudiantes de instituciones educativas adventistas de la misión del oriente peruano

Received: 10/04/2025 - **Accepted:** 09/07/2025

Julio Isaac Belón Pérez
https://orcid.org/0009-0004-2499-2195
juliobelon@upeu.edu.pe
Universidad Peruana Unión. Lima, Peru

Celina Ramírez-Vega
https://orcid.org/0000-0003-3574-9719
Celina.ramirez@upeu.edu.pe
Universidad Peruana Unión. Tarapoto, Peru

Abstract
This study examines the influence of emotional intelligence on anger in adolescents, using a sample of 300 high school students aged 12 to 18 years (M=14.9, SD=1.9). The Trait Meta-Mood Scale (TMMS-24) and the Dimensions of Anger Reactions Scale-5 (DAR-5) were used to measure the dimensions of emotional intelligence (attention, clarity, and emotional repair) and anger, respectively. The results of the structural equation modeling ($\chi 2 = 604.676$; df = 318; p = 0.000; CFI = 0.91; TLI = 0.90; SRMR = 0.05; RMSEA = 0.061 [90% CI: 0.053-0.068]) showed adequate fit indices. Additionally, it was shown that emotional attention and emotional clarity have a negative influence on anger, being significant only for emotional attention. However, emotional repair showed a significant negative relationship with anger. These findings underscore the need to revise educational and therapeutic strategies to improve emotional management in adolescents and reduce aggressive behaviors, promoting safer school environments.

Keywords: Emotional intelligence, anger, adolescents.

Resumen
El presente estudio examina la influencia de la inteligencia emocional sobre la ira en adolescentes, utilizando una muestra de 300 estudiantes de secundaria entre 12 y 18 años (M=14.9, DS=1.9). Se emplearon los instrumentos Trait Meta-Mood Scale (TMMS-24) y Dimensions of Anger Reactions Scale-5 (DAR-5) para medir las dimensiones de la inteligencia emocional (atención, claridad y reparación emocional) y la ira, respectivamente. Los resultados del modelamiento de ecuaciones estructurales ($\chi 2 = 604.676$; gl = 318; p = 0.000; CFI = 0.91; TLI = 0.90; SRMR = 0.05, RMSEA = 0.061 [IC 90%: 0.053-0.068]) mostraron adecuados índices de ajuste. Además, se mostró que la atención emocional y claridad emocional tienen una influencia negativa sobre la ira, siendo significativa sólo para la atención emocional. Sin embargo, la reparación emocional mostró una relación negativa significativa con la ira. Estos hallazgos subrayan la necesidad de revisar las estrategias educativas y terapéuticas para mejorar la gestión emocional en los adolescentes y reducir comportamientos agresivos, promoviendo ambientes escolares más seguros.

Palabras clave: Inteligencia emocional, ira, adolescentes.

Introduction
During adolescence, anger has had both internal and external impacts, as it is not limited to immediate physical harm but also generates lasting consequences on individuals' physical, psychological, and social development, even when it is not lethal. This form of aggression has become one of the leading causes of death each year, with approximately 193,000 homicides recorded among individuals aged 15 to 29, representing 40% of the total number of homicides worldwide (Organización Mundial de la Salud [OMS], 2024). This situation has

sparked significant interest in researching this population due to temperamental reactivity concerning the speed, duration, and intensity of anger responses in motor, affective, and attentional terms (Di Giunta et al., 2020).

In this regard, anger hinders individual development in academic and social realms, as it reduces the capacity to recognize one's own and others' emotional signals (Rosa-Alcázar et al., 2021). Conversely, emotional intelligence, focused on emotional regulation, can serve as a protective factor against aggressive expressions in adolescents (Orozco, 2021). This suggests that students with higher emotional intelligence exhibit lower levels of aggressive behavior (Jabbarov et al., 2023).

Anger is understood as an initially adaptive response that facilitates self-protection and goal attainment in the face of perceived stressful or threatening situations (Hoyos, 2024); however, it can also cause dysfunctions in overall performance across various life aspects and deteriorate interpersonal relationships, compromising emotional health and social well-being (Ocampo et al., 2024).

Emotional intelligence is defined as the ability to understand, perceive, and regulate one's own and others' emotions, utilizing these processes to guide thought and action (Valenzuela-Zambrano et al., 2021). Therefore, it involves the intelligent management of emotions to effectively navigate and adapt to diverse circumstances (Velásquez-Pérez et al., 2023).

In Peru, it was revealed that 95.5% of university students in the Human Medicine program have witnessed aggression, including verbal aggression (91%), social exclusion (84.2%), and physical aggression (58.6%). Additionally, cases of bullying among peers were observed, with verbal aggression being the most common expression (Amemiya et al., 2019).

Furthermore, literature has linked anger and emotional intelligence to variables such as emotional regulation (Te Brinke et al., 2021), bullying (Rueda et al., 2021), cyberbullying, aggressiveness (Marín-Cortés et al., 2021), and aggressive self-perception (Álamo & Llorent, 2024).

In light of this issue, few studies have investigated the influence of emotional intelligence on anger during adolescence. This gap hinders a comprehensive understanding of the underlying mechanisms and limits the development of effective interventions to address the situation.

Therefore, it is essential to analyze the influence of emotional intelligence on anger in adolescents, positing that it may serve as a protective and modulatory factor, which would have significant implications for anger management and the reduction of aggressive behaviors in this population.

Methodology

This study adopts a quantitative approach, as it will utilize numerical data, based on a non-experimental design, since the variables were not manipulated, and a cross-sectional method, meaning that the research will be conducted over a specified time frame. Additionally, it is correlational-predictive in nature, as it aims to establish a relationship between two or more variables, where one variable was used to predict the other (Ato et al., 2013).

The sample was selected through non-probabilistic convenience sampling due to the availability and accessibility of participants within the institution, comprising 300 secondary school students, of which 47% were male and 53% female. Participants' ages ranged from 12 to 18 years (M=14.9, SD=1.9). Of these, 54% lived with both parents. Inclusion criteria were: being between 12 and 18 years old, currently enrolled in secondary education, and having consent from parents or legal guardians.

The Trait Meta-Mood Scale, a Spanish version of 24 items developed by Fernandez-Berrocal and Extremera (2005) and adapted for Peru by Ruiz et al. (2022), consists of 24 items with three factors measuring emotional attention (items 1-8), emotional clarity (items 9-16), and emotional repair (items 17-24). Responses are categorized on a 5-point Likert scale (1= strongly disagree to 5= strongly agree).

Regarding its psychometric properties in confirmatory factor analysis, adequate values were shown in fit indices, not exceeding the acceptable range, with TLI and CFI values greater than .90, while RMSEA and SRMR values were above .08 (χ^2= 385.868; TLI= 0.963; CFI= 0.967; RMSEA= 0.034; SRMR= 0.041). Reliability was evaluated using the ordinal α coefficient, which demonstrated adequate internal consistency (α= 0.93).

The scale developed by Forbes et al. (2014) and adapted to the Peruvian context by Caycho-Rodríguez et al. (2020) measures anger experiences over the past four weeks. It consists of five items with five response categories ranging from 1 (none or almost none of the time) to 5 (all or almost all the time), with scores ranging from 5 to 25, where higher scores indicate more intense anger experiences.

The psychometric properties of the scale indicated a suitable unidimensional model and solid fit indices, not exceeding the appropriate range, where the CFI value was greater than .90, and the RMSEA and SRMR values were less than .08, with a WRMR value below 0.1 (CFI = .996; RMSEA = .059 [90% CI: .017-.102]; SRMR = .023; WRMR = .44). Additionally, reliability, evaluated using the omega coefficient, showed precise scores: ω = .86 (total sample); ω = .87 (female subsample); and ω = .86 (male subsample).

For the data collection process, approval was obtained from the ethics committee of the Faculty of Health Sciences at the Universidad Peruana Unión (2024-CEB-FCS-UPeU-192/2024). The study was conducted following the principles established in the Declaration of Helsinki, emphasizing the necessity to comply with ethical standards such as safeguarding integrity, respecting human beings, and protecting individual rights (World Medical Association, 2013). Furthermore, a document requesting authorization for in-person access to classrooms was presented to the institution's administration.

Data collection was conducted using non-probabilistic convenience sampling due to the availability and accessibility of institutional participants, utilizing the Trait Meta-Mood Scale (TMMS-24) and the Dimensions of Anger Reactions Scale-5 (DAR-5) to assess both variables through a physical format. These instruments initially expressed the study's objectives, in addition to the informed consent that allowed voluntary participation based on parental authorization and that of each participant. The scales were structured according to their respective questions, the administration of which lasted approximately 20 minutes. Participants were assured that all collected information would remain anonymous, confidential, and used exclusively for research purposes.

For the statistical process and analysis, data cleaning was performed, and the data were processed in the program RStudio Team (2021). Subsequently, descriptive analysis was conducted to evaluate indicators of mean, standard deviation, skewness, and kurtosis, which allowed for the assessment of data distribution and the selection of the estimator for subsequent analysis. In evaluating the influence of emotional intelligence on anger experiences as the main objective of the study, structural equation modeling (SEM) was employed, using the Robust Maximum Likelihood estimator—MLR (Yuan & Bentler, 2008). The following estimators were used to determine model fit: chi-square test (χ^2), comparative fit index (CFI > .90), Tucker-Lewis index (TLI > .90), root mean square error of approximation (RMSEA < .08), and standardized root mean square residual (SRMR < .08) (Hu & Bentler, 1999).

Results

Upon examining the descriptive statistics of the emotional intelligence and anger dimension variables, several trends and patterns are observed. In Table 1, the anger variable shows a mean of 11.8, a standard deviation of 5, a skewness of 0.7, and a kurtosis of -0.2. Emotional attention has a mean of 23.1, a standard deviation of 7.0, with a skewness of 0.02 and a kurtosis of -0.6. Emotional clarity presents a mean of 23.4, a standard deviation of 7.4, a skewness of 0.06, and a kurtosis of -0.8. Emotional repair shows a mean of 27.0, a standard deviation of 7.6, a skewness of -0.3, and a kurtosis of -0.6. These values indicate a normal distribution of the variables.

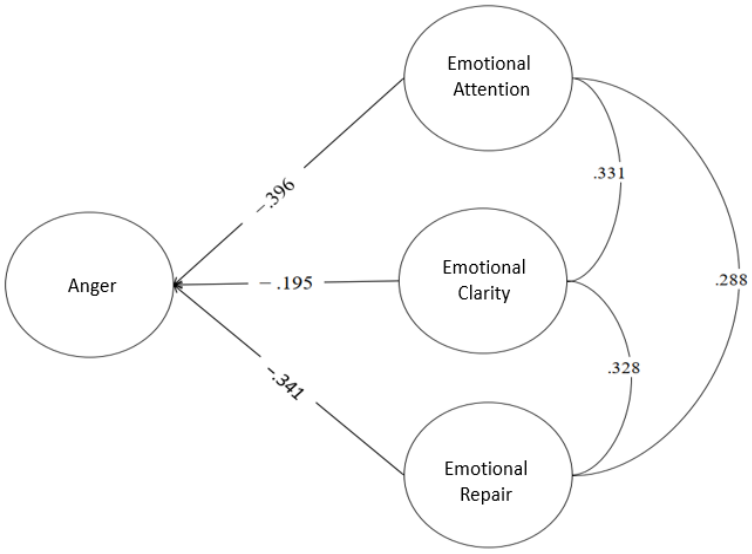
Table 1
Analysis of variables

Variables	Mean	SD	Skewness	Kurtosis
Anger	11.8	5	0.7	-0.2
Emotional attention	23.1	7.0	0.02	-0.6
Emotional clarity	23.4	7.4	0.06	-0.8
Emotional repair	27.0	7.6	-0.3	-0.6

Structural equation modeling analysis

Figure 1 illustrates that the structural model presents adequate fit indices (χ^2 = 604.676; df = 318; p = 0.000; CFI = 0.91; TLI = 0.90; SRMR = 0.05, RMSEA = .061 [90% CI: .053-.068]). The results reveal that the dimensions of emotional intelligence have a negative and significant influence on anger; that is, higher emotional intelligence is associated with lower levels of anger. Regarding emotional attention, a standardized path coefficient (β) of -0.396 is observed, with a p value < 0.00, indicating a negative and statistically significant influence on anger. In the case of emotional clarity, the standardized path coefficient (β) is -0.195, with a p value < 0.08, demonstrating a negative and statistically non-significant influence on anger. Additionally, for emotional repair, the standardized path coefficient (β) is -0.341, with a p value < 0.00, indicating a negative and statistically significant influence on anger.

Figure 1
Structural equation model



Discussion

Currently, the expression of anger has significantly impacted individuals during adolescence, generating substantial consequences on physical, psychological, and social development. In this context, anger impedes overall individual development, affecting fundamental areas such as academic and social aspects (Rosa-Alcázar et al., 2021). Meanwhile, emotional regulation, inherent to emotional intelligence, acts as a protective factor against aggressive expressions in adolescents (Orozco Solís, 2021). Therefore, as students possess greater emotional intelligence, they are likely to exhibit less aggressive behavior (Jabbarov et al., 2023).

In this regard, the structural equation modeling (SEM) analyses affirm that the relationships between the dimensions of emotional intelligence and anger are well represented. Additionally, they indicate that emotional intelligence negatively and significantly influences anger; that is, increases in emotional intelligence help regulate and reduce anger responses (Geßler et al., 2021; Zhou et al., 2022). Specifically, emotional attention shows a standardized path coefficient (β) of -0.396, with a p value < 0.00, indicating a negative and statistically significant influence on anger. This suggests that adolescents who pay more attention to their emotions tend to experience less anger (Geßler et al., 2021; Karababa, 2020).

Regarding emotional clarity, the standardized path coefficient (β) is -0.195, with a p value < 0.08, showing a negative influence that is not statistically significant on anger. This finding may indicate that, while emotional clarity is important within the emotional intelligence process, it is not a decisive factor on its own for reducing anger in adolescents (Purwadi et al., 2020).

Emotional repair, with a standardized path coefficient (β) of -0.341 and a p value < 0.00, shows a negative and statistically significant influence on anger. This suggests that adolescents who tend to repair their emotions experience less anger (Zhou et al., 2022).

The findings of this study should be considered in light of their limitations. First, the cross-sectional design hinders the establishment of causal associations between the dimensions of emotional intelligence and anger. Although significant relationships have been identified, it is not possible to determine whether one variable directly impacts the other or if additional factors intervene in this association. Second, data collection through self-reports, where responses involve subjective perceptions of one's emotions or social desirability, can introduce biases.

Finally, the generalization of the findings is limited by the characteristics of the sample, which is primarily composed of adolescents from a specific geographical region. Therefore, future research should encompass longitudinal designs that allow for the analysis of how these interactions evolve over time, providing a more precise understanding of the underlying mechanisms. Additionally, the use of mixed methods, combining questionnaires with direct observations, is suggested to complement these results and enhance the validity of the findings. Expanding the diversity of the sample is also recommended to draw more representative conclusions applicable to different populations.

Despite these limitations, the findings of this research affirm that emotional attention exerts a significant negative influence on anger in adolescents, while emotional clarity shows a non-significant negative trend, and emotional repair surprisingly shows a significant positive relationship with anger. These findings underscore the complexity of emotional processes during adolescence and highlight the need to review and strengthen educational and therapeutic strategies to improve emotional management in this population. Despite its strengths in rigorous analysis and a representative sample, the limitations of the cross-sectional design and data collection via self-reports indicate the importance of future longitudinal studies and mixed methods for deeper understanding. Practically, these findings could facilitate the creation of educational and therapeutic programs focused on developing emotional intelligence skills as a strategy to manage anger. This would not only enhance the emotional and social well-being of adolescents but could also reduce the incidence of aggression and violence in schools and communities. Implementing these programs could lead to significant changes in managing aggressive behavior, promoting safer and healthier environments for adolescents.

Conclusions

This study involved a group of 300 students (M= 14.9) from Adventist educational institutions in the Peruvian Eastern Mission, aiming to evaluate the influence of emotional intelligence on anger. The results obtained through structural equation modeling confirmed that emotional clarity, emotional attention, and emotional restructuring have a negative influence on anger, with emotional attention and emotional restructuring being statistically significant. These findings suggest the need to extend the sample to other locations in the country and develop longitudinal studies to deepen the understanding of the relationship between emotional intelligence and the expression of anger.

References

Álamo, M., & Llorent, V. J. (2024). Bullying, cyberbullying, inteligencia emocional y competencias socioemocionales y su relación con el autoconcepto social en adolescentes. *Revista Complutense de Educación*, *35*(4). https://doi.org/10.5209/rced.90342

Amemiya, I., Oliveros, M., Acosta, Z., Martina, M., & Barrientos, A. (2019). Violencia y estrés percibido por estudiantes de primer año medicina de una universidad pública, 2016. *Anales de la Facultad de Medicina*, *80*(4), 482-487. https://doi.org/10.15381/anales.v80i4.16296

Ato, M., López-García, J. J., & Benavente, A. (2013). Un sistema de clasificación de los diseños de investigación en psicología. *Anales de Psicología*, *29*(3), 1038-1059. https://doi.org/10.6018/analesps.29.3.178511

Caycho-Rodríguez, T., Cabrera-Orosco, I., Barboza-Palomino, M., Ventura-León, J., Arias Gallegos, W. L., & Carranza Esteban, R. F. (2020). Evaluación psicométrica de la versión en español del *Dimensions of Anger Reactions-5* (DAR-5) en universitarios. *Ansiedad y Estrés*, *26*(2), 120-128. https://doi.org/10.1016/j.anyes.2020.06.003

Di Giunta, L., Rothenberg, W. A., Lunetti, C., Lansford, J. E., Pastorelli, C., Eisenberg, N., Thartori, E., Basili, E., Favini, A., Yotanyamaneewong, S., Peña Alampay, L., Al-Hassan, S. M., Bacchini, D., Bornstein, M. H., Chang, L., Deater-Deckard, K., Dodge, K. A., Oburu, P., Skinner, A. T., … Uribe Tirado, L. M. (2020). Longitudinal associations between mothers' and fathers' anger/irritability expressiveness, harsh parenting, and adolescents' socioemotional functioning in nine countries. *Developmental Psychology*, *56*(3), 458-474. https://doi.org/10.1037/dev0000849

Fernandez-Berrocal, P., & Extremera, N. (2005). About emotional intelligence and moral decisions. *Behavioral and Brain Sciences*, *28*(4), 548-549. https://doi.org/10.1017/S0140525X05280093

Forbes, D., Alkemade, N., Mitchell, D., Elhai, J. D., McHugh, T., Bates, G., Novaco, R. W., Bryant, R., & Lewis, V. (2014). Utility of the dimensions of anger reactions-5 (DAR-5) scale as a brief anger measure: Research Article: Utility of DAR-5. *Depression and Anxiety*, *31*(2), 166-173. https://doi.org/10.1002/da.22148

Geßler, S., Nezlek, J. B., & Schütz, A. (2021). Training emotional intelligence: Does training in basic emotional abilities help people to improve higher emotional abilities? *The Journal of Positive Psychology*, *16*(4), 455-464. https://doi.org/10.1080/17439760.2020.1738537

Hoyos Sánchez, I. (2024). La ira: Una aproximación multidisciplinar. *Revista de Estudios Sociales*, *90*, 3-10. https://doi.org/10.7440/res90.2024.01

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Huerta-Bardales, V.-J., Terrones-Marreros, M. A., Duran-Llaro, K. L., Zaldívar-Cabanillas, J. H., Huerta-Bardales, V.-J., Terrones-Marreros, M. A., Duran-Llaro, K. L., & Zaldívar-Cabanillas, J. H. (2023). Impacto del

programa psicoeducativo para el afrontamiento del estrés en adolescentes. *Revista Arbitrada Interdisciplinaria Koinonía*, *8*, 135-148. https://doi.org/10.35381/r.k.v8i2.2867

Jabbarov, R., Mustafayev, M., Valiyeva, Y., Babayeva, T., & Abbasova, A. (2023). Estudio de la relación entre inteligencia emocional y agresividad en estudiantes. *Apuntes Universitarios*, *13*(2). https://doi.org/10.17162/au.v13i2.1440

Karababa, A. (2020). The relationship between trait anger and loneliness among early adolescents: The moderating role of emotion regulation. *Personality and Individual Differences*, *159*, 109856. https://doi.org/10.1016/j.paid.2020.109856

Marín-Cortés, A., Herrera-Pérez, V., & Aguirre-Mosquera, M. (2021). Ira Y Cyberbullying Entre Adolescentes: Amistad, Injusticia E Imagen En Entornos Digitales1. *Psicologia em Estudo*, *26*. https://www.redalyc.org/journal/2871/287169836026/html/

Ocampo Pacheco, M., Ríos Pérez, C., García Gordon, M., & Tapia López, M. O. (2024). *La inteligencia emocional en estudiantes en un escenario de post pandemia*. https://doi.org/10.5281/ZENODO.13370390

Organización Mundial de la Salud. (2024, octubre 31). *Violencia juvenil*. https://www.who.int/es/news-room/fact-sheets/detail/youth-violence

Orozco Solis, M. G. (2021). Inteligencia emocional, empatía y buen trato como factores protectores frente a la agresión física en adolescentes. *CES Psicología*, *14*(2), 1-19. https://doi.org/10.21615/cesp.5222

Purwadi, P., Alhadi, S., Supriyanto, A., Saputra, W. N. E., Muyana, S., & Wahyudi, A. (2020). Aggression among adolescents: The role of emotion regulation. *HUMANITAS: Indonesian Psychological Journal*, *17*(2), 132. https://doi.org/10.26555/humanitas.v17i2.7719

Rosa-Alcázar, A., Parada-Navas, J., Olivares-Olivares, P., Bernal, C., & Rosa-Alcázar, A. (2021). Emotional intelligence and anger in adolescents with obsessive-compulsive symptoms. *Behavioral Psychology/Psicología Conductual*, *29*(3), 561-577. https://doi.org/10.51668/bp.8321303s

RStudio Team. (2021). *RStudio: Integrated development for R*. Posit. https://www.posit.co/

Rueda, P., Pérez-Romero, N., Victoria Cerezo, M., y Fernández-Berrocal, P. (2021). The Role of Emotional Intelligence in Adolescent Bullying: A Systematic Review. *Psicología Educativa*, *28*(1), 53-59. https://doi.org/10.5093/psed2021a29

Ruiz, P., Cunza-Aranzábal, D., White, M., Quinteros-Zúñiga, D., Jaimes-Soncco, J., & Morales-García, W. (2022). Propiedades psicométricas de la "Escala rasgo de metaconocimiento de los estados emocionales" para medir inteligencia emocional en estudiantes peruanos. *Behavioral Psychology/Psicología Conductual*, *30*(2), 447-463. https://doi.org/10.51668/bp.8322207s

Te Brinke, L. W., Schuiringa, H. D., & Matthys, W. (2021). Emotion regulation and angry mood among adolescents with externalizing problems and intellectual disabilities. *Research in Developmental Disabilities*, *109*, 103833. https://doi.org/10.1016/j.ridd.2020.103833

Valenzuela-Zambrano, B., Álvarez Fabio, M., Salgado Neira, E., Valenzuela-Zambrano, B., Álvarez Fabio, M., & Salgado Neira, E. (2021). Estudio sobre la inteligencia emocional de profesores/as de la provincia de Concepción, Chile. *Revista de estudios y experiencias en educación*, *20*(44), 29-42. https://doi.org/10.21703/0718-5162.v20.n43.2021.002

Velásquez-Pérez, Y., Rose-Parra, C., Oquendo-González, E. J., Cervera-Manjarrez, N., Velásquez-Pérez, Y., Rose-Parra, C., Oquendo-González, E. J., & Cervera-Manjarrez, N. (2023). Inteligencia emocional, motivación y desarrollo cognitivo en estudiantes. *Cienciamatria. Revista Interdisciplinaria de Humanidades, Educación, Ciencia y Tecnología*, *9*(17), 4-35. https://doi.org/10.35381/cm.v9i17.1120

World Medical Association. (2013). World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. *JAMA*, *310*(20), 2191-2194. https://doi.org/10.1001/jama.2013.281053

Zhou, Y., Qu, W., & Ge, Y. (2022). The role of trait emotional intelligence in driving anger: The mediating effect of emotion regulation. *Transportation Research Part F: Traffic Psychology and Behaviour*, *88*, 281-290. https://doi.org/10.1016/j.trf.2022.05.024

Zysberg, L., & Raz, S. (2019). Emotional intelligence and emotion regulation in self-induced emotional states: Physiological evidence. *Personality and Individual Differences*, *139*, 202-207. https://doi.org/10.1016/j.paid.2018.11.027