



# **Legal and Ethical Challenges in Age Assessment of Asylum Seekers: Personal Data Protection Implications in the EU**

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## **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

Despite the strong effect of the objectives and principles of the Data Protection Directive (Directive 95/46/EC), the General Data Protection Regulation (Regulation 2016/679) has failed to achieve a uniform data protection policy throughout the European Union, the necessary legal certainty, and the protection of human beings concerning the processing of personal data, which is the objective of the Regulation. In this context, this article offers reflections on some of the ethical and methodological issues involved in the age assessment of unaccompanied minors who are asylum seekers. Focusing upon ethical approval problems and using a variety of methodological tools (such as studying articles of international references, taking interviews from experts, and making visits to NGOs) I demonstrate forward key recommendations in which the age assessment can be conducted with the respect of the best interest of the child and without any legal or moral dilemmas. The suggestions proposed in this article are sustainable for at least for the following five years and

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tailored to the needs and experiences of the children involved. This article aims to present an innovative database system, which will be established and controlled under the auspices of the European Union and record all the entries and exits of asylum seekers who declare to be unaccompanied minors, since their arrival at a Reception and Identification Center of a member state of European Union. Lastly, because medical age assessment is done for no therapeutic or medical purpose, many medical experts view it as extremely intrusive and unethical, particularly when done by radiography. It is crucial to do an ethical assessment of the dental age estimation carried out by these radiographic techniques using the four biomedical ethics principles (autonomy, beneficence, non-maleficence, and justice).

**Keywords:** Age Assessment; asylum seekers; GDPR; personal data protection; Convention on the Rights of the Child (CRC).

## ABBREVIATIONS

BIA	: Best Interest Assessment
BID	: Best Interest Determination
CRC	: UN Convention on the Rights of the Child
EC	: European Commission
GDPR	: General Data Protection Regulation / EU law
IOM	: International Organization for Migration
UAC	: Unaccompanied alien children.
UAM	: Unaccompanied minors <sup>1</sup>
UASC	: Unaccompanied and separated child
UMC	: Unaccompanied migrant children <sup>2</sup>
UNHCR	: United Nations High Commissioner for Refugees

## 1. INTRODUCTION

The data protection system in the EU is derived from a set of legal acts such as the 1995 Directive on Data Protection<sup>3</sup>, which was supplemented afterwards by two further

Directives, Directive 97/66/EC<sup>4</sup> and Directive 2002/58/EC<sup>5</sup>. Both concern the threats of the upcoming technological development<sup>6</sup> (Carrera et al., 2009). Privacy and data protection rules are also enshrined in the European Convention for the Protection of Human Rights and Fundamental Freedoms (Art. 8<sup>7</sup>) and Convention 108<sup>8</sup>, both adopted under the auspices of the Council of Europe, as well as in the Charter of Fundamental Rights of the European Union (Arts. 7<sup>9</sup> and 8<sup>10</sup>).

<sup>4</sup> Directive 97/66/EC of the European Parliament and of the Council of 15 December 1997 concerning the processing of personal data and the protection of privacy in the telecommunications sector, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3a31997L0066&msclid=26d9f25aac3d11ecac19de3ae5833bb2>.

<sup>5</sup> Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications), available at <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3a32002L0058&msclid=9bc2728aac3d11ec9e4b2810dbc33a22>.

<sup>6</sup> Sergio Carrera, Elspeth Guild, Alejandro Eggenchwiler (18 May 2009) "Informing the Data Protection Debate", Center for European Policies Studies, p.2.

<sup>7</sup> "1. Everyone has the right to respect for his private and family life, his home, and his correspondence.

2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety, or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others".

<sup>8</sup> Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108) available at <https://rm.coe.int/convention-108-convention-for-the-protection-of-individuals-with-regard/16808b36f1?msclid=3d58439bab8711ec95ca4c3476e519b4>.

<sup>9</sup> "1. Everyone has the right to the protection of personal data concerning him or her.

2. Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified."

<sup>1</sup> According to the Directive of the European Parliament and the Council 2013/33/EU an unaccompanied minor is defined as "a third country national or stateless person below the age of eighteen, who arrives on the territory of the Member States unaccompanied by an adult responsible for them whether by law or custom, and for as long as they are not effectively taken into the care of such a person, or a minor who is left unaccompanied after they have entered the territory of the Member States".

<sup>2</sup> IOM considers "unaccompanied children" to be children, as defined in Article 1 of the Convention on the Rights of the Child, 1989 (CRC), who have been separated from both parents and other relatives and are not being cared for by an adult who, by law or custom, is responsible for doing so.

<sup>3</sup> Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31995L0046>.

The main purpose of these provisions is to guarantee the confidentiality of communications by prohibiting any unauthorized listening, taping, storage or other kinds of interception or surveillance<sup>11</sup>. Personal and family life can be considered as the private aspects of a human being (health issues, sexual life, judicial issues) (Hanaoka et al., 2024). Personal data must be collected by legal procedures and always in the best interest of the child, considering the consent of the asylum seekers and of their representatives (if they have any). If the above conditions are not met, this intervention through the collection of applicants' data becomes excessive and contrary to the best interests of the child (Tozakidou et al., 2021).

In the Greek legal system, the personal data are protected by the Law 2472/1997<sup>12</sup>, which incorporated the Directive 95/44/EC into the Greek legal arsenal. This Law was completed by the laws 3471/2006<sup>13</sup>, 3783/2009<sup>14</sup> and 3917/2011<sup>15</sup>.

The Directive was replaced by the new European General Data Protection Regulation (GDPR) 2016/679<sup>16</sup>, which was voted on April 2016 and

put into practice on 25<sup>th</sup> May 2018. This Regulation institutes from now on an undivided binding legal system for the security of personal data. This Regulation is indissolubly connected with the respect towards private life and the protection of personal data of minors, as it is prescribed in the article 16<sup>17</sup> of the United Nations Convention on the Rights of the Child (BIA, BID).

The main purpose of this article is the establishment of an undivided entry and exit system for the recording only of the third countries citizens who declare unaccompanied minors since they arrive in the member states of European Union.

## 2. PROTECTION OF SENSITIVE PERSONAL DATA DURING THE AGE DETERMINATION OF ASYLUM SEEKERS

Concerning the procedures for registering asylum seekers, personal data must be collected under legal procedures and always in the child's best interest, considering the consent of the asylum seekers being examined and their representatives (if any), if they declare minors. If the above conditions have not been fulfilled, such interventions are in contrast with the child's best interest. It is necessary to inform asylum seekers and their guardians about the information that should be collected under the current national legal framework. In the context of international protection, particular attention should be paid during the collection of personal data in order not to leak information from the countries of origin that could put asylum seekers or their families at great risk (Affes & Alfahdaw, 2023; Andersen, 1971; Basdekidou & Papapanagos, 2024a; Basdekidou & Papapanagos, 2024b).

However, a variety of violations of human rights concerning personal data issues and many incidents of circumvention of the best interest of the child have been recorded at all stages of the age identification of asylum seekers (Basdekidou & Papapanagos, 2023).

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3. Compliance with these rules shall be subject to control by an independent authority.

<sup>10</sup> "1. Everyone has the right to the protection of personal data concerning him or her.

2. Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified.

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<sup>11</sup> Sergio Carrera, Elspeth Guild, Alejandro Eggenschwiler (18 May 2009) "Informing the Data Protection Debate", Center for European Policies Studies, p.2.

<sup>12</sup> Law 2472/1997 on the Protection of Individuals with regard to the Processing of Personal Data, available at [https://www.dpa.gr/sites/default/files/2019-10/law\\_2472-97-nov2013-en.pdf](https://www.dpa.gr/sites/default/files/2019-10/law_2472-97-nov2013-en.pdf).

<sup>13</sup> Law 3471/2006 on the Protection of personal data and privacy in the electronic telecommunications sector and amendment of law 2472/1997, [http://www.adaae.gr/fileadmin/docs/nomoi/LAW\\_3471-2006-EN.pdf?msclid=5f1e33eaab8a11ec8b701a53c46d3210](http://www.adaae.gr/fileadmin/docs/nomoi/LAW_3471-2006-EN.pdf?msclid=5f1e33eaab8a11ec8b701a53c46d3210).

<sup>14</sup> Law 3783/2009: Identification of mobile phone users, cameras in public places, Flying operators. NOMOS, available at [https://lawdb.intrasoftnet.com/nomos/2\\_nomothesia\\_rs\\_sub.hp](https://lawdb.intrasoftnet.com/nomos/2_nomothesia_rs_sub.hp).

<sup>15</sup> Law 3917/2011: Retention of electronic communications data/Cameras in public places (2006/24/EC), NOMOS, available at [https://lawdb.intrasoftnet.com/nomos/2\\_nomothesia\\_rs\\_sub.hp](https://lawdb.intrasoftnet.com/nomos/2_nomothesia_rs_sub.hp).

<sup>16</sup> Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural

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persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3a32016R0679&msclid=142333b0ac3211ec95c9d65595708974>.

<sup>17</sup> "Every child has the right to privacy. The law should protect the child's private, family and home life, including protecting children from unlawful attacks that harm their reputation".

The above problems derived from the differences that arose in the legal system of each EU member-state. These differences are the consequences of the existence of discrepancies in the implementation and application of Directive 95/46/EC to each EU country.

It is therefore necessary to ensure a uniform application of the rules on the protection of the fundamental rights and freedoms of individuals regarding the processing of personal data throughout the Union (Basdekidou 2021; Basdekidou 2018b; Basdekidou 2017).

This Regulation also allows EU Member States to maneuver to specify their rules concerning the processing of specific categories of personal data that is called 'sensitive data'<sup>18</sup>. Sensitive data are distinguished from the other categories of personal data by Law 2472/1997 and this distinction is maintained in Regulation 2016/679. In paragraph 1 of Article 9 of the Regulation, there is the enumeration of the sensitive personal data: "*racial or ethnic origin, political opinions, religious or philosophical beliefs or trade union membership, as well as the processing of genetic data, biometric data for the unquestionable identification of a person, data concerning health or data concerning the sex life of a natural person or sexual orientation.*" (Inglezakis, 2003).

The concept of sensitive personal data includes the genetic<sup>19</sup>, the biometric<sup>20</sup>, and the health-related data<sup>21</sup>. These classes of data are linked to the age-related process of identifying asylum seekers<sup>22</sup>.

The collection of sensitive personal data is deemed necessary by the state authority to properly assess the age of the asylum seekers (Zetoon, 2021). Moreover, the collection of these data by the State is always done for a specific purpose, as provided for in Article 4 par1 of Law 2472/1997, which in this case is the correct age determination of asylum seekers (Hanaoka et al., 2024, Basdekidou & Styliadou,

2017a; Basdekidou & Styliadou, 2017b; Basdekidou & Styliadou, 2017c).

The personal data of the examined asylum seekers are recorded in the best interest assessment form. In the first chapter called "Basic Details" the case number and file number, the name of the applicant, the commissioner, the examiner, and the interpreter, as well as the date must be written down (Basdekidou & Papapanagos, 2024c; Basdekidou & Papapanagos, 2024d). In the next chapter called "Information Collected" certain personal data such as nationality, ethnicity, education, language, health, and family history should be included (Hanaoka et al., 2024; Basdekidou 2019; Basdekidou 2018a).

Other age information obtained from other family members or other sources and expert documents, such as medical reports and administrative reports must be added to the form (Hidayat et al., 2022; Kwarteng, 2018; Magaji et al., 2018; Rozzi, 2017; Sinaga et al., 2013).

The above personal data gathered only for security reasons must be proportional to the purpose of their collection, which in this case is to serve the best interests of the child through the age assessment process and the reveal of the truth. At this juncture, a major issue between two principles arises: the equation between the protection of sensitive personal data and the best interest of the child (Cummaudo et al., 2021a; Dorber & CoE, 2019; EC, 2023, Franceschetti et al., 2022).

The balance between these two principles will be succeeded only through the principle of proportionality (Smith & Brownlees, 2011; Styliadou, 2018a; Styliadou, 2018b, Styliadou, 2018c; Tozakidou et al., 2021).

According to this principle, the violation of the sphere of privacy and personal data of third-country nationals could only be justified for reasons of public interest<sup>23</sup>. Otherwise, legal uncertainty is created, and an indiscriminate collection of personal data will take place (Styliadou & Williamson, 2018; Thevissen et al., 2010).

Public interest is not a general reservation for all rights. If that happened, the unique intention would be state expediency (Raison d'état), as in

<sup>18</sup> Inglezakis D. Ioannis (June 2003), "Sensitive Personal Data: The Processing of Special Categories of Personal Data and its Consequences", Publications SAKKOYLAS, p. 23.

<sup>19</sup> Any data concerning the DNA and RNA analysis.

<sup>20</sup> Some examples of biometric data are facial features and recognition, voice recognition, fingerprints, iris scanning, palm recognition, retina, and ear shape recognition.

<sup>21</sup> This category includes all the data relating to the medical history of the patient (illnesses, medical diagnosis, etc.)

<sup>22</sup> David A. Zetoon (14 May 2021), "What is Considered Sensitive Personal Information?", *The National Law Review*, Volume XI, Number 134.

<sup>23</sup> The public interest is referred to in Article 17par.1 of the Greek Constitution as a direct constitutional limitation of the protection of property.

authoritarian regimes. Regarding the protection of private and family life, article 9par1b<sup>24</sup> of the Greek Constitution provides an explicit reservation in favor of the State for reasons of public interest (UNICEF 2022; UNHCR 2021; UNHCR 1997).

Something similar could be applied to Article 9A of Greek Institution on the protection of personal data. In particular, to serve the best interest of the child through the age assessment process, which is an aspect of the public interest, a reasonable breach of personal data must be tolerated (Hanaoka et al., 2024). This violation should be tolerated to determine who asylum applicant is a minor and is entitled to more favorable treatment by the State. Such a process serves Justice and Truth (Schmeling & Rudolf, 2022).

### 3. OBJECTIVES (PROTECTING SENSITIVE PERSONAL DATA DURING AGE DETERMINATION)

To address the methodology and data collection related to the age assessment of unaccompanied asylum-seeking minors, especially concerning personal data protection, the following six queries, issues, and aspects operating as objectives are presented:

1. What specific ethical considerations are involved in the age assessment of unaccompanied minors, and how are they addressed in the methodology?
2. How were the interviews with experts conducted?
3. What international references were studied, and how do they provide recommendations for age assessments in the context of personal data protection?
4. What kind of data collection methods were used during the NGO visits?
5. How are personal data protection issues addressed in the age assessment process?
6. Was there a pilot or case study conducted in any EU member state to test the proposed age assessment procedures?

### 4. METHODOLOGY

The proposed methodology and data collection related to the objective are as follows:

- A. For the 1<sup>st</sup> objective (“*What specific ethical considerations are involved in the age assessment of unaccompanied minors, and how are they addressed in the methodology?*”) methodology concerns include informed consent, the noninvasive nature of assessment procedures, and ensuring that assessments respect the dignity and privacy of the minors involved.

Furthermore, it is essential to use the four biomedical ethics principles—autonomy, beneficence, non-maleficence, and justice—to conduct an ethical evaluation of the dental age estimation performed using these radiographic techniques (Cummaudo et al., 2021a; 2021b).

- B. For the 2<sup>nd</sup> objective (“*How were the interviews with experts conducted?*”), methodology concerns include:

- The criteria to be used for expert selection with legal, child protection, or medical backgrounds.
- Guidelines for bias minimization in selecting experts.
- The interview protocol specifications to ensure consistency, sustainability, and ethical rigor (Cummaudo et al., 2024).

- C. For the 3<sup>rd</sup> objective (“*What international references were studied, and how do they inform the recommendations for age assessments in the context of personal data protection?*”) methodology concerns clarifying the legal instruments (e.g., UN Convention on the Rights of the Child, EU directives, GDPR) that will be consulted and how they will influence the proposed age assessment procedure.

- D. For the 4<sup>th</sup> objective (“*What kind of data collection methods were used during the NGO visits?*”) data acquisition employs qualitative and quantitative techniques to gather insights from NGOs working with unaccompanied minors. Additionally, the representativeness of the NGOs has been specified (e.g., size, geographical scope, and area of expertise).

- E. For the 5<sup>th</sup> objective (“*How are personal data protection issues addressed in the age assessment process?*”) data selection procedures obey data protection protocols to ensure compliance with the GDPR and

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<sup>24</sup> “No search shall be carried out at a residence, unless and as specified by law and always in the presence of representatives of the judiciary”

safeguard sensitive personal data of minors (Cummaudo et al., 2024). Additionally, relevant provisions take place to prevent misuse or unauthorized access a separation between the data collected for age assessment and other personal data (e.g., asylum claims).

- F. For the 6<sup>th</sup> objective (*“Was there a pilot or case study conducted in any EU member state to test the proposed age assessment procedures?”*) (a) the results of the pilot study are documented and presented, and (b) the feedback from minors, immigration officers, and social workers are documented and discussed concerning ethical and methodological challenges.

## 5. GDPR, CHILDREN, AND AGE ASSESSMENT

For minors' age assessment with GDPR compliance, the following guidelines are proposed (Schmeling & Rudolf, 2022; Tozakidou et al., 2021):

- Since they might not be as aware of the risks, children require extra protection when it comes to the collection and processing of their personal data.
- If you handle children's personal information, you should consider the need to protect them right away and build your systems and procedures accordingly.
- All of your processing of children's data should be centered on adherence to the data protection standards, especially fairness.
- Processing a child's personal information requires a valid reason. Although it is not the sole possibility, consent is one potential legal foundation for processing. There are instances when employing a different basis is more suitable and offers the child greater protection.
- In the EU, children who are 13 years of age or older are the only ones who can give their own consent if you are using consent as your legal basis for processing and you are providing an online service to a kid directly.
- Unless the online service you provide is a preventive or counseling service, you must obtain permission from the person who has parental responsibility for the child if the child is less than this age.

- Children should be given extra protection when their personal information is used for marketing or to create user or personality profiles.
- You should not usually make decisions based solely on automated processing about children if this will have a legal or similarly significant effect on them.
- You should write clear privacy notices for children so that they are able to understand what will happen to their personal data, and what rights they have.
- Generally speaking, you should not base choices about children only on automated processing if doing so will have a substantial legal impact on them.
- Children should be given clear privacy notifications so they may understand their rights and what will happen to their personal information.
- Regarding their personal information, children have the same rights as adults. These include the ability to see their personal information, ask for corrections, object to processing, and have their information deleted.
- If a person consented to process while still a minor, their right to erasure is especially important.

## 6. FUTURE CHALLENGES, SUGGESTIONS, AND RECOMMENDATIONS

When a person's age is recognized, it governs their relationship with the state and, as a result, establishes the following important obligations of state parties concerning age: Articles 7 and 8 of the Convention on the Rights of the Child:

- Follow an “After birth child registration” policy;
- Honor the child's right to maintain their identity; and so
- Re-establish his or her identification as quickly as possible.

All children should be registered at birth and given official identification documents under these duties (Tozakidou et al., 2021).

As early as 2008, the European Commission proposed the establishment of three large-scale databases under the New Border Package Program<sup>25</sup>. This Program recommends the

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<sup>25</sup> Elspeth Guild, Sergio Carrera, and Florian Geyer (March 2008) “The Commission's New Border Package\_Does it take

establishment of an automated border control system to verify the identity of a traveler based on biometric technology. It also suggests an electronic travel authorization system that will oblige non-EU travelers to provide personal data for electronic verification before departure. However, this initiative of the (EC) Commission was evaluated negatively (Guild et al., 2008).

Finally, the European Data Protection Supervisor<sup>26</sup> will propose to the European Commission the establishment of a new database exclusively for unaccompanied third-country minors entering EU Member States. The European Commission will then propose a new European legislative act, including creating this database, to the European Parliament and the Council of the European Union. At the same time, the European Data Protection Supervisor will cooperate with the respective national authorities (CRN, IOM).

This database will combine data from common databases (such as Schengen Information System<sup>27</sup>, Eurodac<sup>28</sup>, Visa Information System – VIS<sup>29</sup>, Europol<sup>30</sup>, Eurojust<sup>31</sup>), or lost and stolen Interpol travel documents.

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*us one step closer to a 'cyber-fortress Europe'?", Center for European Policy Studies, p.1.*

<sup>26</sup> *The European Data Protection Supervisor (EDPS) is an independent EU body responsible for monitoring the application of data protection rules within European Union, which was established under Article 41(2) of Regulation 45/2001 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data.*

<sup>27</sup> *The second-generation Schengen Information System (SIS II) is a database used by the authorities of the Schengen Member States to exchange data on certain categories of people and goods and has been used primarily as a database of third-country nationals to refuse entry to the EU.*

<sup>28</sup> *It is a European Union (EU) fingerprint database for identifying asylum seekers and those crossing the border irregularly. By the end of 2007 Eurodac had 1.086.246 fingerprints and in its first five years of operation, the whole process had cost the EU EUR 8.1 million. The Eurodac database currently provides for fingerprinting for all persons over the age of 14, while in the recast proposal, the age limit is reduced to six years. This database was established by the EU Regulation No 603/2013 of the European Parliament and of the Council of 26 June 2013.*

<sup>29</sup> *Another database is the Visa Information System (VIS) which is responsible for the exchange of visa data between the Member States of the Schengen area. This system provides information on persons applying for residence permits in EU countries.*

<sup>30</sup> *Europol (European Union Agency for Law Enforcement Cooperation) is an EU institution that assists national law enforcement authorities to fight serious international crime and terrorism. Its headquarters is in The Hague.*

<sup>31</sup> *Eurojust (European Union Agency for Criminal Justice Cooperation) is an Agency based in The Hague, where national judicial authorities of all EU member-states cooperate with each other to suppress transnational*

However, because the above-mentioned databases have so far proved to be insufficient, a new data collection system should be much more detailed and specific. It will not include lengthy definitions and pointless data collections except for information that can only be used to calculate the age of asylum seekers. The new database outlined above will apply only to the citizens of third countries who claim to be unaccompanied minors since their entry to an EU member state (UAC, UAM, UASC, UMC).

Therefore, these data will also include sensitive personal data (racial origin, religion, sexual orientation, illness). Access to this specific category of data will be limited only to scientists (medicines, lawyers, psychologists, and social workers) who will participate in the age assessment of the asylum seekers. Through the whole process, the asylum seekers must be efficiently protected against unjustifiable breaches of personal data and inaccuracies, and they should be properly informed of their rights.

On the one hand, this innovation raises many issues of violation of sensitive personal data, but on the other hand, all the moral and ethical issues raised during the whole process of the age determination can be sidelined for the best possible evaluation of the age of the asylum seekers.

Therefore, authorities may need to evaluate whether a person is an adult or a kid based on their age when it is unclear and there are credible concerns about their age (Cummaudo et al., 2021b).

Age assessment may not be required in situations where the applicant is clearly a kid or if, absent conflicting evidence, the applicant's physical attributes, mannerisms, and psychological development clearly show that the applicant is much older than 18 (Hanaoka et al., 2024).

Applying the four biomedical ethics principles—autonomy, beneficence, non-maleficence, and justice—to the dental age estimation process utilizing these radiography techniques is also essential (Cummaudo et al., 2021a; 2021b, Zheni, 2022).

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*organized crime (such as terrorism, cybercrime, trafficking in human beings, drug trafficking, crimes against the financial interests of the EU, migrant smuggling, environmental crime, money laundering, swindling, and fraud).*

## 7. CONCLUSION

Medical age assessment is done for no therapeutic or medical purpose, many medical experts view it as extremely intrusive and unethical, particularly when done by radiography. It is crucial to do an ethical assessment of the dental age estimation carried out by these radiographic techniques using the four biomedical ethics principles (autonomy, beneficence, non-maleficence, and justice).

## DISCLAIMER (ARTIFICIAL INTELLIGENCE)

The Author hereby declares that NO generative AI technologies such as Large Language Models (Chat GPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

## ETHICAL APPROVAL

As per international standards or university standards written ethical approval has been collected and preserved by the author.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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