Discussion Paper

Age assessment practices: a literature review & annotated bibliography

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Part I

Age Assessment Practices: A literature review

1. Context: the need for age assessment

Only half of the children under five years old in the developing world have their births registered. In sub-Saharan Africa 64% of births go unregistered, and in South Asia 65% of all births go unregistered (UNICEF, 2010:44). The implications for children can be monumental. Their official 'invisibility' increases their vulnerability and the risk that violations of their rights will go unnoticed. For example, without documents to prove their age, children are more vulnerable to underage recruitment into fighting forces, to being exposed to hazardous forms of work, to early marriages. They are also more vulnerable to being treated as an adult rather than a child or juvenile in criminal proceedings, and when seeking international protection as asylum seekers.

Children in conflict with the law have a right to be treated 'in a manner which takes into account the needs of persons of his or her age' (UNCRC, Article 37). Lack of birth registration and ID cards leads to greater opportunity for abuse of the system by law enforcement officials, plaintiffs and defendants either processing children as adults (to avoid complications or secure a conviction) or adults as children (to benefit from leniency in sentencing and improved conditions in juvenile rehabilitation centres). For a juvenile to be wrongly identified as an adult can have life-changing consequences when he or she should instead be afforded consideration of his/her maturity and capacity, guarantees of due process and support for reintegration. To be processed as an adult puts the child at increased risk of abuse in a system that makes no consideration for the child's situation, age or maturity. For a child below the age of criminal responsibility to be mistakenly identified as a juvenile means entry into the formal juvenile justice system when he or she should have been entitled to special care and protection. Therefore realistic determination of age is vital to ensuring that children and juveniles are identified and treated appropriately (UNICEF, 1995:20).

Unregistered, displaced and migrant children are vulnerable to a number of forms of discrimination and abuse. For example in Guinea, many unregistered refugee children have been arbitrarily detained by law enforcement officers. Unable to prove their age, many have been locked up as adults (UNICEF, 2007b). Separated refugee children who find themselves in Europe can find themselves in a similar situation (see for example Ruxton 2003). If their age is disputed they will often enter adult asylum determination processes and will not be able to benefit from any of the concessions available to children whose age is not disputed. In the UK this means they will have more limited time for returning details of their asylum claim, will be called for an asylum interview at which there will be no public funding available to have a lawyer present, will not benefit from the presence of an independent adult to support them at the interview and may be detained pending an asylum decision (Crawley, 2007). Being treated as an adult also has implications for children's ability to access welfare services and support.

As Cipriani (2005) notes, positive developments have taken place through national campaigns for birth registration. Some countries, such as Afghanistan and Bangladesh, have successfully created their first government birth registration systems ever, while India

and Pakistan have played leadership roles in promoting birth registration across Asia (Cipriani, 2005). However, despite this progress and continued efforts of UNICEF and other national and international organisation, millions of children remain unregistered. Given this reality, when government or other agencies need to know the age of an undocumented child, attempts are often made to estimate a child's age using a variety of assessment methodologies. This report reviews the literature available on the practice of age assessment. It explores the methodologies that are available, how these are implemented, and the impact they have on children's lives. It also explores what is meant by the concept of 'age', and how this understanding might shape the development of future approaches to age assessment.

2. Understanding age and childhood

2.1 Childhood as a cultural construct

Since the emergence of child labour laws over one hundred years ago, chronological age, has become increasingly significant for children as precise age took on a social value in relation to the law. The ratification of the United Nations Convention on the Rights of the Child (1989) by all but two countries globally, has cemented this significance by creating the first international definition of the child as 'any person below the age of eighteen years' (Art.1). In this politically and legally constructed model of childhood, documentary evidence of identity and birth are very important, yet despite children's universal right to birth registration (Art.7), birth registration has not always filtered down into practice in some countries or within certain communities.

In recent decades, 'childhood' as a topic of study has received greater recognition and interest, and contemporary studies of childhood explore and describe how childhood is a social construction which refers to a social status delineated by boundaries that vary through time and across societies and cultures (Jenks, 2005:7). A number of landmark studies have provided many examples to illustrate how the notion and meaning of childhood is a concept that bundles together ideas and expectations about young people and their role in societies (see for example, James and Prout, 1990, Jenks 2005). They illustrate how the meaning of 'childhood' is socially constructed and varies over time and within and across cultures, with no one universal meaning (Cipriani, 2009:3).

These constructions have a particular importance when considering children's rights and responsibilities. For example, a justice approach to the minimum age of criminal responsibility (MACR) is not based in reality upon children's normative moral agency and responsibility. Instead, forces of social construction influence the limits, and dominant ideas about children's competence are translated into precise legal age limits that mark the boundaries of childhood and adolescence. When law prescribes a given age limit denoting the beginning of children's legal competence in a specific area, regardless of the mix of

ideas and assumptions justifying that age, it demarcates the onset of a specific liberty right (Cipriani, 2009:3).

Rosen refers to this as the 'politics of age', where representations of childhood are used to support legal and political agendas, which discount the more varied and complex local understandings of children and childhood found in anthropological research (2007). In many countries, rights and responsibilities are explicitly structured by chronological age. Examples of these rights include age regulations around voting, working, marriage and education. As all but two countries globally have ratified the UN Convention on the Rights of the Child, these rights and the ages by which they are attained should be universal, yet studies continue to show significant cross-national variation in the degree to which age rules and age preferences are embedded within laws and social policies, particularly at the local level.

A cross-cultural study of age carried out in seven communities in Hong Kong, the USA, Ireland and Botswana shows that chronological age has the strongest salience in communities that are part of modern, industrialised societies (Keith et al, 1994). In other communities, different measures and markers are used to mark various life stages and transitions. There is a substantial amount of anthropological study of life stages and rites of passage in Africa to illustrate this. For example, in many communities in Africa, the onset of puberty marks the divide between adult and child for girls, while for men the achievement of independence as heads of household marks adulthood. Male maturity is also significantly shaped through engagement with 'warrior' bands, militias and initiation groups which were important spaces for the socialisation and self-determination of young men and the proving of manhood (Waller, 2006:82). Other examples include customary law among the Fithi Mehari Woadotat people of Eritirea, which prescribes that boys come of age not at a particular age but, rather, when the community considers them to be mature enough, which may be at any time between 13 and 20 years. Once they come of age, they can be a witness, participate in the community, pay taxes and be armed (*Government of Eritrea, Initial report of Eritrea to the Committee on the Rights of the Child, in* Lansdown, 2005:50).

Many anthropologists have studied the age systems of Africa, where age is often a major organising principle (see for example Foner at al, 1978; Dyson-Hudson, 1963). Age systems include formal age classes of individuals of similar numerical age, age grades or developmental stages based on social and biological development, and relative ages of individuals, which are often reflected in terms of address. These age stages help define individuals in relationship to each other and within society in functional ways. In his study of the Kusasi of North East Ghana, Cleveland describes the seven developmental stages that people belong to, and explains how they enter and leave these stages based on their biological and social state of development, which is closely linked to social values of production and reproduction. Cleveland suggests that while members of an age category may have different numerical ages, and the average and range of ages for the category may range through time, in terms of reflecting biological and social reality they may be more meaningful than 'the Westerner's' numerical ages.

Stage 1	from birth until child is able to sit and crawl
Stage 2	spends most of time playing, but begins helping by carrying water, watching younger children, and herding animals
Stage 3	becomes important productive member of the household; males do heavy farm work; females fetch wood and water and wash dishes
Stage 4	becomes sexually mature, considered marriageable, courting begins; women develop breasts, experience menarche; circumcision of both sexes traditionally occurs at this stage; takes on full adult workload
Stage 5	most people are married and recognised as adult members of the community; the reproductive years
Stage 6	workload and social responsibilities begin decreasing; a man's beard begins turning white; women have passed menopause
Stage 7	very old people, becoming senile, engaging in very little productive activity

(Cleveland, 1989:405)

Social and cultural expectations in different societies inform the demands made on particular groups of children and their consequent capacities to exercise responsibility in different ways. Cleveland's work shows that while both sexes move through the first two stages at around the same time, from stage 3, as social and biological differences become increasingly important, the average age for women in each stage becomes significantly lower than that for men. Women in stages 4 and 6 are seven to eight years younger than males at this stage. These differences are reflected in different ways in different cultures. For example, girls take on adult work roles at 12 in Nepal, while boys do not do so until they are 14 (Lansdown, 2005:26).

Because international law is built on a definition of childhood that has roots in the west, it inevitably clashes with many local understandings, and this can be the case with understandings of child combatants and children's involvement in war, child labour, child marriage and 'child prostitute' (Rosen, 2007:297). In his article on child soldiers and humanitarian law, Rosen argues that anthropological research suggests that there is no single fixed chronological age at which young people are found on the battlefield. The Dinka of the Sudan initiated boys into warriorhood between the ages of 16 and 18, young Native Americans often joined their first war parties when they were about 14 or 15 years old, and among the Yanamamo of Venezuela and Brazil, adolescents largely set their own pace in determining when they wanted to take up the adult role of warrior, demonstrating that chronological boundaries between childhood and youth and youth and adulthood are highly varied and rooted in the historical experience of each society and culture (2007:297).

However, it is also worth noting that stages and ages at which rites of passage are experienced can vary and change over time. For example, whole generational groups or

age cohorts are often put through at once, and in situations of conflict or political instability, rites of passage that would usually take place every decade or so may be put off for some years, so that what would have been separate cohorts all go through at once, or in some cases not at all (Conversation with Dr Nicholas Argenti, September 2010)[1]. In addition, in response to international laws such as the UN Convention on the Rights of the Child, historically wide variations in the ages at which these protections or acquisitions of rights apply are slowly becoming more uniform and legal models based on fixed age-limits are becoming the norm, although often through processes of conflict and debate.

Some anthropologists have expressed concerns about the possible unintended consequences that could result from the application of a universal approach to children's rights (see for example Rosen 2007), believing it could serve as a screen for the transfer of western values and practices. However, increasingly anthropologists recognise that there is growing global consensus concerning the individual human rights of women, children and minorities, and many recognise the importance of ethical debates above arguments of cultural relativism (Scheper-Hughes et al, 1998).

Implementing a universal approach to children's rights and as a consequence, concepts of age has been challenging. For example, since the enactment of the Child Rights Act in 2007 in Sierra Leone, law enforcement has struggled to come to terms with the new definition of childhood, and with the new minimum age of criminal responsibility. Practice under the previous Children and Young Persons Act saw a child defined as any person under the age of 14, while the age of criminal responsibility was determined under the common law concept of *doli incapax*, which presumes that a child at aged 10 but not yet 14 is incapable of forming a guilty mind, which effectively put the age of criminal responsibility at 10 years. While the Child Rights Act 2007 now takes precedence, and the minimum age of criminal responsibility is 14, Kamara (2008:1) describes 'fiery debates and arguments' around the issue of ascertaining the ages of children, and says that these arguments have become the hallmark of juvenile proceedings in courts.

Religions also bring with them distinct understandings and definitions of childhood, which have had a strong impact upon the development of legal systems. Islam, Hinduism and Buddhism are each very influential in various South Asian legal systems, and they have direct implications for the MACR.

There are eight major schools of thought within Islamic law, and they hold diverse viewpoints even on questions of children's age and responsibility. However, in all cases Islamic law predicates criminal responsibility upon certain individual characteristics, among which the capacity for intelligent reason (*akl*) and the existence of free choice are central. *Akl* is tied to the capacity for comprehension and the faculty of recognising good from evil. In Islamic criminal law, only those who can understand a legal norm, and act according to that understanding, are liable to be criminally responsible for violating that norm. *Akl* is a capacity that develops over time. The *Qur'an* does not provide explicit age guidelines

[1] Dr Nicholas Argenti, Professor of Anthropology at Brunel University, London, was contacted as part of this study in order to assist with the exploration of relevant literature on the theme of rites of passage

regarding the development of *akl*, and so Islamic legal and religious scholars interpret relevant ages as objective criteria to denote its growth. With this basic conceptual foundation, Islamic law recognises three age groups with respect to children and criminal responsibility:

1) From birth to age seven: children are considered non-discriminating in this phase, and are not held criminally responsible for any reason.
2) From age seven to the onset of puberty: in this 'age of discretion', children should also not be held criminally responsible, as their reasoning is still incomplete in its development. However, some schools of thought maintain that such children may be held accountable in other ways. The Hanafi school (the dominant school in South Asia) permits beneficial consequences or outcomes for children in this stage, or in certain circumstances, neutral outcomes. Al-Shafei commented that children in this phase may be disciplined and restrained, but neither retribution nor punishment is permissible.
3) From the onset of puberty and beyond: children who have reached puberty and who possess *rushd* (i.e. discrimination or maturity of actions) should bear criminal responsibility.

(Cipriani, 2009:78).

Therefore, in traditional Islamic law, a child who has not attained puberty along with rushd (mental maturity) has no criminal liability. This translates into a conclusive presumption that a child who has not attained puberty is not capable of committing a crime (Khan et al 1998 in Cipriani, 1995:21).

There is no clear consensus on which physical signs constitute the onset of puberty for boys and girls. Most Islamic schools of thought establish an age range, from a minimum age before which puberty can never be established, to a maximum age upon which puberty is assumed. Within this, puberty must be ascertained according to an individual's physical development. In terms of physical signs, boys are commonly accepted as having attained puberty when they are capable of producing sperm, and girls upon their first menstruation. Further proof in Shi'a Islam includes the growth of pubic hair, and in other schools, pregnancy and the deepening of the voice (Cipriani, 2009:79).

In almost all cases, MACR provisions under Islamic law breach international standards against gender discrimination, because they explicitly assign criminal responsibility on the basis of puberty, and can exacerbate discrimination against girls. For example, Pakistan's 1979 Offence of *Zina* Ordinance specifically regulates adultery, premarital sex, rape and other related crimes. Due to the earlier onset of puberty, girls potentially bear criminal responsibility several years before their male contemporaries. In addition, procedural and evidentiary requirements for puberty tend to delay and even avoid the conferral of responsibility upon boys. Instead, for girls, menstruation and/or pregnancy are clear and irrefutable signs. In the absence of direct proof of rape, the fact that a girl is pregnant is seen to prove that she has committed adultery or has had premarital sex (Cipriani, 2009:83).

Fundamental Hindu precepts strongly support the notion of the innocence of children, and tend to lend support to higher MACRs (Yubaraj, 2004 in Cipriani, 1995:22), as does Buddhism. Bhutan's laws are based on Buddhist principles, which are considered conducive to the protection of children's rights. The Buddhist perspective sees children as coming into the world with a pure mind, but at risk of being influenced by 80,000 identified types of external disturbances. Since children and young adults are susceptible to these disturbances, caring adults bear the responsibility of protecting the development of children. In light of these principles, the Penal Code refuses any possibility of criminal liability for children younger than 10, and explicitly grants judges the authority to consider reduced sentences and other appropriate facilities, instead of imprisonment, to respond to children above the MACR (Cipriani, 1995:23).

While legal definitions of childhood and the acquisition of rights and responsibilities are increasingly demarcated by precise chronological age limits, anthropological insights into age, custom and tradition, and rites of passage should not be dismissed as they can be of real value in helping those who are tasked with making an assessment of a child's age to understand the cultural contexts from which children come. Anthropological observations can help others understand why some children may look or behave older than might be expected of children in other societies.

2.2 Measures of age: Chronological, biological, social and developmental age

The significance of chronological age has gained salience in response to the development of laws and policies that rely on age as a marker or boundary, and in light of evidence of biologically based universality in children's physical and cognitive development. Children's bones are seen to follow a predictable path of development and muscular development follows and sequential process (as discussed in Section 4.1 below), and it is widely accepted that some significant changes in physical strength, agility and cognitive and social competencies take place at specific stages in children's development (Lansdown, 2005:23).

However, some argue that it is wrong to make age-related assumptions about levels of decision-making competence, and that the rigid application of laws prescribing ages at which certain rights come into play do not reflect the reality of decisions and levels of responsibility of which children are capable (Lansdown, 2005:49). Findings from cross-cultural comparisons of competency show that children's levels of functioning are far from universal and that where different assumptions of competence apply, different behaviours and practices arise. Gender, class, culture, disability and ethnicity, as well as age, all influence children's lives and their capacities (Settersten et al, 1997).

Other measures of age include biological age, social age and psychological age. Biological age is defined by an individual's present position with respect to his or her potential life span, meaning that an individual may be younger or older than his or her chronological age. Social age is defined by an individual's roles, responsibilities and habits with respect to other members of the society of which he or she is a part. An individual may therefore be older or

younger depending on the extent to which he or she shows the age-graded behaviour expected of him by his particular society or culture, as discussed in Section 2.1 above. Psychological age is defined by the behavioural capacities of individuals to adapt to changing demands and includes the use of adaptive capacities of memory, learning, intelligence, skills, feelings, motivations and emotions for exercising behavioural control and self-regulation (Settersen et al, 1997:240). For example, in Bangladesh, children are seen to cross a threshold that separates a stage of innocence and ignorance, known as *shishu,* from a later stage of knowledge, understanding and responsible behaviour, but this transition is not associated with specific ages (Lansdown, 2005:26).

Lansdown (2005:24) sets out a number of limitations to age-based assessments and assumptions of age-based competencies, outlining how a growing body of research argues that a wide range of factors influence how children function, for example the environment in which a child develops as well as the child him or herself. Gender also influences levels of competence, and analyses of sex differences have revealed worldwide trends in which girls aged 7 to 11 years are more nurturing than boys, girls of 3 to 7 years are more responsible than boys and boys are generally more aggressive than girls. Chronological age is therefore recognised by many as having significant limitations in terms of being able to indicate biological, social or psychological age, as it provides only a 'rough indicator' of an individual's status along biological, social or psychological dimensions (Settersen et al, 1997:240).

As already discussed, Islamic law takes into account the concept of *rushd*, or mental maturity, and children's maturity is considered on a case by case basis. For example, in Afghanistan's draft Juvenile Code, for children older than the MACR (12 years), the factor of *rushd* is included wherein judges are duty bound to consider the degree of psychological development, character and aptitude, and behaviour of each child during and after the offence (Cipriani, 1995:22). Therefore, even when a child's chronological age is known, it is acknowledged that there are other measures of age and maturity that are significant in deciding upon the outcome of any decision in relation to that child. In fact, international juvenile justice standards broadly support the developmental perspective, recognising children's evolving capacities and their right to effective participation in juvenile justice matters, and to enjoy proceedings and treatment that take into account their age. The Beijing Rules appeal to the protective aspects of evolving capacity, stating that MACRs 'shall not be fixed at too low an age level, bearing in mind the facts of emotional, mental and intellectual maturity'.

As further explanation, the Commentary to the United Nations Standard Minimum Rules for the Administration of Juvenile Justice (The Beijing Rules, 1985) notes the role of culture in shaping concepts of age and responsibility, stating that '*the minimum age of criminal responsibility differs widely owing to history and culture. The modern approach would be to consider whether a child can live up to the moral and psychological components of criminal responsibility; that is, whether a child, by virtue of her or his individual discernment and understanding, can be held responsible for essentially anti-social behaviour.*' (Paragraph 4.1)

By directing attention to moral and psychological development, discernment and understanding, the Commentary to the Beijing Rules stresses certain competencies that have particular relevance to criminal responsibility (Cipriani, 2009:32), and therefore includes an implicit requirement that juvenile justice mechanisms are adapted to meet the needs of children at different ages and of different capacities.

Developmental age is also acknowledged in UNHCR's guidelines on child asylum claims which states that;

".....Being young and vulnerable may make a person especially susceptible to persecution. Thus, there may be exceptional cases for which these guidelines are relevant even if the applicant is 18 years of age or slightly older. This may be particularly the case where persecution has hindered the applicant's development and his/her psychological maturity remains comparable to that of a child." (UNHCR, 2009:para7).

However, UNHCR's guidelines are not binding, and refer only to the recommended treatment of children who are seeking asylum. A lack of provision in law to take into account a child's developmental age has resulted in a focus intent on identifying chronological age in the context of children who migrate and seek asylum, as will be discussed in Section 4. It is also clear that while there is provision in law to take into account a child's developmental age in the juvenile justice system this is not always implemented in practice.

Landsdown (2005) outlines a possible solution to these difficulties as being the removal of all legal age-limits and substituting individual assessment of children to determine their capacity in decision-making. However, Landsdown also identifies significant limitations to such an approach including the impracticalities in implementing the model and its potential for exposing children to exploitation and abuse of their rights.

3. International guidance

In the context of a legal system where there is growing international consensus about prescribed age limits for the gradual acquisition of rights and responsibilities, children without proof of age inevitably face disputes concerning their age, and the authorities tasked with making decisions about their welfare must find a method of determining their age in the absence of official documentation. This section looks at the international guidance that is available to support countries in their response.

The framework which underpins all international guidance in relation to children is the United Nations Convention on the Rights of the Child (CRC) (1989). The CRC is a universally agreed set of non-negotiable standards and obligations which set minimum entitlements and freedoms that should be respected by governments. Article 1 of the CRC effectively restricts the application of the rights contained within the CRC to those who are children, i.e. below the age of eighteen years unless under the law applicable to the child, majority is

attained earlier. Therefore, a failure to recognise a person as being a child will prevent them benefitting from the rights set out in the Convention. This may have major implications for their protection, care and development and reinforces the need for State Parties to treat the subject of age assessment with due diligence and sensitivity

The four core principles of the Convention are non-discrimination (Art.2); devotion to the best interests of the child (Art.3); the right to life, survival and development (Art. 6); and respect for the views of the child (Art.12). An additional right which is particularly relevant to the issue of age disputes and age assessments is Article 7, which states that each child should be registered immediately after birth and that State Parties must ensure the implementation of this right in accordance with their national law and their obligations under relevant international instruments in this field, in particular where the child would otherwise be stateless.

The Convention also recognises that children in different environments and cultures who are faced with diverse life experiences will acquire competencies at different ages, according to circumstances (Articles 5 and 12). It allows for the fact that children's capacities can vary according to the nature of the rights to be exercised, and that children require varying degrees of protection, participation and opportunity for autonomous decision-making in different contexts. Article 5 of the Convention states that direction and guidance, provided by parents or others with responsibility for the child, must take into account the capacities of the child to exercise rights on his or her own behalf. Article 12 stresses the right of the child to express his or her views and have them taken seriously in accordance with age and maturity. Together, articles 5 and 12 establish children's roles as active participants in decision-making processes. While children must not be expected to perform or take on responsibility at levels beyond their capacity, they are entitled to take responsibility and participate in those decisions and activities over which they do have competence. In addition, articles 13, 15 and 16, which embody the rights to freedom of expression, association and to privacy, emphasise the child's right to his or her fundamental dignity and individuality, with the right to be different and diverge in his or her assessment of reality. None of these articles identify specific ages at which entitlement to exercise rights transfers to a child. Instead, they allow for the recognition of the individual capacities of each child to be respected in relation to each of their rights (Lansdown, 2005:23).

More specifically in relation to a child's age and criminal responsibility, article 40(3)(a) of the CRC states that 'State Parties shall seek to promote... the establishment of a minimum age below which children shall be presumed not to have the capacity to infringe the penal law.' The article instructs State Parties to establish a minimum age, linked directly to children's evolving capacities, which is explicitly protective. However, it can also be seen from a developmental and emancipator angle as it focuses on children's capacity which is expected to grow over time with support and encouragement (Cipriani, 2009:33).

The CRC does not explicitly touch upon the issue of age dispute or age assessment, but the UN Committee does explore the problem in two of its comments. In General Comment No. 10, the Committee on the Rights of the Child has emphasized that 'if there is no proof of age

and it cannot be established that the child is at or above the MACR, the child shall not be held criminally responsible' (United Nations Committee on the Rights of the Child, 2007, para 35). The Committee also stresses that 'if there is no proof of age, the child is entitled to a reliable medical and social investigation that may establish his/her age and, in the case of conflict or inconclusive evidence, the child shall have the right to the rule of the benefit of the doubt (2007, para. 39). It has also cited the need for official systems of age verification, focusing on objective evidence such as birth and school records (Concluding Observations: Nepal 2005 and Concluding Observations: Bangladesh 2006 in Cipriani, 2009:135).

In General Comment No.6 on the Treatment of Unaccompanied and Separated Children outside their Country of Origin, the UN Committee on the Rights of the Child states that 'identification measures including age assessment should not only take into account the physical appearance of the individual, but also his or her psychological maturity. Moreover, the assessment must be conducted in a scientific, safe, child and gender-sensitive and fair manner, avoiding any risk of violation of the physical integrity of the child; giving due respect to human dignity' (UN Committee on the Rights of the Child, 2005 para.31).

The UN High Commissioner for Refugees (UNHCR) has developed two significant sets of guidelines relevant to the issue of age assessment. In its *Guidelines for Unaccompanied Children Seeking Asylum,* UNHCR suggests that assessments should take into account both the physical appearance and psychological maturity of the child, emphasize the need for accuracy, safety, and dignity in the use of medical assessments, and recommend that authorities acknowledge inherent margins of error in medical assessments (UNHCR, 1997:05).

Significantly, the guidelines also state that 'the guiding principle is whether an individual demonstrates an 'immaturity' and vulnerability that may require more sensitive treatment' (UNHCR, 1997:05). More recent guidance developed in 2009 on child asylum claims takes this principle further, stating that 'there may be exceptional cases for which these guidelines are relevant even if the applicant is 18 years of age or slightly older' (2009:para 7). It also states that;

"Age assessments are conducted in cases when a child's age is in doubt and need to be part of a comprehensive assessment that takes into account both the physical appearance and the psychological maturity of the individual. It is important that such assessments are conducted in a safe, child- and gender-sensitive manner with due respect for human dignity. The margin of appreciation inherent to all age-assessment methods needs to be applied in such a manner that, in case of uncertainty, the individual will be considered a child. As age is not calculated in the same way universally or given the same degree of importance, caution needs to be exercised in making adverse inferences of credibility where cultural or country standards appear to lower or raise a child's age. Children need to be given clear information about the purpose and process of the age-assessment procedure in a language they understand. Before an age assessment procedure is carried out, it is important that a qualified independent guardian is appointed to advise the child." (UNHCR, 2009:para75).

The Council of Europe Convention on Action against Trafficking in Human Beings (2005) also refers to the issue of age dispute and states that 'when the age of the victim is uncertain and there are reasons to believe that the victim is a child, he or she shall be presumed to be a child and shall be accorded special protection measures pending verification of his/her age (Art. 10(3)).

Basing its guidance on the UNHCR guidelines and elements of the UN Committee on the Rights of the Child's General Comment no. 6 (paragraphs 31 & 95), the Separated Children in Europe Programme's Statement of Good Practice provides detailed recommendations for the practice of age assessment, stating that;

- Age assessment procedures should only be undertaken as a **measure of last resort**, not as standard or routine practice, where there are grounds for serious doubt and where other approaches, such as interviews and attempts to gather documentary evidence, have failed to establish the individual's age. If an age assessment is thought to be necessary**, informed consent must be gained** and the procedure should be **multi-disciplinary** and undertaken by independent professionals with appropriate expertise and familiarity with the child's ethnic and cultural background. They must **balance physical, developmental, psychological, environmental and cultural factors.** It is important to note that age assessment is not an exact science and a considerable margin of uncertainty will always remain inherent in any procedure. When making an age assessment, individuals whose age is being assessed should be given the **benefit of the doubt**. Examinations must never be forced or culturally inappropriate. The least invasive option must always be followed and the individual's **dignity must be respected at all times**. Particular care must be taken to ensure assessments are gender appropriate and that an independent guardian has oversight of the procedure and should be present if requested to attend by the individual concerned.
- The procedure, outcome and the consequences of the assessment must be **explained to the individual in a language that they understand**. The outcome must also be presented in writing. There should be a **procedure to appeal against the decision** and the provision of the necessary support to do so.
- In cases of doubt the person claiming to be less than 18 years of age should **provisionally be treated as such**. An individual should be allowed to refuse to undergo an assessment of age where the specific procedure would be an affront to their **dignity** or where the procedure would be harmful to their physical or mental health. **A refusal to agree to the procedure must not prejudice the assessment of age or the outcome of the application for protection.**

(Separated Children in Europe Programme, 2009:25)

4. Age assessment methodologies

This section reviews the available literature on the most common methods of carrying out assessments of chronological age. The methods include a range of medical, physical, and psycho-social assessments, as well as approaches to assess age that make use of existing local knowledge. Evidence shows that most experts agree that age assessment is not a determination of chronological age but an educated guess, and can only ever provide an indication of skeletal or developmental maturity from which conclusions about chronological age may be inferred (Crawley, 2007:36).

4.1 Medical age assessment

4.1.1 Bone age assessment

The assessment of bone age is most commonly based on x-rays of the hand and wrist, which are compared to one of two different but similar reference atlases by Greulich and Pyle (GP) and Tanner and Whitehouse (TW2). The GP method was established as a result of a 1935 study which aimed to assess skeletal maturity rather than evaluate age, and it did not taken into account inter-racial or socio-economic differences. The authors themselves recognised that there was not necessarily a relationship between the chronological age of a child and the amount of progress which the child had made towards attaining skeletal adulthood (Physicians for Human Rights et al, 2003:131).

There have been many studies of the GP methods and standards, and most of these identify significant discrepancies and variations. For example;

Ontell et al (1997) conclude that using the GP standards to determine bone age must be done with reservations, particularly in black and Hispanic girls and in Asian and Hispanic boys in late childhood and adolescence.

Mora et al (2001) conclude that new standards are needed to make clinical decisions that require reliable bone ages and accurately represent a multiethnic paediatric population.

The Tanner and Whitehouse method (TW2) of bone age assessment is based on the assessment of skeletal maturity and a prediction of adult height. Each of the 20 bones in the hand is individually compared with a series of pictures of the development of that particular bone. However, the reference standards that are used were established in the 1950s and 1960s, and there is evidence that bone maturity is reached sooner now than four or five decades ago. It is also thought to be a particularly unreliable method for older groups (those aged 15-18 years) and for those from different ethnic and racial backgrounds

(Einzenberger, 2003:38), and Ranta (2003) states that the TW2 method is not applicable after a person is over 16 years of age.

Other methods of bone age assessment include;

- The RUS method which involves x-rays of the radius and ulnam short bones;
- Assessments of the fusion of the clavicle; this method is only considered to be relevant in determining whether an individual is over or under 21 years of age, the age at which full clavicle development is usually observed. In the Netherlands this method is used alongside a wrist x-ray to state if the minor is under the age of 21 (Crawley, 2007 & Essakkili, 2007);
- A sonograph of the hip; the precision of this method is not very good, giving an accuracy of approximately 4-5 years (Chateil, 2002:24);
- The Iliac crest (Risser's test) which requires an x-ray of the pelvic girdle. It is thought to be a relatively reliable method for those between the ages of 12 to 16 years. However, the impact of irradiation to the gonad has to be considered (Jacques, 2003:18);
- X-ray of the shoulder area; this is a recent development from Denmark which suggests that an analysis of an x-ray of the shoulder area yields the most accurate results regarding actual age (Ranta, 2003).

For both the GP and TW2 methods, it has generally been accepted that bone maturity is affected by racial, socio-economic and nutritional factors (Crawley, 2007). However, according to some studies (see Schmeling et al 2000), the relevance of ethnicity on bone age testing has been discounted, and the German Association of Forensic Odonto-Stomatology of the German Society of Dentistry and the German Society for Forensic Medicine concluded in 2000 that bone maturity is independent of ethnic origin (2000:02).

Socio-economic background and nutrition *have* however been identified as factors that can influence the chronological age estimations made using bone age tests (Pedersen, C. 2004:5 & Schmeling et al, 2000);

'Nutrition is quite a big factor. Where nutrition is significantly reduced, without doubt there will be delay in maturation. For any given chronological age the skeletal age will be younger than you expect. Nutrition will not cause increased maturation or early maturation. It will only make you tend to underestimate the chronological age rather than overestimate it.[2]

[2]Dr Kevin Osborn testimony to the Australian Senate Legal and Constitutional Legislation Committee on 2 March 2001, Reference Crimes Amendment (Age Determination) Bill 2001 in Pedersen, C. 2004

In addition, evidence suggests that children are developing earlier today than in the 1930's when the method was developed, so that many subjects will be younger than the apparent age of the skeleton indicates, particularly in the case of girls (Save the Children Norway, 2006:02). The Royal College of Paediatrics and Child Health (RCPCH) states that a boy's skeleton today is fully developed at the age of 16 to 17 and a girl's at 15 to 16 years. This standard differs in both cases by two to three years from the GP atlas (1999).

In terms of accuracy, Ranta (2003) describes the margins of discrepancy that are applied to age assessments in Sweden as 6 months discrepancy for children aged 0-2 years, 12 months for 2-9 year olds and 24 months for 9-18 year olds. In most cases the margin of error is taken to be plus or minus two years. As Professor Peter Hindmarsh explains 'skeletal maturation can be expressed in terms of time when in fact it represents the amount of growth completed compared to an adult with fused plates. Bone age is simply a shorthand method for describing the percentage of growth that has taken place.'[3]

4.1.2 Dental age assessment

Another common method used is the assessment of dental age either by examination or by x-ray. Dental maturity, expressed as dental age, is an indicator of the biological maturity of growing children, and a number of methods are available. These include x-rays of wisdom teeth existence and development; eruption charts and reference values based on x-rays of the whole mouth (a method thought to yield more reliable results with adults), and the study of the mineralisation of teeth (Ranta, 2003:48).

X-rays to look at the existence and development of wisdom teeth are often used for older children, generally those who are between 16 and 22 years of age. This is because with this age group, most teeth are fully developed and only the third molars have some root development left. However, age assessments based on wisdom teeth eruption are thought to be even less precise than other methods, giving a confidence interval of over two years around the estimated age (Kullman, 1995:01). This method is used by the American Board of Forensic Odontology, but is criticised in the Netherlands where dental age assessment is regarded as being unsound because 25% of all people grow no wisdom teeth and because root development of the wisdom tooth demonstrates an extreme degree of inter-personal variation in the maturation process. According to a report by the Committee on Age Determination, 'about 10% of all girls and 16% of all boys reach the criterion for exclusion before they are 18 years old and may therefore by unjustly refused treatment as a minor' (Committee on Age Determination, 2006, in Crawley 2007:33).

Kvall's method involves x-rays of the front teeth in addition to a clinical examination of the oral cavity. The method is used to possibly remove doubt as to whether a person is under 18 years of age and to calculate the age above this level. Kvaal's method is based on

[3] Pr. Peter Hindmarsh, (UCL Institute of Child Health), Letter to Children's Commissioner of England, 29th May 2007

Norwegian research and is used in very few other countries. Odontologists in Sweden and Denmark consider it unsuitable for children between the ages of 12 and 18. The method also has a standard deviation of 9.5 years. The Odontological Faculty in Oslo which carries out dental examinations in cases of children seeking asylum, confirms that the method frequently gives a much too high result for young individuals. The Odontological Faculty does however state that even though Kvaal's method cannot be used to give a precise age, it can help to rule out the individual being under 18/ the age stated (Save the Children Norway, 2006:03).

The system most widely accepted as being the most accurate is the one developed by Demirjian, which assesses the developing dentition of an individual child. The formation stages of the left mandibular teeth (excluding the third molars) are assessed, the individual scores for each of the seven stages are summed and this is converted to a single dental age which represents the average age for a child of that score. The clinical interpretation of this indicates if the child is dentally advanced, average or delayed compared to the reference (Liversedge, 2010:96).

However, as with bone age assessments, medical opinion is that there are discrepancies between chronological and dental ages and that *'there is absolutely unanimity in the scientific literature that it is impossible to exactly determine a patient's chronological age from dental radiographs'* (Affidavit of Dr Herbert F. Frommer, January 28, 2002 in Physicians for Human Rights, 2003:132).

Critics such as the German Association of Forensic Medicine and researchers in Sweden, Finland, France and the USA state that the development of teeth depends on the environment, nutrition, as well as ethnicity and race (Pedersen, C. 2004:4), and indeed a number of studies that have been undertaken to look at the applicability of dental age assessment to different populations have found that there are wide variations in the chronological ages that are associated with different recognised stages of dental development. For example:

- Koshy and Tandon (1998) found that Demirjian's method of age assessment is not accurate when applied to South Indian children. They found that the method gave an overestimation of 3.04 and 2.82 years in males and females respectively. The study concluded that this method of age assessment was not suitable for this group of children;
- Thorson and Hagg (2001) investigated the accuracy of the development of one molar often used to estimate chronological age. They found that the difference between estimated and actual chronological age was large; plus or minus 4.5 years in girls and plus or minus 2.8 years in boys. They concluded that the association between dental age and chronological age, expressed in correlation coefficients, was poor;
- Eid et al (2002) applied the Demirjian method to Brazilian children aged 6 to 14 years of age and found that compared to the French-Canadian sample of Demirjian, Brazilian males and females were 0.6 years more advanced in dental maturity;

- McKenna et al (2002) applied the Demirjian method to South Australian children and concluded that the mean of differences was consistently outside the range of what would be considered acceptable for forensic age determination;
- Ethnic differences in the mineralisation of third molars have been identified by Olze et al (2004; 2006);
- Kullman (1995) combined a bone age measurement with dental examinations and found the joint assessments still yielded significant overestimations of chronological age in a study of Swedish adolescents.

The limitation that nearly all of these studies point to is the lack of benchmark data relating to children from different countries, and Ranta (2003) therefore states that due to the lack of reference data, and no clear evidence of definitive interracial differences, an average from minimum and maximum values should be taken, with some leeway in either direction.

However, some other studies (Liversedge, 2010; Diamant-Berger in Einzenberger 2003, and Schmeling et al, 2000) question the extent to which differences exist between population groups. Liversedge puts forward the case that the differences in Demirjian's dental maturity method in different groups has previously been interpreted 'incorrectly' as population differences, because they are at odds with the available evidence of the similarity in maturity of individual tooth formation stages between world groups (Liversedge, 2010:100). The German Association of Forensic Odonto-Stomatology also did not find any significant differences between persons of European or African descent but stress that they only tested a comparably low number of persons (Eizenberger, 2003:42).

Another significant limitation noted is that many of the samples that exist in relation to other populations are for groups of children who are much younger, commonly under 14 years of age. During the earlier developmental stages tooth development in males and females coincides closely. However, during later developmental stages, particularly root formation, a notable divergence between the sexes arises, with females being advanced when compared with males (see for example McKenna et al 2002 in Crawley 2007:32).

As with bone examinations, most studies agree that dental age can only provide an indication of chronological age. The Royal College of Paediatrics and Child Health concludes that 'there is not an absolute correlation between dental and physical age of children, but estimates of a child's physical age from his or her dental development are accurate to within +/- two years for 95% of the population and form the basis of most forensic estimates of age. For older children, this margin of uncertainty makes it unwise to rely wholly on dental age (1999:14). Kullman (1995:1) concluded that 'the accuracy and precision of most of the dental methods used during childhood, have been studied and found to be rather low, since many more developing parameters can be used in younger years and the development rate is faster in young children, it is to be expected that accuracy and precision are inferior in older juveniles.' Kullman states that most methods of age determination have arrived at a 90-95% confidence interval of about two years around the estimated age (1995:01).

4.1.3 Medical age assessments in practice

As hinted at by the wide range of conclusions reached about the accuracy of medical age assessments, there is a great deal of controversy surrounding the application and interpretation of such assessments in practice. Bone age assessments are used in several countries including Belgium, Finland, Lithuania, France, Norway, and the USA (European Migration Network, 2010; Save the Children Norway, 2006 and the U.S. Immigration and Customs Enforcement, 2004). However, the methods have also received substantial criticism from practitioners and authorities in other countries. Austria and Switzerland have recently discontinued the use of bone x-rays, although in Austria 'at the request of an alien, an x-ray of his carpal bones shall be taken at his expense.' In September 2000 the Swiss Asylum Appeal Commission decided that radiological assessment is subject to limited liability since it does not take into account the differences in skeletal development according to racial background (2001, in Einzenberger, 2003:37). The Senate Legal and Constitutional Committee of the Parliament of the Commonwealth of Australia (2001) also highlighted the 'limited knowledge apparently available about bone age in cultures other than European' stating that 'we cannot be confident, it having only been tested on Caucasians in North America, that this process is any more certain than an appropriately qualified person giving an opinion based on other types of test' (2001:24 in Einzenberger, 2003).

In the Netherlands the Committee on Age Determination has been dismissive of age assessment being conducted solely on the basis of x-rays of the hand-wrist region because 'the exclusive use of the hand-wrist region means that about 90% of all girls and 50% of all boys reach the physical criterion for exclusion before they reach the age of 18, which means they may be unjustly refused treatment as minors' (Committee on Age Determination, 2006:09). The Dutch authorities use clavicle x-rays in addition to x-rays of the hand-wrist region to determine age, although this is a much more intrusive process and the margin of error remains considerable (Crawley, 2007:30). A report by Save the Children Norway and the Norwegian Organisation for Asylum Seekers (2006:03) concludes that skeletal examination only has relevance in the following circumstances;

- Where the skeleton is not fully developed, this appears to be a strong indication that the asylum seeker is probably under the age of 18.

- Where there is a wide divergence between the stated age and an adequate/reasonable standard for skeletal maturity, in addition to dental examination and other circumstances of the case. Based on the RCPCH standard, we consider that this may be the case where a boy has stated that he is 15 years or younger, a girl 14 or younger, and a carpal x-ray shows that the skeleton is fully developed.

At a conference organised by Austrian NGO *Kinderstimme* on 7 March 2000, experts concluded that age determination is not possible using existing medical methods, and Lery

and Goldberg from the 'Droit et Ethique de la Sante' state that numerous experts agree that it is impossible to conclude chronological age from bone age (Eizenberger 2003).

Dental age assessments are known to be carried out in Europe in Sweden, Portugal, Poland, Italy, Germany, France, Finland, Czech Republic, Belgium, Austria and the USA (European Migration Network, 2010). Dental examinations and x-rays are also frequently used by the Immigration and Naturalisation Service (INS) in the USA as method of age assessment, with reports of one dentist examining 1,500 young people in New York City alone. There is significant concern about the reliance on this process among activists, advocates and medical experts, who have criticised the federal government's reliance on age testing and emphasized the inaccuracy of this form of assessment;

*"A fundamental concept is being ignored in the current INS approach to 'age testing': chronological age, dental age and skeletal (bone) age are not necessarily the same in a given individual. In fact, deviation among these three 'ages' is common and well appreciated in paediatric medical and dental practice. Discrepancies among these ages can amount to as much as five years; this is substantial when one is considering a span as short as the first two decades of life." (*Ferraro, INS Public Comment in Physicians for Human Rights et al, 2003:131)

Despite the limitations and concerns associated with both dental and bone x-ray age assessment, the UK Home Office has indicated a significant shift in policy, moving from guidance which stated that 'under no circumstances should a caseworker suggest that an applicant should have x-rays for this purpose' (Einzenberger, 2003:37) to an indication that it intends to make much greater use of dental development x-rays where there is a reasonable doubt about the claimed age. In a consultation document, the Home Office states (but does not reference the sources of the claims) that 'there does appear to have been more recent research that indicates x-ray analysis (of the teeth and collar and wrist bones) can be a more reliable means of determining age than was once thought. That is certainly the belief of some EU Member States, who regularly use the techniques for immigration purposes' (Home Office, 2007 in Crawley, 2007:35). In response, the former Children's Commissioner for England, a qualified paediatric endocrinologist, has been considerably outspoken in raising his concerns about the use of dental or skeletal x-rays to determination chronological age, describing them as inaccurate, unethical and potentially unlawful.[4]

In addition to criticism already noted, the European Society for Paediatric Endocrinology has stated that 'dental and skeletal maturity *cannot* be used for the assessment of chronological age in children,' and recommends that assessments are made by interviewers who know the language and country of origin of a child;[5]

[4] See letter dated 06/08/09 to Save the Children Brussels, re *Brussels conference on separated children in EU policy*

[5] Letter dated 10/11/2007 to Professor Sir Albert Aynsley-Green, the Children's Commissioner for England re *The inappropriate use of 'medical examinations' to assess the age of children seeking asylum in European countries*

However, while medical opinion recognises that age determination is just an estimate of a person's age, there is concern among practitioners and academics that such estimations are treated by other authorities as complete proof of the applicant's age (Parsons, 2010:54) as discussed in Section 5.

4.2 Physical assessments

Age assessments based on physical development can be carried out using a number of anthropometric measurements, including height, weight and skin, and puberty rating, which do not involve the use of x-rays. However, these methods have been highly criticised because they do not take into consideration variations between ethnicity, race, nutritional intake and socio-economic background (see Einzenberger 2003 and Crawley, 2007).

Anthropometry refers to the measurement of individuals for the purposes of understanding human physical variation, and it is recognised by the World Health Organisation as the single most portable, universally applicable, inexpensive and non-evasive method available to assess the proportions, size and composition of the human body. In practical terms, anthropometric values are compared across individuals or populations in relation to an acceptable set of reference values (de Onis et al, 1996a:650).

Diamant –Berger (cited in Eizenberger, 2003:40) cautions that anthropological measures must be handed delicately as intervening factors such as genetic and racial disposition, nutritional deficiencies and endocrines are numerous. She also stresses that the reference tables used are very often out of date, giving the example of France where the existing reference tables are over 40 years old and no longer correspond to people living in France today. She states that this is proven by the fact that adolescents nowadays are on average a lot bigger than their elders, be it in the size of their waistlines, shoes or globe size.

For many years, the reference data used for anthropometric assessments of children was based on a small and unrepresentative sample of USA children from Iowa in the 1940s. In the 1960s and 1970s, two data sets were used as growth references; the Harvard growth curve and the Tanner curve from the UK. The Harvard curves were based on data from Caucasian children in Boston from 1930 to 1956, offering a longitudinal study. However, the data was criticised for the small numbers of children used in the study and the limited genetic representativeness (de Onis et al 1996b:75). While reference data has been updated over the years, particularly for use in international referencing in nutritional assessments, the WHO has identified a number of limitations in developing local references or standards, including the fact that that proper reference development is not a task that can be done easily or frequently and that it is very costly to develop local references (de Onis et al, 1996b:78).

There are clearly defined methods for rating puberty as described by Tanner in 1962. These give the ages of various stages of attainment of pubertal appearances, starting on average at 11 years in both males and females and going through to the final stages

acquired two or three years later. The process involves the acquisition of these stages in a carefully defined order. However, the timing of the onset of puberty is extremely variable. Girls may have the first signs at about the age of 8 or 9 years and boys at about 9 or 10 years. It is also the case that puberty can be delayed and the first signs may take place at 14 or 15 years in boys. The situation is complicated further by nutritional status and illness which can further exacerbate the problem of pubertal delay so that a person may actually be older than they appear from pubertal development. There are also ethnic differences in the onset of puberty. For example, in the Indian subcontinent it is common for puberty to begin slightly earlier so that, for example, a boy with extensive facial and body hair may appear to be older than he actually is, according to Caucasian developmental norms (The King's Fund and the Royal College of Paediatrics and Child Health, 1999:13).

The Royal College of Paediatrics and Child Health concludes that 'overall, it is not possible to actually predict the age of an individual from any anthropometric measure, and this should not be attempted' (The King's Fund and the Royal College of Paediatrics and Child Health, 1999:40).

4.2.1. Physical age assessments in practice

In practice, anthropometric or physical assessments are usually carried out by paediatricians, who, in addition, may also carry out dental and bone examinations and social and psychological assessments, depending on the experiences, skills and interests of the individual paediatrician. However, there is also evidence of more 'informal' physical assessments being carried out by a range of different professionals and practitioners in some countries which have little to do with anthropometric measurements and do not consider the expertise of a medical practitioner to be necessary. These 'assessments' are often based on quick visual appraisals during the interview process for asylum seeking children, as in the case in Germany, Austria and Greece (European Migration Network, 2010; Crawley, 2007). This raises particular ethical concerns in addition to concerns about the reliability of such assessments.

In the UK there has been considerable debate about the weighting given to the relative assessments of paediatricians compared to social workers. For example, at the beginning of the decade the Immigration Appellate Authority and the High Court gave great weight to medical reports, and if there was a difference between a local authority social worker and a consultant paediatrician, they referred to the evidence of the latter. In the case of *The Queen on the Application of I & Another v. Secretary of State for the home Department*[6] Mr Justice Owen found that the report of an experienced consultant paediatrician derived further authority from his extensive specialist expertise and that unlike social workers, he was qualified to undertake dental examinations, giving an estimate age accurate to within =+/- two years (Bhabha & Finch, 2006:62).

[6] *(*[2004] EWHC 2297 (Admin)),

However more recently in the case of *R(B) v London Borough of Merton,*[7] the judgement stressed the need for a holistic assessment that takes into account social factors. Paragraph 23 states that, *'to obtain any reliable medical opinion, one has to go to one of the few paediatricians who have expertise in this area. Even they can be of limited help.'*

Going a step further, a High Court Judgement in 2009[8] discredited medical evidence, stating that '*a paediatrician is unlikely to be able to reach a conclusion which is superior to that reached by an experienced social worker, provided, of course, that the social worker is properly trained and experienced* (para. 25)*.'* However since then, the House of Lords has given judgement in the case of *R (on the application of A) (FC) (Appellant) v London Borough of Croydon (Respondents)* and another *[2009] UKSC 8* and held that it is the role of the court to decide whether a child is a child and the role of social services to decide whether the child is in need. It also held that, when considering whether a child is a child, a court could take into account a whole range of evidence, including medical evidence (Brownlees and Finch, 2010:51).

In its guide for paediatricians, the Kings Fund states that in using paediatrician's reports, immigration officers and adjudicators should give due weight to social and cultural factors in addition to physical factors, in view of the difficulties inherent in age determination. It suggests that it may be relevant to relate physical attributes to the child's account of their former lifestyle, for example what responsibilities they undertook in their country of origin, what education they had experienced etc (1999:14).

Both Sweden and Romania carry out anthropometric examinations, in combination with other tests, although Romania acknowledges that 'information carried out by this examination is insufficient for an accurate determination of a minor's age' (Ranta, 2003:32). Crawley (2007) also points out that any kind of puberty test involving an examination of the genitals raises significant ethical concerns and borders on abusive conduct, and the German NGO *Pro Asyl* also stresses that an inspection of sexual maturity is 'disgraceful' (Holzcheiter 2001 in Eizenberger 2003:43).

4.3 Psycho-social and developmental assessments

There is very little information available about how psychological or social assessments of age are carried out, and what little information there is appears to be limited to the context of undocumented migrant children in Europe. In its recently revised guidelines on Child Asylum Claims, UNHCR makes it clear that age assessments 'need to be part of a comprehensive assessment that takes into account both the physical appearance and the psychological maturity of the individual' and that there may be exceptional cases for when

[7] *R(B)v LB Merton* [2003] EWHC 1689 - Stanley Burnton J - 'Merton judgment

[8] EWHC 939 : heard RCJ 8/5/09 Mr Justice Collins

the guidelines they developed are relevant even if the applicant is older than 18, emphasising the psychological and developmental maturity are as important as chronological age (UNHCR, 2009, para. 75).

The Royal College of Paediatrics and Child Health emphasizes the relevance of a child's social history as part of the assessment, and requests that when using paediatricians' reports, immigration officers and adjudicators give due weight to social and cultural factors in addition to physical factors, and emphasizes that paediatricians should always try to explain how and why the social history is relevant to a particular child's assessment (The Kings's Fund and the Royal College of Paediatrics and Child Health, 1999:14). Getting to know a child over a period of time and observing how they respond and react to a range of situations can provide a good indication of their age, particularly if these observations are from a range of professional disciplines. Gathering information about the child's social history is important, including information about the child's family composition, development information such as the activities that the child was involved in, education experience and level of independence and self-care. If the child is seeking asylum or some form of immigration status abroad, it is important that these experiences are contextualised within the conditions of the country of origin, as information about ethnicity and culture are vital to informing judgements. It is also important that the child is aware that an assessment of their age is taking place (Danish Refugee Council, 2010).

The Royal College of Paediatrics and Child Health (2007), and the Austrian Human Rights Advisory Board on Minors in Detention (see Einzenberger 2003) emphasise that social and development assessments, carried out by professionals who have considerable contact and expertise with young minors (such as youth welfare officers, social workers, paediatricians and youth psychologists) should inform the age assessment process, and UK case law emphasises the importance of holistic assessments which draw on a range of assessments and information.

Social assessments are known to be carried out in Germany, Austria, Sweden, Ireland, the UK and the USA, although what is meant by the term 'social assessment', as well as the quality of these assessments, varies considerably. In some cases what is described as a social assessment is little more than a quick interview combined with a brief physical assessment based on sight at the initial interview when the child claims asylum. For example, in Germany and Austria a 'social assessment' comprises a quick interview carried out by a police and immigration official rather than a social worker (European Migration Network, 2010), which does not meet the standards outlined above. In some parts of Austria asylum officers make this assessment together with the local youth welfare officer. However, some youth welfare officers refuse to cooperate arguing that they are not qualified to assess the age of a person whom they have met only five minutes ago. Information gathered in the course of the interview includes education history, birth dates of family members etc and other bits of information that can be assessed against the consistency of the age given. In both cases the physical appearance is the basis for the assessment. In neither case is the individual's psychological maturity taken into account (Eizenberger, 2003:43).

In Sweden, an age disputed applicant is offered the possibility to support their claim through an 'orientation interview'. This includes an overall assessment of the applicant's childhood history, school attendance, age of siblings and age of parents. If doubt still exists after this and any follow up interviews, the applicant is invited to support their claim based on supplementary medical information, including bone or dental x-rays (European Migration Network, 2010:54).

The pro forma developed by a local authority social services team in the UK sets out a range of factors that social workers should take into consideration when carrying out an age assessment. These include the person's physical appearance and demeanour, their interaction during the assessment, social history and family composition, developmental considerations, education and the person's ability to and experience of caring and looking after themselves. There are short guidance notes within each of these areas of the pro forma that encourage the social worker to take into account how ethnic and cultural factors can affect each of the factors under consideration. For example, *'take account of differing cultural terms, e.g. some people may believe it impolite to make direct eye contact.'* (Age Assessment of Unaccompanied Asylum Seeking Children, 2005).

However, despite these guidelines, Crawley (2007) states that concerns have been raised by some practitioners and NGO representatives that some social workers undertaking social assessments of age had not received adequate training and are influence by negative media coverage of migration and asylum. Additionally many social workers carrying out assessments are basing their conclusions too heavily on physical appearance or demeanour, based on a socially constructed understanding of what a child should look like. Similarly, evidence from the USA suggests that initial age assessments are based heavily on a person's physical appearance and any documents that they may be carrying (Department of Homeland Security Office of Inspector General, 2009).

In response to the specific context of the age assessment of asylum seeking children in the UK which has become an increasingly litigious process, Latham (2004) draws on the practice guidelines and judgements in two significant cases, Merton and Enfield, to set out a series of criteria for social workers carrying out social assessments, in order to determine whether an age assessment is legal, rational and fair:

- *In order to be legal*, an assessment must not be based solely on the decision taken by the Home Office but must have regard to the available material. If the applicant has been consistent as to his or her date of birth this may be decisive in the absence of compelling evidence to the contrary. The authority is obliged to give reasons for any adverse decisions;
- *In order to be rational*, a local authority must take into account all matters relevant to the assessment and ignore irrelevant matters. This includes an understanding of why an applicant believes they were born on a particular date and an exploration of the applicant's family composition, their social history and education. A history accepted as true and consistent with an age below 18 should lead to a conclusion that the applicant is a child but conversely an untrue history, while relevant, is not necessarily

indicative of a lie as to the age of the applicant. A rational assessment process should also have due regard to expert evidence submitted in support of the applicant's stated age; and

- *In order to be fair*, the assessment process should be conducted with two assessors, due regard should be taken of the applicant's level of tiredness, trauma, bewilderment and anxiety and he or she should understand the purpose of the interview and role of the assessor. Open-ended, non-leading questions should be asked and the questioning should be undertaken in a structured and generally sympathetic manner. More importantly, the interview must be conducted with an open mind. Where required, a competent interpreter should be used, preferably one that is present rather than at the end of a telephone. If the assess forms a view that the applicant is lying about his or her age, the applicant must be provided with an opportunity to address the matters that have led to that view, and to provide an explanation.

The framework is considered useful when considering the extent to which age assessments currently undertaken by local authority social services are able to deliver appropriate and consistent outcomes (Crawley, 2007).

However, there generally appears to be a gap in terms of practical information about such assessments. While international guidance promotes the importance of multi-disciplinary assessments, there is no guidance, and no scientifically valid method to determine the overall margins of error across all of the various assessments (Cipriani, 2009:134), and as a consequence of this, the default approach taken is to take the medical and more 'factual' evidence as being more accurate as becomes clear in Section 5.

4.4 Assessments of age using available forms of documentation, local knowledge and information

Prior to the more intrusive age assessment methodologies outlined above, the age of a child can be ascertained by searching for documentation that substantiates a child's date of birth, or provides an indication of their approximate age. There is nothing within existing international guidance setting out what forms of documentation are acceptable or not, but legal procedural codes (both civil and criminal) sometimes specify which types of documents are acceptable as evidence of identity, and therefore age.

Knowledge of chronological age is not only relevant in the context of children's rights and legal systems, it also forms the backbone of many data collection mechanisms such as country and community census collection and systems that assess and determine growth achievement and nutritional wellbeing in children. In countries where birth registration is rare, but data collection needs to be carried out on a relatively large scale, there are examples of multiple age assessments being carried out using a combination of other forms

of documentation, indigenous calendars and local knowledge such as recalled birth intervals.

For example, in order to collect census information some officials in parts of Africa have attempted to use calendars of national and local events to ascertain assessments of the ages of individuals within a community (Cleveland, 1989), and in some communities the period of the year in which the child was born can be recognised by the name given, for example 'born during millet harvesting'. Some communities also use local lunar calendars, as among the San Blas Indians of Panama, who refer for example to 'iguana egg-laying moon, corn-sprouting moon' etc. (Jelliffe, 1966:827). McKay (1970) describes a similar approach to the collection of child growth data in Malaysia, describing how in tradition-orientated Muslim communities the Islamic months were far better known than the officially used Roman calendar. However, these age estimations are reported to be frequently poor in quality, and even if high quality calendars are used, local people have difficulty relating birth dates to the calendar events (Cleveland, 1989:402). While a few parents are able to recall their child's exact birth date (e.g. "13th day of Muharram"), less calendar-conscious parents could recall either the month of birth or the approximate relationship to one of the better known religious months such as Ramadan. While some parents could recall the month of birth, they found it difficult to identify the year (McKay, 1970:24).

McKay found that references to events of the natural year such as planting or harvest season, monsoon rains or specific climatic events rarely clarified the memory for those who could not place a birth in reference to month or year. Asking how many times rice had been harvested or planted since the child was born generally did not produce better recall than simply asking the age in years. Mckay also found that reference to state or national political events were of little help, as the village communities he was working with did not seem to relate external events temporally to the births of children. More memorable reference events were the childbirths themselves, and if a woman is pregnant or recently post-partum when a neighbour delivers, it may have particular meaning to her. In Malay culture, this is heightened by restrictions on diet and activity during late pregnancy and the post-partum period. A woman often recalled therefore that she was 'still sitting in the kitchen' (referring to the traditional 44 day post-partum period) when her neighbours child was born. Therefore, even if a woman was not aware of her child's birth according to the calendar, she could often recall in months or days the interval between the birth of her child and that of a fellow villager (Mckay, 1970:25).

A similar approach in Africa uses knowledge of the age-class system, and in Kenya, 'conversion tables' were constructed by establishing a relative chronology of age grades. Relative ages can also serve as the basis for estimating numerical age, particularly in smaller communities where everyone knows everyone else, and in communities where there is a strong cultural concept of relative age which is often incorporated into the terms of address used. Transforming this relative chronology to numerical ages involves ranking the population from youngest to oldest, beginning with young people who have established dates of birth and then using a local calendar to determine ages of older people (Cleveland, 1989:403). Identifying the birth dates of young community members can be done through

school records and exercise books and health clinic records for example, although Cleveland notes that with health records, the date of birth recorded is generally quite inaccurate unless the first clinic visit occurred within a few months of birth (1989:404).

However, the accuracy of age assessment using a community ranking system is dependent on a number of factors including the size of the community and the age of the relative children. McKay (1970:27) outlines how in larger villages (of 400 plus inhabitants) there will be an increasing number of mothers who are unaware of births which may be close to each other. He also suggests that it becomes more difficult with older children (age 5 and over) when maternal memory becomes confused by several subsequent pregnancies, and in smaller villages (under 100) where births may be too spread out in time for an adequate ranking matrix to be developed. In addition, the creation of such calendars or ranking systems is time and resource intensive, and can take weeks to prepare (Jelliffe, 1966:827).

4.5 Ethical concerns regarding age assessment methodologies

In addition to concerns about the accuracy of bone and dental age assessments, many from within the medical community, as well as external critics, have raised concerns about the ethics of such forms of medical testing, and the Royal College of Radiologists in London has advised its fellows and members that it was 'inappropriate' to undertake a radiograph examination for the purposes of age estimation' (Ruxton in Einzenberger 2003).

Although the exposure to radiation during an X-ray in relation to an age assessment is minimal there are also ethical concerns around exposing children to any level of radiation. European Council Directive 97/43/Euratom on health protection of individuals against the dangers of ionizing radiation in relation to medical exposure, notes that medical exposure constitutes the major source exposure to artificial sources of ionising radiation in European Union citizens. Article 3 of this Directive outlines that the net benefit to an individual must outweigh the risks to the detriment of the individual. It is difficult to see how exposure to radiation as part of an age assessment procedure can have any benefits to the individual. Article 3 further states that special attention should be given to the justification of exposure to radiation where there is no direct health benefit to the individual. The Directive also calls for special attention to be exercised when exposing children to radiation and outlines that Member States must use appropriate radiological equipment, practice techniques and equipment when the individual is a child. In any event exposure should only take place with the consent of the individual after they have been informed of the risks inherent in the procedure.

Crawley notes how in the UK, central to the dental and medical professions' ethical codes are principles of patient autonomy, welfare and consent. Dental and bone age testing is carried out by a small number of physicians and dentists who are contracted and paid by the government, which breaches all three of these ethical principles (Crawley 2007). Ranta (2003) also explains that when age assessment is done for forensic reasons, there are

rarely any problems concerned with the reasons and consequences of the assessment, but when tests are carried out on living people, ethical questions arise. She states that questions need to be asked, including 'in whose interest is testing done? Is it in the interest of the individual child or in the interest of the society to which the chid has been sent to?'

Any form of physical examination as part of an age assessment procedure must weigh up a range of ethical issues. Has the child given informed consent to the procedure, bearing in mind their age, maturity and understanding of the process? If the practitioner undertaking the assessment has any doubts that the child may not fully understand the procedure or has in some way been threatened, coerced or incentivised into agreeing to the procedure the ethical basis of the examination would be called into question. For children who may have suffered trauma or distress a physical examination may add to that trauma. Any medical professional undertaking a non-diagnostic procedure should surely ask themselves why they are undertaking the task, who will benefit from the examination and are there any benefits to the child. Whilst a physical examination by a skilled practitioner may incidentally identify medical ailments in a child which could then be treated, such eventualities do not in themselves justify a physical examination.[9] In all contexts, assessments should not breach children's rights under the CRC. The principle rights in relation to the ethics of age assessment methodologies include that; The best interests of the child must be a primary consideration in all actions concerning children (Art.3); the views of children must be given due weight in relation to their age and maturity and children must have opportunities to be heard in all proceedings affecting them (Art.12), and children have the right to protection from arbitrary or unlawful interference with their privacy, family, home or correspondence (Art.16).

5. Practice responses to international guidance

This section explores how practice developed at the national level has responded to international guidance and research about the various methods of age assessment. In particular it draws attention to principles contained within the Separated Children in Europe programme statement of good practice (which itself draws upon a range on international guidance) and highlights evidence of good practice where key principles are being implemented, as well as examples where guidance is not being adhered to in practice.

It has been difficult to establish whether or not specific guidelines exist at the national level for the majority of countries. However, from the evidence available, it is clear that in most countries there is a lack of specific guidance about when and how an age assessment should be carried out, and who by.

In many countries, a lack of official guidance means that the default approach to age assessments is to carry out informal physical inspections, often based on sight alone. These are very often carried out by officials with very little training in the matter, such as

[9] Author's independent assessment

police officers (see for example, Kamara 2008; European Migration Network, 2010). In the juvenile justice system, it is common for judges to exercise full discretion in ascertaining children's ages, without any clear guidelines at all There are widespread reports from Bangladesh, Nepal and Pakistan that police officers and prosecutors often exaggerate children's ages in court documents, usually to avoid having to implement the additional safeguarding procedures granted to children by law, but also to boost arrest and prosecution rates. Magistrates very often then accept without question the ages reported by officers and prosecutors, and children often lack the legal representation necessary to challenge the falsified ages (Cipriani, 1995:14). Even when specific guidance is available, there is evidence that it is not always implemented in practice as will be discussed below.

Procedures to make official estimates of age have often proven to be impractical. For example, medical examinations are required in many countries but the lack of detailed knowledge and resources, and the limited availability of doctors mean that significant delays are brought to cases. Overloaded judges do not take the time to examine evidence which is available, such as school records or to question witnesses to ascertain children's true ages, and very often they ignore the required procedures altogether. If there is still some question over a child's age by the time his or her case reaches a judge's attention, such as in Bangladesh, judges may simply guess the child's age by appearance (Cirpriani, 1995:13).

In Sierra Leone, the Children and Young Persons Act makes provisions for courts to make inquiries to ascertain the age of a person before them. However, the Act falls short of stating how such an inquiry should be conducted. It has become practice to seek the advice of a medical practitioner, but given that there is only one doctor charged with the responsibility of determining age, and a limited number of staff available to type up the results, significant delays and adjournments to court proceedings result, and the children are kept in detention during this time (Kamara, 2008:3). Cirpriani (2009:133) describes how this 'happens all too frequently', as courts in countries including Oman, Ethiopia and Sri Lanka, request age assessments by medical professionals who are not readily available, resulting in children being detained in locked pre-trial facilities.

The costs associated with medical assessments cannot be underestimated. Cipriani states that wrist x-rays may cost between 60 and 85 Euros, while dental examinations can cost approximately 90 Euros. Between the need for highly trained professionals and these immediate costs, such examinations would not seem to be financially practicable in most countries (2009:134), and both Bulgaria and the Czech Republic discount these methods for this reason (European Migration Network 2010; Separated Children in Europe Programme, 2003).

The slow process of determining age impacts on all aspects of juvenile proceedings, and undermines the very aim of the juvenile justice system to reform and rehabilitate the juvenile, and promote their reintegration into society. However, Kamara (2008) describes how in Sierra Leone, while the age of a juvenile remains in dispute, they will remain in detention in an adult prison. The process has also led to prolonged trials, undermining the principle of expeditious trials.

There are also questions as to whether the court seeks to adequately protect the rights of a child to a fair trial. Kamara gives an example of a case where a medical report was provided after a long delay from the police doctor, as requested by the prosecution. The report indicated that the accused was between the age of 16 and 17 and therefore eligible to be tried in the juvenile court. Despite this evidence, the prosecution requested a second medical report (2008:5). Similar practice has been reported in France and the UK, where assessments are increasingly questioned and litigated against (see for example Terrio, 2008, Crawley 2007 and Brownlees and Finch, 2010).. According to Cipriani, a few countries have modified their age assessment procedures in order to avoid such a situation and to offer greater protection to children, such as in India's 2000 Juvenile Justice (Care and Protection of Children) Act (JJA), which makes irreversible a competent authority's determination that a given person is a child (1995:14).

5.1 Are age assessments carried out as a measure of last resort?

Age assessment procedures should only be undertaken as a measure of last resort, not as standard or routine practice, where there are grounds for serious doubt and where other approaches, such as interviews and attempts to gather documentary evidence, have failed to establish the individual's age.

SCEP Statement of Good Practice, 2009

While age disputes generally come about because of a lack of documentation, disputes also arise because of a lack of understanding of the way in which dates of birth and calendars are calculated in other countries and cultures, and confusion and misunderstandings over what is being said by a child about his or her age (Crawley, 2007:20). However, it is not always clear whether or not authorities have made significant efforts to identify whether birth records are available, or whether they are willing to consider other forms of documentation as proof of age. Equally, existing international guidance is not clear about the weighting that should be given to various documents, and the attempts that should be taken in trying to identify such documentation before formal age assessment procedures commence.

There are case law examples which suggest that existing evidence in the form of birth certificates or other records are not always given the necessary weighting. For example in France the Court of Appeal was satisfied by the oral assurance of Mr.X to be a minor, which he proved with a certificate of enrolment of his Ghanaian school, showing his date of birth. Two medical assessments carried out by the French administration drew contradictory conclusions, with one stating that Mr X was 25, the other stating that he was 16-18 years old. In light of the contradiction, the court ruled in favour of Mr X.[10] In another French case,

[10]Administrative Court of Appeals of Douai, decision regarding Prefect of Saine-Maritime vs. Mr Raphael X. Of 8 January 2009 (2nd instance administrative court)
http//www.legifrance.gouv.fraffichJuriAdmin.do?oldAction=rechJuriAdmin&idTexte=CETATEXT00002025928&fastRegId=2043237033&fastPos=44

the Court of Appeal confirmed that only the birth date established in B.X's birth registration record was valid, not the results of the skeletal assessment. The birth registration was established by the Court of Appeal in Conkary, Guinea.[11] In both cases it is concerning that medical tests were carried out despite the available documentation, and that both individuals had to go through a potentially traumatic appeals process.

In the Philippines, guidance on age determination in the context of children in conflict with the law identifies a birth certificate as the best form of evidence, followed by similar authentic documents such as baptismal certificates and school records or any pertinent document that shows the date of birth of the child. In the absence of this kind of documentation, the guidance states that the testimony of the child, or of a member of the family related to the child by affinity of consanguinity who is qualified to testify on matters regarding the exact age or date of birth of the child, the testimonies of other persons, the physical appearance of the child and other relevant evidence shall suffice (JLP, 2007). In Sierra Leone, many children never had, or lost their birth certificates during the conflict. Instead, juveniles in court often produce a sworn affidavit whose validity is sometimes questioned by the court, as it is normally acquired after the crime is committed (Kamara, 2008). Kamara provides an example of a juvenile charged with larceny, whose counsel applied for a no case submission on the grounds that the child was below the age of 14. Even though a birth certificate was presented by the defence council before the court, the prosecution challenged it on the grounds that the birth certificate was only acquired after the crime was committed, and demanded a medical examination by a practitioner for the Births and Deaths Registrar to be summoned to validate the age. In another case, the prosecutor challenged the age of the juvenile even though her birth certificate was presented before the court. The objection was made on the grounds that the age estimated by the prison doctor was 17.5 to 18 years and that this conflicted with the birth certificate (2008:2).

In the USA, when carrying out an age determination, the Department of Health and Human Services (DHS) must first identify any available documentation, such as a birth certificate. If there is no original birth certificate, or the authenticity of the document is questionable, DHS must consult the consulate or embassy of the child's home country to verify the validity of the birth certificate.[12] Other objective documentation, such as baptismal certificates, school records and medical records that indicate an individual's date of birth should also be considered. If the alien is already in custody, sworn affidavits from parents and other relatives as to the alien's age or date or birth should be considered. The guidance states that biometric determinations and forensics should only be used as a last resort, if the above information is not available (U.S. Department of Health and Human Services, 2009).

However, the Department of Homeland Security's Office of the Inspector General raised concerns that Immigration and Customs Enforcement was unable to provide data showing

[11] Court of Appeal of Lyon, Special Chamber for Minors, decision regarding President of the *Conseil General* vs. B.X., 26 April 2004 (2nd instance tribunal) http://www.gisti.org/IMG/pdf/jur_ca_lyon_2004-04-26.pdf

[12] The guidance states that Embassy or consular officials MUST NOT be contacted if the alien is from a know refugee producing country, e.g. Burma, or if the alien has expressed a credible fear of persecution by his/her government.

the number of individuals who underwent x-ray examination between the period April 2008 to April 2009. There is evidence to suggest that dental and x-ray assessments of age are not used as a measure of last resort; a single dentist was quoted as having carried out 1500 assessments in New York City alone (Physicians for Human Rights, 2003) and some juvenile coordinators interviewed by the inspection indicated that a dental x-ray was carried out as often as two to five times a month in their geographic area (Department of Homeland Security Office of Inspector General, 2009:08**)**.

In Finland age examinations were only carried out occasionally prior to 2009, with six being carried out in 2008. Between January and September 2009 however, a total of 92 age determination statements were issued (Parsons, 2010:54), and an amendment to the *Alien's Act* has added a provision for the determination of age to be part of the asylum process (European Migration Network, 2010:51). Crawley also reports that there has been a significant increase in age disputed cases in the UK in recent years, and it is a strongly held view of the immigration authorities that the main reason for this increase is that many asylum seekers are not the age they claim to be and are actually adults claiming to be children, in order to access more 'generous' asylum policies and benefits. Crawley argues that her research illustrates that a strong 'culture of disbelief' has developed towards asylum seeking children, and that there is often no rational or logical explanation for why they are disbelieved (2007). All of this suggests that in the context of immigration in the UK, age assessments are not always carried out as a measure of last resort, but are far more frequent.

There is also evidence in the UK of an expansion of circumstances in which children's ages are being disputed. For example, in the late 1990's and early 2000's when the issue of age and the lack of proof of age of many asylum seeking children first came to prominence, the focus was on whether or not children were above or below the age of 18, as this had significant implications for how they were dealt with and supported both within the immigration and welfarel support systems. However, in recent years local authorities have increasingly disputed the ages of children whom they accept to be under the age of 18, but have doubts about the accuracy of the age given (Brownlees & Finch, 2010). The dispute often hinges on whether or not a child is under or over the age of 16, an age which has implications for the level and type of care a child is entitled to under the Children Act 1989 (Crawley, 2007:16).

5.2 Communication with the child and informed consent

If an age assessment is thought to be necessary, informed consent must be gained. The procedure, outcome and the consequences of the assessment must be explained to the individual in a language they understand. The outcome must also be presented in writing. There should be a procedure to appeal against the decision and the provision of necessary support to do so.

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Given that medical age assessments are an invasion of privacy for no therapeutic gain, it is particularly important that informed consent is gained. However, concerns have been raised that, particularly in the cases of asylum seeking children who have only just arrived in the country of asylum, that few children will be in a position to give consent that is both genuine and informed, and few understand how significant age determination actually is for their asylum application and their rights (see Crawley, 2007). While children are usually told that they have the right to refuse age testing, the majority feel that they have to agree, and Parson's notes that in Finland, the Parliamentary Ombudsman has recommended that there should be legislation on age assessment, particularly as it is hard to ascertain, particularly with younger children, whether they were able to judge the significance of giving their consent for an age determination examination (Parsons, 2010).

A report by Save the Children Norway notes that a lack of adequate legal support makes it particularly difficult for children to understand or challenge decisions that are made in the context of age disputes. The report raises concerns that 'it is largely a matter of chance whether and to what extent the asylum seeker receives assistance in documenting his or her age' (2006:06).

Children also have a right to contest a decision and have made available to them a range of options through which they might be able to prove their age. For example, in the UK if a child does not agree with the conclusion reached by a social worker's assessment, they can request a medical assessment by a paediatrician. Unfortunately, while this right might be respected in principle, resource issues can make it difficult to implement in practice. In Afghanistan there is a practical problem in that if a child wishes to contest the age, there is an assumption that the child has legal representation and the resources to enable them to make a challenge (UNICEF, 1995:20). A similar assumption exists in Austria, where amendments made in 2003 to the Austrian Aliens Act made it possible that 'at the request of the alien, an x-ray of his carpal bones shall be taken at his expense' (Einzenberger, 2003:38).

In a Judicial review of Andy Moke and the Refugee Applications Commissioner (2004, No.374JR), the judgement lays out minimum requirements in terms of informed consent. These are;

1) The applicant must be told the purpose of the interview in simple terms. This may be as straightforward as informing the applicant that the interviewers need to decided whether the applicant is under the age of 18 years.

2) Where an applicant claims to be under 18 years of age and the interviewers form a view that this claim may be false, the applicant is entitled to be told in simple terms the reasons for or grounds upon which the interviewers consider the claim may be false and to be given an opportunity of dealing with those reasons or grounds.

3) Where, as in this instance the applicant produces a document which purports to be an official document which includes a record of his alleged date of birth and the

interviewers are not prepared to reply upon such document the applicant is entitled to be told of their reservations and given an opportunity to deal with same.

4) If the decision is adverse to the applicant then he must be clearly informed of the decision and the reasons for same. The reasons need not be long or elaborate but should make clear why the applicant's claim to be under 18 is not considered credible. The initial information and communication may of necessity be given orally but should be promptly confirmed in writing.

5) Where the decision is adverse to the applicant and as stated there exists the possibility of reassessment then such information should be communicated clearly to the applicant again initially orally, and also in writing. Such communication should include how such reassessment may be accessed by the applicant.

The location and timing of an age assessment interview or assessment is a key part of ensuring that the child understands what is happening, is able to give informed consent and in ensuring that the age assessment process is fair and that the conclusion reached is an accurate reflection of the age and needs of that child. Crawley (2007) raises concerns about evidence in the UK that growing numbers of assessments are carried out by social workers at airports and in immigration removal centres. She presents evidence to show that ports and screening units are inappropriate locations for the age assessment of asylum seeking children who have recently arrived in the UK or are detained and tired, stressed or anxious. Children are unlikely to understand the purpose of the assessment or have had access to legal advice and representation. There is also no opportunity to collect expert advice on the child's age or observe peer interaction. Evidence from within other European countries suggests a similar practice, with many age assessments being carried out as part of the initial screening interview, when children have just arrived. For example, age assessment in Ireland is initially undertaken at the point of entry by an interview (European Migration Network, 2010). Evidence from Germany suggests a similar practice (Eizenberger, 2003).

5.3 Age assessment procedures: are they carried out by professionals?

If an age assessment is thought to be necessary, the procedures must be multi-disciplinary and undertaken by independent professionals with appropriate expertise and familiarity with the child's ethnic and cultural background.

SCEP Statement of Good Practice, 2009

Evidence presented above of ad hoc age 'assessments' carried out by officials with a great deal of power but little training, suggests that in many contexts age assessments are rarely carried out by professionals. Even where professional trained experts are involved, it is rare – certainly given the evidence available about the juvenile justice system – that a multi-disciplinary team comprising a range of professionals with various expertise is involved.

In European countries where guidance and practice on the issue of age assessment has been developed, it appears that many of the individuals carrying out assessment do not have sufficient training or are not sufficiently independent enough to be carrying out such assessments. For example in the UK some social workers described working in a context in which a child's account of his or her experiences is disbelieved and credibility increasingly used as the basis for disputing a child's stated age being put under pressure by managers to assess children as being over rather than under 16 or 18 years of age (Crawley, 2007). In addition, there appears to be a significant over-reliance on assessments based on physical appearance alone, made by those who have had little training or guidance, including social workers, legal representatives, immigration officers, and other practitioners, for example in Germany, Austria and Greece. In Greece for example, the age of an unaccompanied minor is mainly assessed through the arbitrary assessment of police officers who carry out interviews with the individual in question (European Migration Network, 2010:52). These practitioners often reach a conclusion that an individual *doesn't look like a child*, a conclusion which is based on a socially constructed understanding of what a child should look like (Crawley, 2007:49). Parsons describes how a similar practice takes place in Finland, with police officers making a rough estimation of age based on a visual assessment, and then dealing with the applicant as an adult, despite the applicant claiming to be a child, or record the child's age as the date of the age determination statement, with the year of birth given in the statement. In this way, police officers have been able to amend the month of birth making the child several months or even almost a year older than the child has claimed and/or actually is (2010:55).

There are concerns about the qualifications of some paediatricians to carry out medical and/or physical age assessments, especially given the strong bias in favour of these approaches (Crawley, 2007). There are also concerns about the authorities or bodies who are ultimately responsible for making a final decision on an age disputed case, and it is not thought to be good practice that the authorities who are contesting the child's age have responsibility for the final assessment, because of the conflict in agendas. Instead, recommendations are made that final decisions should be made by an independent professional body or a separate board consisting of a range of professionals with relevant competencies (see Save the Children Norway, 2006; Crawley, 2007).

As is evident from elsewhere in this review, there are pockets of 'good practice' where children have been able to access the assessment of a trained professionalA further example is Afghanistan, where the opinion of a medical professional is sought if a child's age is disputed within the juvenile justice system.. If the opinion of the forensic doctor or other doctors contradicts the background of the case and the child's physical appearance, the issue of determining the child's age is referred to a medical team of not less than three doctors(UNICEF, 1995:20).

5.4 Age assessment procedures: are they multi-disciplinary?

If an age assessment is thought to be necessary, the procedures must be multi-disciplinary and undertaken by independent professionals with appropriate expertise and familiarity with the child's ethnic and cultural background.

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There is unfortunately little information available about practices outside of Europe and North America with which to be able to draw sufficient conclusions about age assessment methodologies. However, in the context of the juvenile justice system, despite a requirement in international law (Beijing Rule 4.1) to take into account a child's developmental age, it appears that this is not always considered in practice and that often assessments are made by a judge and based on a physical assessment alone. Evidence from within Europe and North America suggests that there is an over-reliance on the use of medical age assessments at the expense of psycho-social assessments. This is despite guidance developed at both the international and national level which emphasises the importance of holistic assessments.

A recent report by the European Migration Network (2010) provides an overview of age assessment practices in 22 European countries. Of these, 16 rely on bone age assessments and 10 use dental age assessment methods. While many of these countries carry out both forms of medical assessment, and generally in addition to an interview and/or a review of available documentation, only five carry out 'psychological' assessments. Furthermore, the terminology used by the report makes it difficult to ascertain whether and when 'social' assessments are carried out.

Unfortunately evidence suggests that what is referred to as a social assessment rarely meets the standards outlined in international guidance (as discussed in Section 4.3). Instead, questions regarding a child's social history might be incorporated into the initial interview, as in Ireland for example (European Migration Network, 2010:52), which raises significant concerns about informed consent.

Based on the information available, it appears that only Sweden, and in a few cases, the UK, carry out what could be described as multi-disciplinary age assessments, although evidence suggests that the quality of these assessments in the UK varies enormously and depends on the commitment and experience of the various practitioners involved (See Section 4.3). This is despite the fact that a number of reports and court decisions in other countries make recommendations that age assessments should give equal weighting to social or developmental assessments. For example the Comite Consultatif National d'Ethique pour les Sciences de la Vie et de la Sante[13] concludes that it is more important to

[13] Comite Consultatif National d'Ethique pour les Sciences de la Vie et de la Sante: Avis no.88 sur les methodes de determination de lage a des fins juridiques

pay attention to the person's behaviour, as the biological age cannot inform on the degree of autonomy of a person.

A number of officials have suggested that they 'struggle' to identify what is meant by 'holistic' assessments, particularly the psycho-social elements and how to weight this evidence. Guidance[14] for developing age determination procedures in the USA establishes a minimum requirement that the government's procedures take into account multiple forms of evidence, including the non-exclusive use of radiographs for age determinations. The House of Appropriations Committee has also made suggestions that Immigration and Customs Enforcement employ 'holistic age-determination methodologies' when assessing the age of those in its custody, and there is significant criticism from activists and the medical sector of an over-reliance on medical assessments of age. However, in the report on age determination by the Office of the Inspector General, the Inspector states that '*we could not identify a single, authoritative definition of what might constitute a holistic approach to age determination.... (and) several individuals in the medical community noted that psychological testing of individuals to determine exact age would be difficult'* (Department of Homeland Security Office of Inspector General 2009:07).

Other countries have also spoken of problems in identifying psycho-social age assessment procedures such as Belgium where 'the procedure for psycho-affective tests (such as personality and intelligence tests) is foreseen in legislation but is not in place yet, 'owing to problems of reliability'. In Finland, psychological assessments are considered to be insufficiently reliable because of the subjectivity of age (European Migration Network, 2010:51).

As mentioned in Section 4.3, there is little in the way of detailed practical guidance on psycho-social or developmental assessments of age, despite these approaches being heavily emphasised in international guidance, and recognition that holistic assessments should be prioritised. The central recommendation made by reviews of the age assessment procedures in the UK and the USA is that specially qualified and trained practitioners should be identified and tasked with carrying out age assessments. In the UK, Crawley (2007) recommends that age assessments should not by undertaken by individual social services departments but by social workers based in a small number of properly and independently resourced regional assessment centres, while in the US the Department for Homeland Security (2009) recommends that guidance on the selection of 'best qualified' practitioners to conduct radiographic exams and report results is released.

Evidence also suggests that the weighting in favour of medical assessments at the expense of a multi-disciplinary approach has less to do with a lack of guidance on psyco-social forms of age assessment, and more to do with perceptions of credibility and reliability of methods, and it appears that immigration officers and adjudicators are sometimes more influenced by medical facts than by social histories, although social factors may be of the utmost importance (The Kings Fund, 1999:14), meaning that unreliable medical tests and

[14] See the *William Wilberforce Trafficking Victims Protection Reauthorization Act of 2008* (Public Law 110-457), December 23, 2008

examinations are being given unwarranted scientific legitimacy in the search for a technically simple solution to a difficult problem (Parsons, 2010:54). A report by Save the Children Norway acknowledges this lack of reliability of social/ development assessments, but concludes that 'even though an assessment of maturity must necessarily be approximate and tentative, it appears to be more problematic that one currently only assesses physical development, without taking mental maturity into account' (2006:05).

5.5 Benefit of the doubt and respect for dignity

It is important to note that age assessment is not an exact science and a considerable margin of uncertainty will always remain inherent in any procedure. When making an age assessment, individuals whose age is being assessed should be given the benefit of the doubt.

SCEP, Statement of Good Practice, 2009

Difficulties in establishing whether or not local or national level guidance on age assessment exists in many countries makes it hard to assess country practices in response to the weighting given to the principle of the benefit of the doubt. Even where guidance is available, it has been hard to establish whether the principle of the benefit of the doubt is applied in practice. The anecdotal evidence already presented suggests that in practice, few children are given the benefit of the doubt and that final decisions are made based on sight alone, or on the outcome of medical assessments.

Countries where the benefit of the doubt is known to be given after an age assessment has been carried out and proves inconclusive include Austria, Belgium, Sweden, Finland and the USA. Other countries, such as Italy and the UK state that they apply the principle at the beginning of the procedure so that an applicant whose age is disputed will be treated as a child until proven to the contrary (European Migration Network, 2010). However, there is not always consistency in the application of this principle, and in the UK some children may be referred to immigration services as adults by the police for example, who have no obligation to give the benefit of the doubt and will have not received any training on how to asses age (Crawley, 2007:21).

In Belgium, age assessments comprise of three tests, including a dental x-ray examination, a hand-wrist x-ray examination and an examination of the medial ends of both collarbones. The average age of the results of the three tests is approximated and indicates the margin of error. In cases of doubt, the lowest attested age is taken into consideration. In Sweden, if doubts still exist following a social assessment through interview, a medical assessment is carried out, usually through bone or dental examination. The manner in which the margin of error is taken into account is to consider that an applicant is over 18 years only when the results of both examinations show an age of 21 years or over (European Migration Network, 2010).

In the US, the Immigration and Customs Enforcement Department is bound by the *Flores Settlement Agreement*. This guidance on the treatment of minors in the custody of immigration officials was developed by the Department of Justice and a coalition of immigrants' rights groups. The *Agreement* instructs that if a 'reasonable person' would conclude that an alien detained by immigration officials is an adult, despite his or her claims to be a minor, the individual shall be treated as an adult (Department of Homeland Security Office of Inspector General, 2009:03).

In the UK, in most cases a child's age will be initially assessed by the immigration staff of the UK Border Agency (UKBA). However, in the absence of evidence the UKBA will initially treat applicants as children if they claim to be under the age of 18 (unless their appearance of demeanour strongly suggests they are significantly over 18 years of age), to allow for the production of subsequent evidence or assessments showing that they are a child (UKBA, 1995). This practice reflects a policy change since 2007 when the UKBA treated age disputed cases as adults unless and until their age was established as being under 18. In addition, prior to policy changes relating to the fast tracking of asylum applicants in detention, age disputed children were often detained as adults, pending a formal age assessment (Crawley, 2007:17).

In Finland the age determination is biased in favour of the applicant, and where there is an age determination margin of several years, the applicant's age is estimated to be at least what the applicant could be according to the youngest age evaluation (Parsons, 2010:54).

That medical practitioners and other experts recognise the limitations to the various methods of age assessment (where the aim is to determine as accurately as possible a child's chronological age rather than social or biological) and emphasize that assessments can at best only give an estimate within two years in either direction has significant implications, both positive and negative, for the children involved. The range of ages provided by medical examination (such as between 15 and 17 years, or 11 and 12 years) leaves room for dispute in a situation with critical consequences in for example Afghanistan, where the maximum sentence for a 15 year old is a third of the maximum adult sentence, while for a 16 year old it is half. Similarly in Afghanistan an 11 year old is not criminally responsible, but a 12 year old is (UNICEF, 1995:20). In such cases, giving a child the benefit of the doubt is critical.

It has been suggested that the important question is not the question of age but of the social conditions that have led to a situation of where the child is in conflict with the law or in a situation where their age and access to a particular right is being challenged. The objective should be on identifying the help that can be provided to children in this situation, particularly given that the circumstances they are in means they are more vulnerable to ill-intentioned adults. Relying on x-rays and the signs of puberty oversimplifies a complex situation. The aim should be protection, not assessment.[15]

[15] Comite Consultatif National d'Ethique pour les Sciences de la Vie et de la Sante: Avis no.88 sur les methodes de determination de l'age a des fins juridiques

5.6 What happens when children are unwilling to comply with procedures?

A refusal to agree to the (age assessment) procedure must not prejudice the assessment of age or the outcome of the application for protection.

SCEP Statement of Good Practice, 2009

There is evidence that in a number of countries if children are unwilling to comply with an age assessment, it has direct, and generally negative, implications for their legal status. In the case of children who are seeking asylum in Europe, it does not appear that a refusal to comply with procedures directly affects the decision making on the asylum application, although in Lithuania if individuals do not agree to undergo an age determination, such actions are interpreted as procrastination and the application for asylum can be found lacking. In most cases an unwillingness to comply impacts upon their treatment as either an adult or a child, which by default can affect the way in which their asylum claim is viewed. In Hungary, if a person refuses to undergo an age assessment, special (favourable) provisions relating to minors may not be applied. Similarly in the Czech Republic, if a medical examination is refused, the applicant is regarded to be of legal (i.e. adult) age. This is also the case in Poland (European Migration Network, 2010). There are also particular concerns in the UK that if an individual refuses to comply with a medical assessment, he or she will be assumed to be an adult, so that 'informed consent' effectively becomes compulsion in practice (Crawley, 2007:35). Only in Austria is it explicitly clear that a refusal to undergo an age assessment does not have an implication on the final age determination or the treatment of the individual. The Aliens Act states that 'failure by the alien to request an x-ray of his carpal bones shall not imply a refusal by the alien to cooperate in the clarification of the facts and shall not affect the evaluation of the evidence' (Einzenberger, 2003:38).

6. Conclusion

The UN Convention on the Rights of the Child (1989) brings with it universal benefits, safeguards, concessions and rights that are associated with childhood. However, each of these are gained, or lost at specific points in time of a child's life, which are generally marked by age. While all societies recognise a difference between childhood and adulthood, traditionally the distinction between the two life stages has varied considerably across cultures and societies by markedly different measures, such as puberty, marriage and degrees of work and responsibility. Social anthropologists and sociologists have long observed that childhood is thus a social construct, and that this leads to a diversity in childhood experiences. However, the social relativity of childhood has been increasingly challenged by a growing body of international law which culminated in the UNCRC and set an international definition of childhood as marked by chronological age.

Despite almost universal ratification, childhood continues to be understood in different ways by different societies, and for many societies, a child's age or date of birth is rarely recorded. Many children in different parts of the world do not know their date of birth or their age, yet documentation of a person's age is seen as an important aspect for securing protection. Any enforcement of minimum-age legislation depends upon an official record of children's ages, whether it is to protect them from illegal recruitment by armed forces or armed groups, from early marriage or from hazardous forms of work. In such instances establishing a child's age becomes an essential component in their protection.

This paper has highlighted that in the absence of official documentation, age assessment is a complex issue that has significant and often detrimental consequences for the children concerned. It is particularly concerning that in practice many age assessments are ad hoc, impromptu rushed judgements that are undertaken by those with no or limited expertise or training and lacking an insight into relevant cultural factors. Evidence shows that where assessments of age are carried out, there is too great a focus on attempts to determine a child's exact age even though age assessment is not an exact science and most involved commentators would acknowledge that whatever the method employed a significant margin of error must always be allowed. This search for certainty is often at the expense of assessing the child's psychological and developmental well-being as well as an indication of their age.

In practice, physical determinations based on sight, often carried out by ill-qualified officials, have formed the majority of age assessment practices. Where a more involved procedure is applied it is clear that, to date, medical assessments have been given undue weight in making final decisions about a child's age and are perceived as the most reliable and accurate way of assessing age. Yet evidence presented above supports the conclusion reached by Eizenberger (2003:44) that 'neither a medical doctor nor other professionals, can accurately determine.... age', and that 'taking into account the various internal and external factors, age can only be assessed but never determined (Eizenberger, 2003:44).'

Evidence on children's evolving capacities indicates that even among children from similar ethnic backgrounds who grow up in the same social and economic environment there are significant physical and emotional differences, as well as differences in needs and vulnerability, between children of the same age. This is likely to be exacerbated for the many children facing adversity in terms of coming into conflict with the law, migrating alone or witnessing and taking part in wars or organised violence – the very group whose age is questioned and who are subject to an age assessment procedure. Thus the task of making a reasonably accurate assessment of age is further challenged, and evidence shows that it is extremely rare that the child's unique characteristics and needs are appropriately accommodated within the procedure.

Perhaps a way forward would be to give greater weighting to the assessment of a child's maturity and their coping skills when undertaking an age assessment. This could be supported by addressing the need for more specific international guidance on how these should be carried out, and the weighting they should be given as part of a holistic age

assessment. Given the resource implications of assessments that rely on medical expertise and other associated costs, it could be suggested that social assessments that incorporate local knowledge about the child and/or childhood in a particular location, should form the basis of all age assessments.

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Part II

Age Assessment Practices: Annotated bibliography

Introduction

Identifying literature on the concept of age assessment has proved challenging. Attempts were made to identify literature across a range of disciplines including anthropology, forensic medicine and international guidelines, and across a range of thematic areas such as juvenile justice, migration, child labour, recruitment into armed forces, trafficking and early marriage; all areas where the enforcement of minimum age legislation depends upon an official record of children's ages.

There is a plethora of literature documenting concerns about low levels of birth registration globally and the implications that these low levels have on the enforcement of minimum age legislation or the ability to protect children from harmful situations. However, there was very little literature available which provided detail about how the issue of disputed age or lack of official documentation to prove age could be overcome, other than through campaigns to increase birth registration.

Some of the literature reviewed does not relate specifically to the issue of age or age assessment, but it has been included because it provides a useful context to understanding some of the contentions surrounding the issue of age assessment, and the many different views that can be brought to bear on the issue of childhood, age, rights and responsibilities.

1. International Law and Child Rights

United Nations Convention on the Rights of the Child, 1989

http://www2.ohchr.org/English/law.crc.htm

The United Nations Convention on the Rights of the Child (UNCRC) is a universally agreed set of non-negotiable standards and obligations. These basic standards set minimum entitlements and freedoms that should be respected by governments. They are founded on respect for the dignity and worth of each individual, regardless of race, colour, gender, language, religion, opinions, origins, wealth, birth status or ability and therefore apply to every human being everywhere. With these rights comes the obligation on both governments and individuals not to infringe on the parallel rights of others.

The Convention sets out these rights in 54 articles and two Optional Protocols. The four core principles of the Convention are non-discrimination (Art.2); devotion to the best interests of the child (Art.3); the right to life, survival and development (Art. 6); and respect for the views of the child (Art.12). By ratifying or acceding to the Convention, national governments have committed themselves to protecting and ensuring children's rights and they have agreed to hold themselves accountable for this commitment before the international community. States parties to the Convention are obliged to develop and undertake all actions and policies in the light of the best interests of the child.

Article 40(3a) calls for States to establish a minimum age 'below which children shall be presumed not to have the capacity to infringe the penal law'.

United Nations Committee on the Rights of the Child, *General Comment No. 6 on the Treatment of Unaccompanied and Separated Children Outside Their Country of Origin,* 2005
http://www.unhchr.ch/tbs/doc.nsf/%28symbol%29/CRC.GC.2005.6.En?OpenDocument

The comment draws attention to the particularly vulnerable situation of unaccompanied and separated children and provides guidance on the protection, care and treatment of unaccompanied and separated children, based on the framework provided by the UNCRC.

The following paragraphs are of particular relevance to the issue of age assessment:

Paragraph 31 (i): Age assessment should be safe, child and gender sensitive and the individual should be given the benefit of the doubt.
Paragraph 95: Particular attention should be paid to the training of officials working with separated and unaccompanied children and dealing with their cases. Specialized training is equally important for legal representatives, guardians, interpreters and others dealing with separated and unaccompanied children.

United Nations Committee on the Rights of the Child (2007) *General comment No. 10 Children's Rights in Juvenile Justice*

This comment responds to the UNCRC Committee's concerns at State parties' implementation of Articles 37 and 40 of the UNCRC, particularly in areas of procedural rights, the development and implementation of measures for dealing with children in conflict with the law without resorting to judicial proceedings, and the use of deprivation of liberty only as a measure of last resort. General Comment No.10 provides State parties with more elaborate guidance and recommendations for the establishment of juvenile justice systems which are in compliance with the UNCRC.

Paragraph 35 states that *'if there is no proof of age and it cannot be established that a child is at or above the MACR (minimum age of criminal responsibility), the child shall not be held criminally responsible.'*

Paragraph 39 states that '*the Committee wishes to emphasize the fact that it is crucial for the full implementation of article 7 of the UNCRC requiring, inter alia, that every child shall be registered immediately after birth to set age-limits one way or another, which is the case for all State parties. A child without a provable date of birth is extremely vulnerable to all kinds of abuse and injustice regarding the family, work, education and labour, particularly within the juvenile justice system. Every child must be provided with a birth certificate free of charge whenever he/she needs it to prove his/her age. If there is no proof of age, the child is entitled to a reliable medical or social investigation that may establish his/her age and, in the case of conflict or inconclusive evidence, the child shall have the right to the rule of the benefit of the doubt.'*

United Nations Standard Minimum Rules for the Administration of Juvenile Justice ("The Beijing Rules") 1985

http://www2.ohchr.org/english/law/pdf/beijingrules.pdf

Rule 4.1. states that *'in those legal systems recognizing the concept of the age of criminal responsibility for juveniles, the beginning of that age shall not be fixed at too low an age level, bearing in mind the facts of emotional, mental and intellectual maturity.'*

The commentary to the Rule explains that that the age of criminal responsibility differs widely according to history and culture and can range for 7 to 18 according to the political, social and economic arrangements of the particular state. The Commentary states that the modern approach is to consider whether a child can live up to the moral and psychological components of criminal responsibility; *that is, whether a child, by virtue of her or his individual discernment and understanding, can be held responsible for essentially anti-social behaviour. ... the Rules advise that in general there should be a close relationship between the notion of criminal responsibility and other social rights and responsibilities (such as marital status, civil majority, etc).'*

The commentary to the Rules also states that efforts should be made to agree a reasonable lowest age limit that would be internationally applicable. However, this has not yet been achieved.

Council of Europe Convention on Action against Trafficking in Human Beings (2005)
http://www.coe.int/t/dg2/trafficking/campaign/Source/PDF_Conv_197_Trafficking_E.pdf

Article 10 (3) states that when the age of the victim is uncertain and there are reasons to believe that the victim is a child, he or she shall be presumed to be a child and shall be accorded special protection measures pending verification of his/her age.

2. Age assessment practice with refugee and migrant children

2.1 Relevant international guidance

UNHCR, Guidelines on International Protection: Child Asylum Claims under Articles 1(A)2 and 1(F) of the 1951 Convention and/or 1967 Protocol relating to the Status of Refugees, 22 December 2009
http://www.unhcr.org/refworld/docid/4b2f4f6d2.html

These Guidelines are intended to provide legal interpretative guidance for governments, legal practitioners, decision makers and the judiciary, as well as UNHCR staff carrying out refugee status determination in the field.

Paragraph 7 of the guidelines states that: '*For the purposes of these Guidelines, "children" are defined as all persons below the age of 18 years. Every person under 18 years who is the principal asylum applicant is entitled to child-sensitive procedural safeguards. Lowering*

the age of childhood or applying restrictive age assessment approaches in order to treat children as adults in asylum procedures may result in violations of their rights under international human rights law. Being young and vulnerable may make a person especially susceptible to persecution. Thus, there may be exceptional cases for which these guidelines are relevant even if the applicant is 18 years of age or slightly older. This may be particularly the case where persecution has hindered the applicant's development and his/her psychological maturity remains comparable to that of a child.'

Paragraph 75 states that: '*Age assessments are conducted in cases when a child's age is in doubt and need to be part of a comprehensive assessment that takes into account both the physical appearance and the psychological maturity of the individual. It is important that such assessments are conducted in a safe, child- and gender-sensitive manner with due respect for human dignity. The margin of appreciation inherent to all age-assessment methods needs to be applied in such a manner that, in case of uncertainty, the individual will be considered a child. As age is not calculated in the same way universally or given the same degree of importance, caution needs to be exercised in making adverse inferences of credibility where cultural or country standards appear to lower or raise a child's age. Children need to be given clear information about the purpose and process of the age-assessment procedure in a language they understand. Before an age assessment procedure is carried out, it is important that a qualified independent guardian is appointed to advise the child.'*

United Nations High Commissioner for Refugees: Guidelines on Policies and Procedures on Dealing with Unaccompanied Children Seeking Asylum, February 1997, p. 5

The 1997 "UNHCR Guidelines on Policies and Procedures on Dealing with Unaccompanied Children Seeking Asylum" suggest that:
If an age assessment of the child's age is necessary the following considerations should be noted:

a) Such an assessment should take into account not only the physical appearance of the child but also his/her psychological maturity.
b) When scientific procedures are used in order to determine the age of the child, margins of error should be allowed. Such methods must be safe and respect human dignity.
c) The child should be given the benefit of the doubt if the exact age is uncertain.

UNHCR, (1994) *Refugee Children: Guidelines on Protection and Care Preface*, Geneva
www.unhcr.org/cgi-bin/texis/vtx/protect/opendoc.pdf?tbl=PROTECTION&id=3b84c6c67

These guidelines were adopted by UNHCR in 1993 and set out standards for the improved protection and care of refugee children, as well as practical measure which can be taken to realize these standards. The guidelines focus on children's developmental needs, their gender and cultural framework, the special requirements of unaccompanied minors and the particular problems that arise in the context of repatriation and reintegration.

The guidelines touch on the issue of age assessment and draw caution to 'scientific procedures' such as dental or bone X-rays, emphasizing that these methods can only

estimate age and that authorities must therefore allow for margins of error. They suggest that when the exact age is uncertain, the child should be given the benefit of the doubt.

2.2 Separated Children in Europe Programme

Save the Children, UNHCR & UNICEF (2009) *Separated Children in Europe Programme: Statement of Good Practice, 4th Revised Edition*, Save the Children, Denmark www.separated-children-europe-programme.org

The Statement of Good Practice aims to provide a clear and simple overview of the principles, policies and practices required to implement measures that will ensure the promotion and protection of the rights of separated children in Europe. It is principally informed by the UN Convention on the Rights of the Child, the UN Committee on the Rights of the Child's General Comment No. 6 on the Treatment of Unaccompanied and Separated Children Outside Their Country of Origin, 2005 and UNHCR's Guidelines on Policies and Procedures in dealing with Unaccompanied Children Seeking Asylum 1997. It also reflects the experience and practice of the Separated Children in Europe Programme's specialist Network of Non-Governmental Partners.

The Statement includes a section on age assessment.

Separated Children in Europe Programme, *Report of the Workshop on Age Assessment and Identification*, Bucharest 20-22 March 2003
Error! Hyperlink reference not valid.

This report provides a summary of a two day workshop that took place in 2003 with members of the Separated Children in Europe Programme. It aimed to strengthen the capacity of members on the issue of age assessment and identification, share models of good practice and to promote cross-border cooperation and understanding. Presentations and workshop topics included existing practices on age assessment in Romania, Bulgaria and Hungary, theory and best practice on age assessment, other practices across Europe and the associated merits and weaknesses of bone age assessments, dental age, physical measurements and interviews. The content of three of the presentations is highlighted and summarised below.

Panaitescu, V. MD, *Methodology of Age Assessment in Minors without*

***Accompanying Persons,* National Institute of Legal Medicine, Bucharest – Annex 5 of Separated Children in Europe Programme, *Report of the Workshop on Age Assessment and Identification*, Bucharest 20-22 March 2003**

This presentation sets out the approach taken in Romania to age assessment. The Laboratory of Anthropology and Serology of the National Institute of Legal Medicine is responsible for age determinations, and base them on three types of examination; anthropometrical, odontological and X-ray examinations. Odontological examinations are seen as most accurate up until the age of 12, after which X-rays of bone development is seen to be more relevant.

Einzenberger, B. *Age Assessment,* UNHCR BO Vienna, Annex 6 of Separated Children in Europe Programme, *Report of the Workshop on Age Assessment and Identification*, Bucharest 20-22 March 2003

This presentation covers issues such as why disputes over the age of separated children arise, existing international standards and practices within Europe which include a range of bone assessments and X-rays, physical measurements, dental age assessments and interviews that take into account social history. It presents recommendations from a range of international sources and expertise, and emphasises the conclusions reached by a number of expert professionals that 'age assessment is not a determination, but just an educated guess.'

Ranta, H. DDS PhD, *Age Assessment of a Child*, University of Helsinki, Department of Forensic Medicine, Annex 7 of Separated Children in Europe Programme, *Report of the Workshop on Age Assessment and Identification*, Bucharest 20-22 March 2003

Ranta describes age assessment as an 'educated guess' and emphasises that it is impossible to determine a person's age with 100% accuracy. She touches on the ethics of carrying out age assessments and the importance of informed consent before exploring the main approaches to age assessment, including bone age, dental age and social age.

2.3 National policies and practices

Finland

Parsons, A. *The Best Interests of the Child in Asylum and Refugee Procedures in Finland,* Vahemnistovaltuvtetu, Helsinki, 2010

This report was commissioned by the Office of the Ombudsman for Minorities, and funded by the Ministry of the Interior. The aim of the report was to examine who ensures the interests of child are recognised in the decision-making processes concerning unaccompanied asylum seeking children. The report finds that the principle of the best interests of the child is not adequately recognised in decision-making concerning unaccompanied asylum seeking children, and that children have little knowledge of their rights and only a vague understanding of the process. Under current Government review is the need to legislate on age determination. While the Ombudsman for Minorities supports this need, the report highlights the limitations of age determination approaches based on dental and bone development, and recommends that children's development should be assessed in a more comprehensive manner.

United Kingdom

UK Border Agency, *Asylum Processing Guidance on Assessing Age*
http://www.ind.homeoffice.gov.uk/sitecontent/documents/policyandlaw/asylumprocessguidance/specialcases/guidance/assessing-age?view=Binary

This instruction sets out the policy and procedures to follow where an asylum applicant claims to be a child, but there is lack of definitive documentary evidence to prove this is the case. This instruction is intended to provide guidance for Case Owners, Case Resolution Directorate Case Workers, Chief Immigration Officers, Senior Case Workers and Presenting Officers.

- Immigration and Nationality Directorate (IND) & Association of Directors of Social Services, (2006) *Summary of the Joint Working Protocol on age assessment between Immigration and Nationality Directorate of the Home Office (IND) and the Association of Directors of Social Services (ADSS)*

This Protocol sets out arrangements to support a co-operative approach to age assessment between; the UK Border Agency (UKBA) (formerly known as the Immigration and Nationality Directorate) of the Home Office, UK Local Authorities and Statutory Child Care Agencies (referred to as LAs). The protocol has been agreed between UKBA and the Association of Directors of Social Services (ADSS). ADSS is the senior professional body in social work that represents senior child care managers in all English LAs and has affiliations with organisations in Scotland, Wales and Northern Ireland. One of the functions of ADSS is to set out policies and processes for children's social workers and children's services.

UK Border Agency, *Asylum Support Policy Bulletin 33 - Age Disputes*
http://www.ind.homeoffice.gov.uk/sitecontent/documents/policyandlaw/asylumsupportbulletins/children/pb33?view=Binary

The purpose of this bulletin is to provide guidance in determining an applicant's age or a dependant's age with regard to providing Asylum Support.

Age assessment for unaccompanied asylum seeking child (in the UK)
http://www.childrenslegalcentre.com/Resources/CLC/Documents/Word/Age%20assessment%20form%20Jan%2009.rtf

This form was developed by a local authority social services department, for use by social workers when carrying out an age assessment based on interview, social and development assessment, and medical input.

United States

Department of Homeland Security Office of Inspector General, A*ge Determination Practices for Unaccompanied Alien Children in ICE Custody,* November 2009, US Department of Homeland Security, Washington DC

This report forms part of a series of special reports prepared by the Department of Homeland Security. The report reviews Immigration and Custom Enforcement's approach to age determination in response to a request from the House Appropriations Committee. The Committee had raised concerns about the Department of Homeland Security's overreliance on bone and dental forensics for child age determinations. Based on interviews and a review of selected files, the report concludes that 'Immigration and Customs Enforcement recognizes the limits of radiographs and strives to obtain additional information when making age determinations.' The report makes recommendations for better data storage, guidance for field officers and criteria and use of radiograph examinations.

U.S Department of Health and Human Services, Office of Refugee Resettlement (2009)
Program Instruction: Age Determinations of Aliens in the Custody of HHS and DHS

This program instruction note sets out age determination procedures that should be taken by the US Department for Health and Human Services in consultation with the US Department of Homeland Security.

2.4 Other contributions to theory and research

Crawley, H. (2007) *"When is a child not a child? Asylum, age disputes, and the process of age assessment,"* Immigration Law Practitioners' Association (ILPA), London

This is a detailed and lengthy research report which looks at the policy and practice of age assessment of unaccompanied asylum seeking children in the UK. The report provides an overview of the factors that underlie age disputes and suggests reasons why there has been an increase in age disputes in recent years. It looks at current practice in relation to the asylum screening process and the implementation of procedures that should ensure that children are given the 'benefit of the doubt'. Where children's ages are disputed, the report examines the procedures and assessments available to them, both in policy and practice, and the potential conflicts of interest that underlie assessments. It considers the implications of being age disputed for children, both in terms of their ability to access international protection and services and support in the UK. Finally, the report makes a number of policy and practice recommendations that it considers vital to ensuring that the number of children whose age is disputed is decreased, and that appropriate procedures are in place to ensure that all age disputed asylum seekers are able to access a formal, independent and holistic assessment of their age and needs.

European Migration Network, (2010) *Policies on Reception, Return and Integration for, and numbers of, unaccompanied minors: An EU comparative study*

This study was undertaken by twenty-two of the EMN National Contact Points from Austria, Belgium, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Malta, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom. The purpose of the study was to fill a knowledge gap on policies on unaccompanied minors in the European Union (EU), ranging from an assessment of the identified motivation(s) and circumstance(s) for entering the EU, to entry procedures, reception arrangements, including integration measures, detention, return and identified best practices.
In addition, the available statistics on unaccompanied minors were collated. The study includes a section on the issue of age assessment.

Physicians for Human Rights & The Bellevue/NYU Program for Survivors of Torture, (2003) *From Persecution to Prison: The health consequences of detention for asylum seekers,* Boston and NY City, USA

This study is the first comprehensive examination of the health status of detained asylum seekers. It found that the mental health of asylum seekers in detention was extremely poor and worsened according to length in detention. Eighty-six percent of those 70 detained asylum seekers interviewed exhibited symptoms of depression, and there were symptoms of

PTSD in 50%. Many of those interviewed also described disturbing encounters with officials. The study explores the practice of age determination and the impact it has upon those young people under the age of 18 years who are being detained.

Refugee Children's Consortium, (2007) ***Response to the Home Office Consultation Paper Planning Better Outcomes and Support for Unaccompanied Asylum Seeking Children****,* www.torturecare.org.uk/files/children's%20consortium_0_0.doc

As part of this submission, the Refugee Children's Consortium (RCC) raises concerns about the lawfulness of the use of X-rays and outlines concerns that proposals to use X-rays do not demonstrate compliance with UK and EU legal requirements around the use of ionising radiation. The RCC condemns the proposal that an age determination will be negatively influenced by a refusal to undergo the examination. The RCC, through this response, calls upon government to require the immediate cessation of any current use of X-ray examination by local authorities as age assessment pilot projects and any reliance on such information by the Home Office until such time as the methods are considered safe, lawful, ethically acceptable and of material benefit to the child welfare assessment process.

Save the Children Norway and the Norwegian Organisation for Asylum Seekers (NOAS), (2006) ***"Mum knows how old I am" – a survey of age assessment of separated children – summary***

The aim of the study was to find out whether there is a risk that large numbers of those whose age is investigated, are wrongly assessed to be adults. The report is based on interviews with professionals, including those who carry out age assessments and independent professionals. After a review of the relevant medical standards and the application of age assessments in the asylum process, the report outlines concerns about the approach currently taken.

3. Age assessment and juvenile justice

3.1 International guidance and legislation

See Section 1 above

3.2 National policies and practices

Afghanistan

UNICEF (1995), *Justice for Children: The Situation for Children in Conflict with the Law in Afghanistan*

This study was undertaken to order to assist the Government of Afghanistan in fulfilling their duties towards children in conflict with the law and to urge for full implementation of the Afghan Juvenile Code 2005. The study shows that children in detention face various rights violation and that the lack of due process in juvenile justice systems is a serious concern.

In Afghanistan, a juvenile is understood to be someone who has reached the age of criminal responsibility (12 years) but not reached the age of full adult majority (18 years). However, the determination of age is noted as being a problem. Many children do not know their age or date of birth, nor do they have identity (ID) cards. The study notes the implications of being wrongly identified as an adult, or as over the age of 12 and states that 'realistic determination of age is vital to ensure that children and juveniles are identified and treated appropriately.' Article 6 of the Juvenile Code stipulates that in cases where the child does not have a citizenship card or the physical appearance of the child indicates an age different from that indicated on the ID card, the opinion of a forensic doctor should be sought. If the opinion of the forensic doctor or other doctor contradicts the background of the case and the child's appearance, the issue of determining the child's age should be referred to a medical team of not less than three doctors.

However, according to the report, this process is problematic both practically and theoretically. In practice, if a child is assigned the wrong age and wishes to contest this it assumes the fact that the child has legal representation and the resources to challenge this. In addition the range of ages provided by medical examination (such as between 15 and 17 years or 11 and 12 years) leaves room for dispute in a situation with critical consequences. More importantly, the study notes that the process ignores the difference between legal age with is chronological, and the medical identification of age which is largely based on physical maturity. The report quotes the Royal College of Paediatricians and Child Health UK in stating that there are no specific medical examinations that can determine age in isolation from other assessments. The report concludes that any age determination process should be holistic, taking into account cognitive, moral and emotional maturity as well as physical development.

Germany

Schmeling et al (2000) *Guidelines for Age Estimation in Living Individuals in Criminal Proceedings,* The Study Group of Forensic Age Estimation of the German Association for Forensic Medicine

These guidelines were developed following an analysis of the current state of forensic age estimation in living individuals in German-speaking countries which was conducted on the occasion of the "Xth Lübeck Meeting of German Forensic Physicians" in December 1999. The meeting had identified the need to set up a study group composed of forensic physicians, dentists, radiologists, and anthropologists, with the aim of developing guidelines for age estimation in order to standardise what was identified as a rather heterogeneous procedure in setting up expert reports and to implement quality assurance in this area.

The guidelines presented in this document apply to age estimations in criminal proceedings for determining whether an individual whose age is doubtful is criminally responsible or whether juvenile penal law is applicable. The guidelines were developed by the study group's committee under the editorial direction of the secretary and adopted by the members on September 15, 2000. These guidelines do not apply to forensic age estimation of living individuals outside criminal law, of corpses, and of skeletons.

Islamic law

Criminal Law and the Rights of the Child: Training Workshop Summary, British Institute of International and Comparative Law

This training workshop brought together law professionals from the UK and from a number of Muslim States to consider the rights of children in their criminal justice systems. According to this summary, under the OIC (Organisation of the Islamic Conference) Convention on the Rights of the Child in Islam, which was adopted in 2004, a child is defined as ‘every human being who, according to the law applicable to him/her, has not attained maturity’. Without a clear indication of an age indicating when ‘maturity’ starts, this makes it difficult to apply in a legal context.

Under Islamic criminal law, states of development are differentiated. The first stage is known as *sabiy ghar mumayiz,* and means a child ‘incapable’ of understanding, and spans from birth until the age of seven. The second stage is known as *sabiyy mummayyiz* and means a child with ‘weak’ understanding and is applied to children aged seven to 15. The third stage is *balig wa Rashid,* and at this stage a person is considered an adult with full understanding. Therefore the age of criminal responsibility under Islamic law is associated with a child’s attainment of puberty, along with his or her capability of complete understanding.

Indonesia

Mardite, H. (undated), *The Juvenile Justice System in Indonesia,* 129th International Senior Seminar Participant's Papers, Resource Materials Series No.68

This paper, by the Public Prosecutor, Metro Lampung District Prosecution Office, Sumatra, Indonesia, discusses children's rights and protection systems in Indonesia, the current situation of juvenile delinquency, the Juvenile Court Act and Justice System and the Criminal Code. Under the Juvenile Court Act, a child is defined as a person under the age of 18 who has never been married. A child under the age of eight is free from all criminal responsibility (Art. 5, paras. 1-3). According to Chapter 4 para.1 of the Act, the minimum age that children can be brought before the court is eight years old and the maximum is 18 years old and never been married. A child under the age of 18 but who has been married should be treated as an adult instead of a child. Therefore his/her case will be processed under the Criminal Code rather than the Juvenile Court Act.

Philippines

JLP, (2007), *Revised Rule on Children in Conflict with the Law,* November 27th in Criminal Law and Litigation and Labour Law

In its section on age determination, the rules state that 'the child in conflict with the law shall enjoy the presumption of minority' and that the age of the child should be determined according to rules which see a birth certificate as best evidence of age, followed by similar identify documents such as school records or baptism certificates. The rules are particularly unclear about the approach to be taken in the absence of these documents, stating that 'the testimony of the child or a member of the family related to the child (by affinity or consanguinity), other persons who are qualified to testify on such matters, and the physical appearance of the child and other relevant evidence shall suffice.' Finally, 'in all cases involving a child, the court shall make a categorical finding as to the age of the child.'

Sierra Leone

Kamara, H (2008), *'The Problem of Age Determination of 'Juveniles and its Impact on the Juvenile Justice in Sierra Leone*' Centre for Accountability and Rule of Law: Fostering Human Rights through Accountability, Last updated Saturday 07 November 2009 http://www.carl-sl.org/home/index.php?option

This article reviews the situation of children in conflict with the law in Sierra Leone since the enactment of the Child Rights Act 2007. The Child Rights Act 2007 defines a child as a person under the age of 18, and set the minimum age of criminal responsibility at 14. This contrasts to the definitions provided under the Children and Young Persons Act (CAP 44 of the Laws of Sierra Leone), the existing legislation. Kamara argues that while the Child Rights Act 2007 should take precedent, in reality there is significant debate and conflict regarding the establishment of ages of children within the juvenile justice system, and that this conflict has become the hallmark of juvenile proceedings in courts. Proceedings have

been interrupted and slowed by requests for age assessments and challenges to those assessments. While age assessments are carried out the juvenile is sent to the adult prison. All these factors contribute to underpinning the very aim of the juvenile justice system which is the reformation and rehabilitation of the child.

Defence for Children International, (2009) *National Conference on Juvenile Justice: A practical Approach*, Outcome Document

This document provides a short overview of a national conference on juvenile justice hosted by DCI in March 2009 in Sierra Leone. The purpose of the conference was to discuss and identify practical steps for ensuring the implementation of Sierra Leone's newly enacted Child Rights Bill, with particular regard to children's rights in juvenile justice. The conference touched on the issue of age verification and identified birth registration as the only reliable method of ascertaining the age of a child. Other forms of age determination were seen as unreliable and thought to carry serious risks for the child. A corresponding recommendation was that in recognition of the fact that police officers are the first point of contact for most children in conflict with the law, it is essential that police officers have the tools and guidelines necessary to respond to cases in which a child's case is unknown.

South African Law Commission, *Age and Criminal Capacity* Issue Paper 9

This contains a brief overview of how age and criminal capacity are dealt with within South African law. On the issue of age determination it states that under Section 337 of the Criminal Procedure Act 51 of 1977, the presiding judicial officer may estimate the age of a person if in any proceedings the age of that person is a relevant fact where insufficient evidence is available. However, the Court has indicated that the finding of the presiding officer should not just be based on observation, but that there should be a proper attempt at finding evidence. In the absence of evidence, the accused should be examined by a 'district surgeon'.

3.3 Other contributions to theory and research

Cipriani, D (2009), *Children's Rights and the Minimum Age of Criminal Responsibility: A Global Perspective,* Ashgate Publishing Limited, England

This book presents a worldwide an analysis of minimum ages of criminal responsibility (MACRs) as they relate to international children's rights. In chapter one, Cipriani explores child rights theory, and reviews the ways in which adult concepts and constructs of 'childhood' confer children certain rights, based on assumptions about children's competencies. He outlines how these constructs and assumptions have shaped the history

of juvenile justice throughout history, as welfare and justice approaches were built around different ideas about children, and divergent roles for rights and criminal responsibility.

In chapter 6 Cipriani explores the practical implications and challenges of implementing the MACR, and picks up on the complexity of age determination. He provides a succinct overview of how a range of juvenile justice systems have responded to the lack of verifiable proof of age of juvenile defendants, and the implications for children. He highlights the increasing use of forensic medical examinations employed to estimate children's ages, and highlights their limitations. Finally, he suggests that while 'there are no easy answers for estimating children's ages', guidance is available in terms of principles, developed through the UNCRC, the Committee on the Rights of the Child and Guidelines prepared by the UN High Commissioner for Refugees.

Cipriani, D. (2005), ***South Asia and the Minimum Age of Criminal Responsibility: Raising the Standard of Protection for Children's Rights,*** **UNICEF Regional Office for South Asia, Kathmandu, Nepal**

This report provides an overview of the minimum age of criminal responsibility (MACR), the guidance that is available and trends in implementation. It focuses on the implementation of the MACR in South Asia and explores how factors such as low birth registration, limited implementation of laws, and anti-terrorism Acts (among others) impact on the implementation. However, it notes that considerable progress is being made within South Asia with many proposed MACR increases in draft legislation and growing movements for progressive juvenile justice reform.

Terrio, S, ***New Barbarians at the Gates of Paris? Prosecuting Undocumented Minors in the Juvenile Court – The Problem of the 'Petits Roumains'*** **in Anthropological Quarterly, Volume 81 (4), 2008**

This article looks at the situation of unaccompanied and undocumented minors who are arrested and subject to prosecution at the Paris juvenile court. It examines current debates surrounding children and agency within anthropology and explores what these particular examples add to our understanding of the changing notion of childhood. It highlights how, with an increase in the numbers of Romanian children found undocumented and in conflict with the law over time, attitudes towards these children have become more punitive.

UNICEF and the Inter-Parliamentary Union (2007), *Improving the Protection of Children in Conflict with the Law in South Asia: A Regional Parliamentary Guide on Juvenile Justice*

This handbook explores the situation of children in conflict with the law in South Asia, and highlights innovative local practices that could be replicated in other countries. It highlights measures that parliamentarians can take to improve the situation of children in conflict with the law. In light of age determination it states that *'ensuring the children's right to be (birth) registered helps safeguard against illegal arrest. Requirements that prevent birth registration, such as sanctions for late registration or stipulations that parents present valid documents, should be removed. Additional measures include eliminating all costs of birth registration; encouraging the use of mobile registration teams in rural areas and encouraging late registration of older children who were not registered at birth.*

4. Age assessment and children and armed conflict

4.1 International guidance and legislation

See Section 1 above

4.2 National policies and practices

Afghanistan

Office of the Special Representative of the Secretary-General for Children and Armed Conflict, *Mission Report Afghanistan,* 20-26 February 2010

The Government of Afghanistan has accessed to the Optional Protocol of the Convention on the Rights of the Child on the involvement of children in armed conflict, and Presidential Decree 97 regarding recruitment into the ANA and ANP stipulate a minimum age of 18 years for recruitment. However, the mission report found that there were opportunities in place for the manipulation of age in the national identity document, the 'Tazkera'. The report recommended that UNICEF and UNAMA should assist the ANA and ANP, in coordination with the Ministry of Interior, to take measures to verify age at the provincial level, including through assistance to provincial officials in their age determination procedures when age is in doubt. The report does not indicate what these determination procedures consist of.

5. Age assessment in other contexts

Bajpai, A (2007), *Who Is a Child?*
http://infochangeindia.org/200706186472/Agenda/Child-Rights-In-India/Who-is-a-child.html

This article explores the complexities in implementing the UNCRC in India and the contradictions that exist in law in India. The age at which a person ceases to be a child varies under different laws in India, and this article briefly touches on each of these areas that include child labour laws, the age of majority, juvenile justice and the minimum age of criminal responsibility, age of consent for sexual intercourse, and treatment of child witnesses. In addition the article touches on the issue of age verification of child victims of trafficking. It states that

"There is a need to ensure the accountability of doctors who carry out age verification. Also of police officers who record the age immediately after a rescue. Age verification reports usually place the victims within an age bracket. There are countless police records where the age of the girl is recorded as "appears to be of 18-19 years of age". Even medical examinations place the age within a bracket. The Supreme Court has held that when the expert's opinion is given in an age bracket, the lower age in the bracket should be the one taken into consideration, so that the benefit of the doubt favours the victim. Therefore, if the age verification report says that the girl is in the age bracket 17-19 years, for the purposes of law enforcement the age has to be taken as 17 years."

Pedersen, C (2004), *Chronological Age Determination for Adopted Children* (unpublished) http://eprints.usq.edu.au/3839/

This paper is a submission to the Queensland Intercountry Adoption Unit in response to requests for input on the issue of amendments to a child's date of birth at the request of adoptive parents. While acknowledging that there is no definitive way of providing an accurate age assessment, it suggests that there is strong evidence to support the use of bone age X-rays to provide an initial estimation of chronological age. The paper identifies the Greulich and Pyle, and Tanner and Whitehouse methods as the most common approaches to forensic age estimation and highlights the numerous comparative studies carried out on both methods. In its review of some of the studies carried out on these methods, the paper then considers the impact of ethnicity and nutrition on age estimation outcomes. It then touches on the 'reliability' of other chronological age estimation approaches including physical assessment, dental age, psychological and social considerations.

6. Forensic anthropology and other medical assessments of age

There is a significant amount of scientific literature available on the issue of forensic methods of age assessment. It has not been within the scope of this report to review all of them exhaustively. Instead, a range of reports representing studies carried out on different population groups of children across the globe have been reviewed, in addition to the most recent and up to date studies which provide a useful synopsis of the accuracy of each of the methods employed.

Buken, B. Erzengin, O. Buken, E. Alper Safak, A. Yazici B. & Erkol Z. Comparison of the three age estimation methods: Which is more reliable for Turkish children? *Forensic Science International* 183 (2009) 103.e1 – 103.e7

The study compared the applicability of three skeletal age assessment methods for Turkish adolescents; the GOK, the Greulich-Pyle (GP) and the Tanner-Whitehouse (TW3). The study found that for girls, the most accurate method was the TW3, which underestimated bone age by differences of 0.1 - 0.57 years for all ages. For boys, the most accurate method was the GP, which underestimated bone age by a mean difference of 0.01- 0.65 years for the 11 -14 year olds, and overestimated bone age by the mean difference of 0.85 - 0.8 years for the 15 and 16 year olds.

Cameriere, R., Brkic, H., Ermenc, B., Ferrante, L., Ovsenik, M., &Cingolani,M., 'The measurement of open apices of teeth to test chronological age of over 14-year olds in living subject' in *Forensic Science International* 174 (2008) 217-221

The study notes that age determination is an increasing problem due to the growing numbers of individuals without identification papers, who have immigrated illegally or committed crimes, for whom it is necessary to verify whether they have reached the age of 14 years in order to be charged legally. The aim of the study was to discriminate between children who are or are not 14 years of age or older by measuring the open apices of teeth. The study evaluated the OPGs of 447 children aged between 12 and 16 years of age, of Italian, Croatian and Slovenian nationality. For each individual, dental maturity was estimated using the number of the seven left permanent mandibular teeth with root development complete, and normalised measurement of the open apices of the third molar.

de Onis M. et al, (1996), Anthropometric reference data for international use: recommendations from a World Health Organisation Expert Committee in *The American Journal of Clinical Nutrition* 1996:64:650-8

The World Health Organisation (WHO) convened an Expert Committee to re-evaluate the use of anthropometry at different ages for assessing health, nutrition and social wellbeing. This document presents their findings and recommendations.

Eid, R, Simi, R, Friggi, M & Fisberg, M (2002) Assessment of dental maturity of Brazilian children aged 6 to 14 years using Demirjian's method, *International Journal of Paediatric Dentistry* 12 (6), 423-428

The aim of this study was to apply Demirjian's method to Brazilian children aged 6-14 years in order to obtain dental maturity curves for each sex, to compare this data with that obtained by Demirjian, and to determine whether there is a significant correlation between dental maturity and body mass index. When compared to the French-Canadian sample of Demirjian, Brazilian males and females were 0.681 years and 0.616 years, respectively, more advanced in dental maturity. There was no significant correlation between dental maturity and body mass index.

European Council Directive 97/43/Euratom, (1997) On health protection of individuals against the dangers of ionising radiation in relation to medical exposure, and repealing Directive 84/466/Euratom

The Directive notes that medical exposure constitutes the major source exposure to artificial sources of ionising radiation in European Union citizens. Article 3 of the Directive outlines that the net benefit to an individual must outweigh the risks to the detriment of the individual. Article 3 further states that special attention should be given to the justification of exposure to radiation where there is no direct health benefit to the individual. The Directive also calls for special attention to be exercised when exposing children to radiation and outlines that Member States must use appropriate radiological equipment, practice techniques and equipment when the individual is a child. In any event exposure should only take place with the consent of the individual after they have been informed of the risks inherent in the procedure.

Farah, C., Booth,D. & Knott, C, 'Dental maturity of children in Perth, Western Australia, and its application in forensic age estimation' in *Journal of Clinical Forensic Medicine* (1999)6, 14-18

The dental maturity of 1450 children from Perth, Western Australia, was determined in a cross-sectional study. Orthopantomographs of 690 males and 760 females aged between four and 16 years old were randomly selected from dental practices and hospitals in the Perth area. Dental maturity was determined by the method of Demirjian and Goldstein

based on the development of four permanent mandibular teeth. Curves were constructed for the Perth children and then compared to that of Demirjian and other studies using the same method. Girls were more advanced dentally than boys. Perth boys showed more advanced dental maturation than French-Canadian boys for ages 6-10 years. Perth girls showed advancement over French-Canadian girls for ages 5-11 years. The same pattern was seen with Hong Kong Chinese children. London and Finnish children, however, were more advanced for the older age groups, 10-16 years, compared to Perth children. Dental age as determined from maturity scores using this method revealed a highly significant correlation with chronological age. From the results the study concludes that the method devised by Demirjian and Goldstein is accurate and reliable for forensic age determination within the Perth population, but variations do exist between different population groups.

Foti B, Lalys L, Adalian P, Giustiniani J, Maczel M, Signoli M, Dutour O, Leonetti G, *'New forensic approach to age determination in children based on tooth eruption'* in Forensic Science International 2003 March 12; 132(1): 49-56

The study proposes equations for age determination both in living and dead children, obtained with the help of stepwise ascending multiple linear regression. The equations should be applied, based on the number of erupted teeth and tooth germs, which were detected on radiographs, during clinical examination and in infant skeletal remains. The proposed equations proved to be efficient just like Demirjian's method used as a reference today, and permit age estimation until 20 years of age.

Germano Maia, M. Almeida Martins, M. Alcides Germano, F. Brandao Neto, J. & Bruno da Silvam, C. "Demirjian's system for estimating the dental age of northeastern Brazilian children*"* in *Forensic Science International* 200 (2010) 177.e1-177.e4

The aim of the study was to test the accuracy of Demirjian's system for assessing the dental maturing of north-eastern Brazilian children, so as to present a scale for maturity score conversion into dental age developed specifically for this population. This can be used for forensic, anthropological and legal matters, as well as a model for other countries attempting to formulate their own conversion scales. Panoramic radiographs of 1,491 children (821 females and 670 males), aged 7-13 years, from Ceara state, north-eastern Brazil, were assessed by a single observer to determine dental age (DA) according to Demirjian's system. The differences between chronological age (CA) and DA in all age groups were statistically significant, demonstrating a great advancement in DA among Brazilians. The percentage of intra-observed agreement varied from 77.6% to 97.4% with a mean of 86.6%. The advancement in DA as determined by Demirjian's system when compared to CA varied from 0.69 to 1.65 years for males (mean 1.22 years) and from 0.76 to 1.93 years for females (mean 1.30 years). This advancement was greater than that observed in a study of south-eastern Brazilians with a sample of 689 children aged 6-14 years. The results show that, even in the same country, variations in dental age may be expected to be specific to the

population considered.

Khan, K, Miller, B, Hoggard, E, Somani, A and Sarafoglou K, Application of Ultrasound for Bone Age Estimation in Clinical Practice in *Journal of Pediatrics,* February 2009:154 pp243-247

The aim of this study was to assess the validity of bone age assessment by ultrasonography. Wrist ultrasounds were performed on 100 children undergoing radiographic bone age and compared with bone age estimation by a radiologist and by endocrinologists under blinded conditions with Greulich and Pyle (GP) and Tanner and Whitehouse methods (TW3). On the basis of the findings, the study concludes that ultrasound assessment should not be considered as a valid replacement for radiographic bone age determination.

Koshy, S and Tandon, S (1998) 'Dental age assessment: the applicability of Demirjan's method in south Indian children', *Forensic Science International* 94 (1-2), 73-85

The study involved the testing of Demirjian's method of age assessment in South Indian children, using 184 South Indian children aged 5 to 15 years and an additional 34 children as the test sample. It was found that Demirjian's method gave an overestimation of 3.04 and 2.82 years in males and females, respectively. The skeletal age was found to differ from the dental and chronologic age. It was concluded that the accuracy of age estimation based on Demirjian's method is not applicable for the South Indian children. The study also concluded that for the population to be tested, it is imperative that individual assessment parameters need to be put forward because of wide ethnic differences.

Liversidge, H.M. 'Interpreting group differences using Demirjian's dental maturity method' in *Forensic Science International* 201 (2010) 95-101

The paper recognises that significant differences exist between average dental age and real age for groups have been interpreted as population differences. The aim of the study was to describe the variation in maturity score for age and age for maturity score from a large collaborative database of children and discuss methods adapted for groups in light of this. Tooth stages from radiographs of 4710 males and 4661 females (aged 2-18) were used and dental maturity scores calculated using Demirjian and Goldstein. Adapted maturity curves from 13 published studies of boys from Europe, Middle East, Africa, India, China and South America were compared to the database. The wide 95% confidence intervals for maturity score by age, age by maturity score, age of individual tooth stages and large number of sequences suggest that the significant differences in dental maturity score do not reflect any biological difference in the timing of tooth formation stages at the population level.

Demirjian's dental maturation method is deemed inappropriate for assessing population differences in dental maturity, and adapting scores for age or age for scores of different groups of children is identified as 'probably unnecessary'.

Martin, D. Sato, K. Sato, M. Thodberg, H. Validation of a New Method of Automated Determination of Bone Age in Japanese Children, *Hormone Research in Paediatrics* 2010: 73 p398-404

The study aimed to validate BoneXpert, an automated method for the analysis of hand radiographs of children which was recently developed and validated in European children. It determines Tanner-Whitehouse (TW) and Greulich Pyle (GP) bone ages. The study looked at two groups; 185 radiographs of 22 normal children followed longitudinally from approximately 7 years of age until full maturity, and 284 radiographs of 22 patients with growth hormone deficiency who had been treated with grown hormones following the age of 4-11 until full maturity. BoneXpert was used to process all the images, and the accuracy (SD) of TW-Japan bone age was 0.72 years and the precision error on a single determination of GP on bone age was 0.17 years. The study concludes that BoneXpert performs as well in Japanese children as it does in Caucasian children.

McKenna, C, James, H, Taylor, A & Townsend, G (2002) 'Tooth development standards for South Australia', *Australian Dental Journal* 47 (3), 223–227

The revised Demirjian system of dental age estimation was applied to a sample of 615 South Australian children in order to assess its accuracy. The results show that the system is of limited accuracy when used to estimate the age of South Australian children.

Mora, S, Boechat M, Pietka, E, Huang, HK and Gilsanz, V (2001) 'Skeletal age determinations in children of European and African descent: applicability of the Greulich and Pyle standards', *Pediatric Research* 50(5), 624–8

This study assessed the value of the Greulich and Pyle method in determining the skeletal ages of healthy American children of European and African descent born after the year 1980. The hand and wrist radiographs of 534 children (265 boys, 269 girls; 260 European-Americans, 274 African-Americans), ages 0 to 19 years, were analyzed by two experienced paediatric radiologists blinded to the chronological age of the subjects. The study concludes that variations in skeletal maturation in pre-pubertal children are greater than those reflected in the Greulich and Pyle atlas; pre-pubertal American children of European descent have significantly delayed skeletal maturation when compared with those of African descent; and, post-pubertal European-American males have significantly advanced skeletal maturation when compared with post-pubertal African American males. New standards are needed to make clinical decisions that require reliable bone ages and to accurately represent a multiethnic paediatric population.

Nystrom, M, Peck, L, Kleemola-Kujala, E, Evalah, M and Kataja, M, Age estimation in small children: reference values based on counts of deciduous teeth in Finns, in *Forensic Science International,* 110 (2000) 179-188

According to this research paper, the eruption of teeth is suitable for age estimations during the period when teeth are actively emerging, in the deciduous dentition phase approximately from the age of 6 months to 2.5 years. The study timed the eruption of successive deciduous teeth. The mean age corresponding to the presence of one tooth in the mouth was 7.1 months (standard deviation 1.78) and that corresponding to tooth count 19 was 27.8 months (standard deviation 3.99). The paper states that if the chronological age is known, the presented distributions and means with variations make it possible to estimate the degree of advancement or delay in a child's dental development. If the age of the child is not known, the mean and median ages can be used for estimations of chronological age. However, estimations of age should not be based only on tooth counts because of marked variation within this homogenous group.

Nykanen, R., Espeland, L., Kvaal S. and Krogstad, O. *'Validity of the Demirjian method for dental age estimation when applied to Norwegian children*' Department of Orthodontics and Department of Oral Pathology, University of Oslo, Oslo

Dental age was studied in a sample of 261 Norwegian children by using the maturity standards of Demirjian and Goldstein (1976) to examine the applicability of these standards as a reference for overall dental maturity in a Norwegian population. This is the method proposed by the Swedish Board for Health and Welfare for age estimation in adopted children of unknown age. The sample comprised 128 boys and 133 girls covering 3 age spans (5.5-6.5 years, 8.5 to 9.5 years and 11.5-12.5 years. The Norwegian children were generally more advanced in dental maturity compared with the French-Canadian reference sample. Among the boys the mean difference between dental age and chronological age varied in the different age groups from 1.5 to 4.0 months. Among the girls the difference in creased with age, varying from 0 to 3.5 months in the young groups and from 4.5 to 7.5 months in the age groups 9.5 years and above. The variability in individual dental age was marked and increased with age. For the older age groups 95% of the individual age estimates were within _+2 years of the real age.

Although the mean differences between estimated and chronological ages were relatively small, indicated good correspondence between dental maturity in the Norwegian children and the French-Canadian reference sample, the individual estimates varied considerably, in particular in the older age groups. For individual assessments the estimated age differenced from the chronological age by up to 1.8 years in the younger groups and up to 2.7 years in the older groups. Therefore, two subjects of the same chronological age could obtain age estimates that differed by more than 5 years.

Phillips, V.M. *'Dental age Determination: Testing Standard Methods on SA Children'* The Preliminary Program for Scientific Meeting of the South African Division of IADR (September 6-7, 2006), University of Western Cape, Dental Faculty, Cape Town, South Africa

The aim of the research was to test the accuracy of the age determination methods of Moorrees et al (1963) and Demirgian et al (1973) on a sample of South African children of known chronological age. The results showed that the age estimation methods of Moorrees et al significantly under estimate the real age. The method of Demirjian et al significantly over-estimates the real age. A combination of both methods significantly improves the age estimation. The paper concludes that the standard methods of dental age estimation do not apply to South African children.

Royal College of Paediatrics and Child Health UK, *X-Rays and Asylum Seeking Children: Policy Statement,* 19th November 2007,
http://www.rcpch.ac.uk/Policy/X-rays-and-Asylum-Seeking-Children-Policy-Statement

The statement notes that over-reliance on X-rays is flawed. There are clinical and ethical issues associated with the use of ionising radiation for this purpose, particularly in the absence of informed consent, and a clinical benefit from the procedure. Secondly, radiological assessment is extremely imprecise and can only give an estimate within two years in either direction. The information obtained is not seen to contribute any greater accuracy to the assessment than holistic assessments that incorporate the above, and is noted as being less clinically useful.

'We accept the need for some form of age assessment in some circumstances, but there is no single reliable method for making precise estimates. The most appropriate approach is not use a holistic evaluation, incorporating narrative accounts, physical assessment of puberty and growth, and cognitive, behavioural and emotional assessments. Such assessments will provide the most useful information on which to plan appropriate management."

The King's Fund and the Royal College of Paediatrics and Child Health, (1999) *The Health of Refugee Children: Guidelines for Paediatricians*

These guidelines were developed in order to help paediatricians who are caring for refugee children. They set out an overview of the immigration system and the rights and entitlements for refugee children. The guidelines include a section on age assessment, and press for caution to be taken by paediatricians when carrying out age assessments. The guidelines note that anthropometric measurements can be misleading and that there is little, if any, justification for the use of radiographs in this context.

Sang Eon Lee, Sang-Hoon Lee, Jeong-Yun Lee, Hee-Kyung Park and Young-Ku Kim, Age estimation of Korean children based on dental maturity, *Forensic Science International* 178 (2008) 125-131

The study aims to establish a standard database of dental maturity based on Demirjian's method, to be used for age estimation of Korean children. Dental maturity was measured using a randomly selected sample of radiographs taken from 2706 patients between the ages of one and 20. The results found that, except for the third molars, the development of permanent teeth in Korean children was more advanced in females. The estimated age according to regression analysis was within +_ 1.0 year of the actual age in 92.0% of males and 92.5% of females. The study suggests that the data found can be used as a reference for dental maturity and a standard for age estimation of Korean children.

7. Anthropological perspectives, childhood theory and children's rights

Amit-Talai V. & H. Wulff (eds) (1995), *Youth Cultures: A Cross-Cultural Perspective,* Routledge, London

This book provides a range of ethnographically based studies of different kinds of youth, youth culture and behaviour in a variety of contexts across the world. Each of these studies addresses current issues affecting youth, including ethnic diversity and cultural integration, social interaction and sociability, cultural consumption and cultural agency.

The opening chapter touches on the concept of age and generation, which it suggests are understood and acknowledged across all cultures, albeit in different, cultural ways. It highlights that most research on age has been based in societies where physical ageing is structured by formal systems of age grades, groups and sets. It states that biological generations are about the same in length, but that cultural generations can vary considerably. The experience of being young is universal, but can take many different forms, influenced by cultural, political and personal factors.

Argenti, N. (1998), Air Youth: Performance, Violence and the State in Cameroon, in *The Journal of the Royal Anthropological Institute,* Vol. 4, No. 4 December 1998 (753-782)

This article explores how youth groups in the Cameroon Grassfields have responded to state violence, with special reference to Air Youth, a dance group from the kingdom of Oku. Members of Air Youth eschew masks in favour of costumes reminiscent of the national gendarmerie. Argenti compares this military aesthetic with that of other groups of youths throughout the history of the region. Argenti quotes Jean-Francois Bayart (1989), who first made the case for how 'age' is a measure of authority and has little to do with biological age

in Africa. Under colonial rule, a group known as the *tapenta* were able to transcend their status as youths and confound regional hierarchies by 'donning the clothes of the white man and wielding his guns', as well as 'becoming the white man, by gaining his knowledge.'

Cleveland, D (1989), Developmental Stage Age Groups and African Population Structure: The Kusasi of the West African Savanna, in *American Anthropologist 09:1989*

In this paper, Cleveland describes developmental stage age groups among the Kusasi of Bawku District in north-eastern Ghana, and analyses their age and sex structure for a sample of 1132 individuals from the village of Zorse. He shows that the differences between men and women reflect differences in biological and social development, and that cultural concepts of developmental stages can influence age estimates to produce the pattern of distortions typically found in African population structures based on censuses.

Foner A & Kertzer, D, (1978), Transitions over the Life Course: Lessons from Age- Set Societies, in *American Journal of Sociology 83 Number 5*

This study examines processes of life-course transitions in 21 African age-set societies, where age is a major organising principle, and compares processes of transition with those in the United States.

Harper C., N. Jones, C. Tincati, *Opportunities and challenges in promoting policy-and practice-relevant knowledge on child rights*, 2010 ODI Working Paper, Overseas Development Institute, London

This paper explores how a more relevant knowledge base can be created in order to underpin future children's rights strategies that safeguards children's rights. It reflects on the progress that has been made in the 20 years since the UNCRC was realised and highlights that despite increased research and analysis in the arena of children and children's rights, progress on child well-being is not automatic or inevitable. The paper seeks to answer the following questions about the knowledge-policy interface surrounding children's rights issues:

- How are global political trends challenging the present relationships between policymaking and academic institutions, and how does this affect children's rights and knowledge production related to child poverty and well being?
- What are the relationships between research, policy and practice in the area of children's rights?
- How does the research-policy-practice nexus function in other relevant sectors, and what lessons can be learnt for children's rights epistemic communities?

Jelliffe, D (1966), Age assessment in field surveys of children in the tropics, in *Tropical Pediatrics 69:5:1*

This article explores the problems faced when carrying out community assessments of malnutrition in early childhood in the tropics. These problems include the 'standards' used by which anthropometric measurements are taken, and age assessment. It explores the problem of age assessment and looks at how local knowledge can be used to provide estimations of children's ages.

Jenks, C (2005), *Childhood,* Routledge, Oxon

Jenks provides a detailed study of what is meant by 'childhood'. This is done through a variety of lenses including an historical overview and a look at the various social science frameworks and theories that can be used to appreciate the social factors that shape our knowledge and conceptions of childhood. It emphasises childhood as a social construct which varies through time and across societies and is different according to different cultural settings.

Keith, J et al (1994) *The Aging Experience: Diversity and Commonality across Cultures,* Sage, California

This study offers an exploration of aging in groups and communities as diverse as the Kung and Hereo herdsmen of the Kalahari, Irish villagers, rural Americans and city-dwellers of Hong Kong. Using quantitative and statistical data, the authors examine wellbeing, life course perceptions and functionality of elders in these societies.

Lansdown, G (2005), *Innocenti Insight: The Evolving Capacities of the Child,* UNICEF, Save the Children

This paper explores assumptions about child development and children's evolving capacities in relation to Article 5 of the UNCRC, which states that direction and guidance provided by parents or others with responsibility for the child, must take into account the capacities of the child to exercise rights on his or her own behalf.

The paper describes how assumptions about child development have changed over recent years, and how child development is no longer seen as a universal process. This diversity is acknowledged within the Convention, which recognises that children in different environments and cultures will acquire competencies at different ages, and that this acquisition will vary according to circumstances. The paper explores how a rights-based approach can be applied in the context of evolving capacities, giving particular consideration to the implications for legal frameworks, which must respect children's right to participate in

and take responsibility for decisions they are capable of, while also providing appropriate protection. It suggests there are a number of models including;

- Provision in law of fixed, prescribed age-limits
- Removal of all age-limits, substituting a framework of individual assessment through which to determine competence to exercise any particular right
- Introduction of a model that includes age-limits but entitles a child who can demonstrate competence to acquire the right at an earlier age
- Differentiation in law between specific rights – proving age-limits only for those rights that are at risk of being abused or neglected by adults

The study provides a useful link between the emphasis on chronological age in legal frameworks, and psycho-social and developmental understandings of age. Greater recognition of diversity in cognitive development and appropriation of responsibilities could significantly aid social and developmental assessments of age.

McKay D. (1970), Anthropometry in Action: Age assessment by indigenous calendar and recalled birth intervals in village anthropometric studies, in *The Journal of Tropical Pediatrics*

This paper explores the difficulty of using anthropometric methods of growth assessment in children in developing countries where the age of children is rarely known. It explores some of the methods of age assessment based on local knowledge.

Rosen, D (2007), Child Soldiers, International Humanitarian Law, and the Globalisation of Childhood, in *American Anthropologist, Vol.109 Issue 2, pp.296-306*

Rosen explores the development of the laws and treaties that regulate the use of child soldiers, and the political, social and cultural contexts which these developments are grounded. He describes how humanitarian and human rights groups have pushed to end the use of child combatants and identifies these attempts as being part of a broader children's rights project which aims to create a universal definition of 'childhood'. Rosen suggests that casting the proposed ban on child soldiers in the language of human rights defects attention away from the enormity of the social and cultural changes involved in the proposed **transnational restructuring of age categories**. He describes treaty-making efforts as reflecting an emerging 'politics of age' that shapes the concept of 'childhood' in international law, and in which different international, regional, and local actors make use of age categories to advance particular political and ideological positions.

Anthropology focuses on *agency* of children and the fact that international definitions of childhood clash with many local understandings of the involvement of young people in war, and override and restrict local understandings.

Settersten R. & Mayer K, (1997), The Measurement of Age, Age Structuring, and the Life Course, in *Annual Review of Sociology 1997, 23:233-61*

This article reviews the concepts of age and age structuring and describes subjective age identification, age norms and age expectations, critical life events, life phases and life review. It then discusses methods of measuring life courses using life history and event matrices.

Sloth-Neilsen, J (ed) 2008, *Children's Rights in Africa: A Legal Perspective* Ashgate Publishing Ltd, England, USA

A collection of articles that explore African conceptions of children's rights and the law, and reflect on contemporary discourses taking place in the region of the children's rights sphere. The volume focuses on child rights issues which have particular resonance on the African continent and profile recent developments and experiences in furthering children's legal rights in the African context, distilling from these future trends that the specific role of the law can play in the context of African children's rights.

Scheper-Hughes N & Sargent, C (1998) eds, *Small Wars: The Cultural Politics of Childhood* University of California Press, Berkeley, Los Angeles, London

This volume focuses on how in the past decade, significant efforts to assure 'child survival' in the world's harsher environments have occurred primarily on the medical and nutritional fronts. However, the authors here emphasise how cultural ideas of childhood and parenthood and especially the economic and political realities that give rise to 'disease', various forms of abuse, and early death also play a role.

The authors raise questions about the role of anthropology in the global arena, particularly in relation to children's rights, and focus on the conflicts between objectivity and activism, and on how policies that seem to portray children as innocent victims deserving protection on the one hand, and as criminals and savages on the other.

Waller, R. Rebellious Youth in Colonial Africa, in *Journal of African History,* 47 (2006) pp 77-92

This article considers the creation of images of 'rebellious youth' and defiance, and the situations faced by young people themselves in the Colonial era. It explores historical concerns around the meaning of maturity and the responsibilities of male and female adulthood. It suggests that where the 'path to maturity' has once followed the processes of

social reproduction as the process of leaving childhood, rather than a period of time defined in years. The onset of reproductive maturity, as much as marriage, created the divide

between female child and female adult. For men, adulthood was emphasized by the achievement of independence as heads of households, a process that was often begun but not completed by initiation, in which marriage was one stage and the aim was to develop a controlled and responsible masculinity. The article outlines the importance of these markers when it notes that attempts to ban circumcision and to substitute Christian rites of passage removed some of the markers of maturity and left young women unsure of their status. Meanwhile, male maturity was reshaped by colonial demands for law and order and through education and the labour process. 'Warrior' bands, militias and initiation groups, important spaces for socialisation and self determination of young men and the proving of manhood, were disbanded or severely curtailed. From the 1920's, Maasai *murran* were hurried into premature retirement, to become adults before their time. In general, the article suggests, 'youth' may have begun earlier and lasted longer during the colonial period.