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**APPLICANTS' PERSPECTIVES ON PATERNITY  
TESTING IN COURT CASES: THE INFLUENCE OF  
GENDER**

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## **Applicants' Perspectives on Paternity Testing in Court Cases:**

### **The Influence of Gender**

**Abstract:** In this paper, we analyse the gender differences in the assessment of paternity testing ordered by courts of law in Portugal. A representative sample of 146 men and women who undergo paternity testing ordered by the courts per year was chosen. The results show that both women and men attributed high importance to the scientific evidence of paternity, although women ascribed less importance to paternity testing than men. With regard to the reasons justifying paternity tests, 98.5% of men valued their financial obligations while 90.5% of women emphasized the importance of proving to the father that they are not lying. Men were more likely to expect positive outcomes concerning the child-father relationship after learning the results of the paternity test.

**Keywords:** paternity, genetic testing, gender differences.

### **Introduction**

Although provisions concerning the investigation of paternity of children born outside marriage may vary between national legal systems, almost all European societies nowadays support efforts to establish parentage in these cases. Some European countries, such as Denmark, Germany, Iceland, Norway, Sweden and Portugal have regulations regarding the mandatory establishment of inquiries of paternity when the birth certificate of a child does not show the identity of the father. Other European countries give the court the power to investigate paternity in the course of other civil proceedings regarding the child (EeKelaar and Sarcevic, 1993; McGlynn, 2006; Forder and Saarloops, 2007). This State effort is usually part of public policies to ensure that children are cared for not only financially but also regarding their education, upbringing and psychological development (European Commission, 1997; Schindler, 2010). At the same time, there are medical reasons to establish parentage that should be considered, mainly by allowing the child to know his or her family health history through the

correct identification of the biological progenitors (Wallbank, 2004; Bellis *et al.*, 2005; Cohn *et al.* 2010). There are also ethical and moral motives to establish paternity that relate to civil rights and duties of all the parties (Rhodes, 1998; Fuscaldo, 2006).

Some literature has analysed the influence of gender on the views of the DNA paternity tests, although focusing on individuals who are involved in the following phenomena: cases of gamete donation (Widdows, 2002; Johnson and Kane, 2007); privately requested paternity tests for individual families (Mertens, 2006; Caenazzo *et al.*, 2008; Tug and Akduman, 2009); paternity fraud proceedings (Anderson, 2006; Turney and Wood, 2007); and situations of incidental discovery of misattributed paternity (Anderlik and Rothstein, 2002; Turney, 2005). There is also one study about how gender influences perceptions regarding DNA testing among the general public (Turney *et al.*, 2003).

These studies show that moral and cultural values play an important role in the meanings that are attributed to paternity testing, since it has become the scientific instrument for assessing a mother's honesty, morality and fidelity and the biological father's capacity to fulfil the 'male breadwinner' role. A few studies on the impacts of DNA paternity testing in the relationships established between the child and the biological father among low income social groups indicate that the mothers assume most of the burden of caregiving and child-care costs, while there is a prevalence, among the biological fathers, for the dismissing of care and financial support (Fonseca, 2005; Machado *et al.*, 2011). Another topic of the debate has been how the discovery of genetic relatedness can produce several impacts on identities and family dynamics – by the social father's either dismissing of care or by the biological father's refusal to assume a parental role (Fuscaldo, 2006; Davis, 2007). Other studies indicate that State institutions actively engaged in civil action for identifying the father (either for the judicial establishment of paternity or within child support policies) tend to reveal patriarchal gender relations in the sense that these are grounded on the evaluation of the mothers' sexual activity and fidelity and the fathers' income and employment status (Monson, 1997; Curran and Abrams, 2000; Machado, 2008).

To the best of our knowledge, there is not any research related to the gender differences in perceptions of paternity testing among individuals who are obliged by a court order to give a DNA sample in the context of judicial investigation of paternity. In Portugal, since the Civil Code of 1966, it is the State's obligation to initiate a civil action to establish paternity when no father is mentioned on the birth registration. The

State's obligation ends when the child reaches the age of two. The alleged father can either admit or deny being the father; if he denies paternity then the court can order a genetic test.

This paper focuses on the views about paternity genetic tests by women and men involved in cases in which paternity establishment was automatically initiated by the Portuguese Registry Office because no father was mentioned on a child's birth registration and the court ordered paternity testing. A questionnaire was administered immediately after the biological sample required for the paternity test had been collected. The aim was to analyse the gender differences in the assessment of the paternity tests ordered by courts in the following aspects: (i) the importance attributed to genetic paternity tests; (ii) the reasons justifying doing these tests; (iii) the expected outcome when the results of the test were known.

## **Methods**

Taking into account the estimated universe<sup>1</sup> of 500 men and women who undergo paternity testing ordered by the courts each year, 146 individuals (77 women and 69 men) were interviewed in one State laboratory and one university-based laboratory in the North of Portugal. The maximum sample error was 5%, with a confidence level of 85%. The data was collected through a structured questionnaire designed by the research team and administered by six interviewers in the two laboratories. The questionnaire took about 10 minutes to complete, and the fieldwork was conducted between June 2009 and May 2010 in one laboratory and between January and April 2011 in the other.

The interviewers asked the mothers and alleged fathers to take part in the study after the technical and administrative procedures relating to the genetic testing had been completed. In general, the mother, the alleged father and the child all went to the laboratory on the same day, at the same time. Different interviewers administered the questionnaire separately to the alleged father and the mother. If one of them refused to take part in the study or missed the date of the test, the questionnaire was administered only to one of the participants. In 60 cases – involving 120 individuals – the alleged

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<sup>1</sup> No official statistics exist for the number of paternity tests ordered by Portuguese courts. Within the context of this article, the universe was estimated on the basis of information obtained from semi-structured interviews with those responsible for forensic genetic services used to study kinship in the laboratories where the study took place.

father and the mother were interviewed simultaneously. The participants formalised their collaboration by signing an individual informed consent form.

The questionnaire comprised four main sets of questions concerning the following domains: 1. sociodemographics (age, education, marital status and work status); 2. the importance attributed to genetic paternity testing; 3. the importance attributed to reasons justifying doing these tests; 4. and the expected outcome regarding the relationship between the biological father and the child when the result of the genetic test was known. Specific questions intended to assess the importance given to the following issues: legal identification (to have the father's name in the child birth certificate); relationship between the biological father and the child; financial obligations equality of responsibilities in raising the child; and finding the 'biological truth'. We have also posed questions aimed at evaluating expectations regarding the outcome of a positive DNA paternity test based on the expected frequency of future contact between the father and child.

This study was approved by the Foundation for Science and Technology (Ministry for Education and Science), the Medical-Legal Board of the National Institute of Forensic Medicine and by the Parentage Investigation and Genetic Identification Laboratory at Institute of Molecular Pathology and Immunology (IPATIMUP) of the University of Porto, in Portugal. It complies with the norms of the Portuguese Sociological Association and the International Sociological Association codes of professional conduct, and with the law on the protection of personal data (Law no. 67/98 of 26 October) (Law 67/98, 1998) currently in force in this country.

## **Results**

Table 1 shows the sociodemographic characteristics of women and men involved in paternity testing who participated in the study. The mothers were younger than the alleged fathers (44.2% vs 18.8% were aged under 25) and had higher levels of education (26% vs 10.1% had secondary or higher education). Gender differences were also observed in relation to work status (52.6% of the mothers and 27.5% of the alleged fathers were unemployed) and marital status (74% of women vs 55.1% of men were single).

**Table 1. Sociodemographic characteristics of the participants, by gender**

	<b>TOTAL</b> n=146	<b>Mothers</b> n=77	<b>Alleged fathers</b> n=69
	<b>n (%)</b>		
<b>Age (years)</b>			
<18	<b>8 (5.5)</b>	7 (9.1)	1 (1.4)
18-24	<b>39 (26.7)</b>	27 (35.1)	12 (17.4)
25-31	<b>51 (34.9)</b>	23 (29.9)	28 (40.6)
32-38	<b>22 (15.1)</b>	9 (11.7)	13 (18.8)
>38	<b>26 (17.8)</b>	11 (14.3)	15 (21.7)
<b>Marital status</b>			
Single	<b>95 (65.1)</b>	57 (74.0)	38 (55.1)
Married/cohabiting	<b>17 (11.7)</b>	4 (5.2)	13 (18.8)
Divorced/widowed	<b>34 (23.3)</b>	16 (20.8)	18 (26.1)
<b>Level of education</b>			
Incomplete basic education*	<b>62 (42.5)</b>	33 (42.9)	29 (42.0)
Basic education or equivalent	<b>57 (39.0)</b>	24 (31.2)	33 (47.8)
Secondary education	<b>21 (14.4)</b>	16 (20.8)	5 (7.2)
Higher education	<b>6 (4.1)</b>	4 (5.2)	2 (2.9)
<b>Work status</b>			
Employed	<b>68 (46.9)</b>	25 (32.9)	43 (62.3)
Unemployed	<b>59 (40.7)</b>	40 (52.6)	19 (27.5)
Other	<b>18 (12.4)</b>	11 (14.5)	7 (10.1)

\*Less than 9 years of schooling.

The majority (85.8%) of the participants considered undergoing paternity testing to be very important. The proportion of individuals who did not attribute any importance to paternity testing was higher amongst the mothers (12.2% vs 1.5% of the alleged fathers). Table 2 shows the importance attributed to reasons justifying paternity testing according to gender. In comparison with the mothers, the alleged fathers classified more frequently the following reasons as “very important” to submit to paternity testing: for the father to meet his financial obligations (98.5% vs 74%); for the man to be certain he is the father of the child (97.1% vs 84.5%); for the child to be able to have a relationship with the father (92.8% vs 78.1%); for the mother not to have to raise the child alone (86.6% vs 55.4%). A higher proportion of women stated that paternity testing was important in order to enable the mother to prove to father that she was not lying (90.5% vs 86.8%).



**Table 2. Importance attributed to reasons justifying paternity testing, by gender**

	TOTAL	Very important	More or less important	Not important
	n	%	%	%
Father's name to appear on child's identity card	<b>143</b>	72.7	4.9	22.4
Mothers	<b>74</b>	73.0	1.4	25.7
Alleged fathers	<b>69</b>	72.5	8.7	18.8
Child able to have relationship with father	<b>142</b>	85.2	1.4	13.4
Mothers	<b>73</b>	78.1	-	21.9
Alleged fathers	<b>69</b>	92.8	2.9	4.3
Man to be certain he is the father of the child	<b>140</b>	90.7	1.4	7.9
Mothers	<b>71</b>	84.5	2.8	12.7
Alleged fathers	<b>69</b>	97.1	-	2.9
Father to meet his financial obligations	<b>141</b>	85.8	2.8	11.3
Mothers	<b>73</b>	74.0	5.5	20.5
Alleged fathers	<b>68</b>	98.5	-	1.5
Mother able to prove to father that she is not lying	<b>142</b>	88.7	2.8	8.5
Mothers	<b>74</b>	90.5	1.4	8.1
Alleged fathers	<b>68</b>	86.8	4.4	8.8
Mother not to have to raise child alone	<b>141</b>	70.2	4.3	25.5
Mothers	<b>74</b>	55.4	5.4	39.2
Alleged fathers	<b>67</b>	86.6	3.0	10.4

Participants were asked if they expected changes in the relationship between the father and the child in case they learned a positive result of the paternity test. In comparison with the alleged fathers, the mothers reported less frequently to expect positive changes (37.8% vs 72.4% for the combined total of those expecting many and some positive changes). The proportion of respondents declaring not to expect any changes was higher among women (44.6% vs 15.9%).

The proportion of the respondents envisaged weekly contact between the father and the child after learning of a positive paternity test result was higher among men (79.1% vs 30% of the women) (Table 3). The mothers stated more frequently that they expected rare or occasional contact between the father and child (52% vs 15% of the alleged fathers, for the combined total of the categories rarely/never, few times a month and few times a year).

**Table 3. Expectations regarding the frequency of future contact between father and child, by gender**

	TOTAL n=146	Mothers n=77	Alleged fathers n=69
	n (%)		
Once a week	<b>68 (58.1)</b>	15 (30.0)	53 (79.1)
A few times a month	<b>14 (12.0)</b>	11 (22.0)	3 (4.5)
A few times a year	<b>4 (3.4)</b>	1 (2.0)	3 (4.5)
Rarely/Never	<b>18 (23.2)</b>	14 (28.0)	4 (6.0)
Don't know	<b>13 (15.4)</b>	9 (18.0)	4 (6.0)
No information	<b>29</b>	27	2

## **Discussion**

This study revealed some aspects of the views and expectations of women and men who went through processes of DNA paternity testing ordered by Portuguese courts of law. By analysing the social representations of a genome-based technology for the individuals using this information, our data suggest that there are social and cultural values associated with gender-based relationships that impact on the assessment of the importance and benefits of DNA paternity tests made by women and men who had to provide a DNA sample in cases of paternity investigation ordered by a court of law. Some of these gender differences could be observed in relation to the following aspects:

- Compared to the mothers, the alleged fathers classified more frequently the following reasons for paternity testing as being ‘very important’: for the father to meet his financial obligations; for the man to be certain he is the father of the child; for the child to be able to have a relationship with the father; for the mother not to having to raise a child alone. A higher proportion of women stated that paternity testing was important in order to enable the mother to prove to father that she was not lying.
- In comparison with the alleged fathers, the women were less likely to expect positive changes in the relationship between father and child after learning the results of the test. Women were more likely than men to expect rare or occasional contact between the biological father and the child.

To submit to paternity testing is valued by both women and men, but more by men, as expected, because the individuals who have responded to the questionnaire were involved in cases in which the man appointed by the mother as the biological father of her child did not admit paternity. Our data indicate gender differences on the reasons given to carry out a paternity test: while men tend to value mostly the “male breadwinner model” (the most valued reason was for the “father to meet his financial obligations”); mothers value the genetic test as a proof of honesty (as the most valued reason to perform paternity testing was for the “mother to be able to prove to the father that she is not lying”). However, on both genders, the importance of obtaining the certainty of bio-genetic ties is clear; and the importance of finding out the “biological truth of paternity” seems to prevail above other reasons like providing the child with a legal father, for the child to develop a relationship with the father, or for the mother not to having to raise the child alone.

In fact, the result of a paternity test affects families' and the individuals' biological networks, in a context where the study and use of a detailed family history for health promotion and for diagnosis and risk assessment in clinical genetics have been promoted over the past years (Cohn *et al.*, 2010; Syurina *et al.*, 2011).

Women attribute less importance to a paternity test than men when it comes to being involved in the upbringing of the child and in the development of social or emotional bonds with him/her. These results indicate the prevalence of gender inequalities by which, even when a biological father is identified, women tend to incorporate the traditional patterns of sexual labour that perpetuate the model where women assume the burden of caregiving and child-care costs (Boyd, 2007). Earlier studies on judicial investigations of paternity ordered by courts show that the biological fathers' participation in terms of financial support and parental involvement with their respective children is minimal (Fonseca, 2005; European Commission, 2007; Costa, 2009).

The gender-differences on caregiving and financial support to children born outside the marriage, and when the parents do not have a conjugal relationship, are represented by the traditional "burden of women" (Monson, 1997; Curran and Abrams, 2000; Machado *et al.*, 2011). These differences are also well illustrated on what concerns women and men's expectations towards the future contact between the father and the child: the expectation of obtaining a positive result from the paternity test led 79.1% of men and only 30% of women to declare that they would expect a weekly contact.

While courtroom practices of paternity establishment in Portugal mostly value the identification of a legal father (in order to place the father's name in the birth certificate), 25.7% of women and 18.8% of men referred the father's name to appear on child's identity card as a reason "not important" to do a paternity test. This indicates that the assessment of the outcomes of judicial investigation of paternity might be different for institutions and for the individuals involved in this kind of civil actions.

The gender differences in the assessment of the importance and expected outcomes of a paternity genetic test can inform the debate about the adequate uses of this sort of technology in compulsory paternity investigations that are ordered by court when a child's birth certificate does not indicate the father. The representations and the expectations of the individuals involved in this kind of civil actions should be taken into consideration for the establishment of the duties and rights of the mother and the

biological father. By raising questions about how genetic testing would be actually used in practice, DNA paternity tests could produce a foundation for gender equality public policies in the domain of parental responsibilities, updating the contract between genome science and society to accommodate the mother's and the alleged father's rights and interests and to protect child's health (Meslin and Cho, 2010).

The efforts to establish biological paternity can potentially ensure that children are cared for, not only financially, but also with regard to education, upbringing and day-to-day care. The regulation of this biotechnology in a manner that will both allow innovation and protect the citizens is relevant to public health (Zimmern, 2011). The main medical reasons to establish parentage are related to the child's possibility to know his or her personal medical history and also to the importance of both parents in the psychological development of infants.

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### **Bibliographical references**

- Anderlik, Mary R.; Rothstein Mark A. (2002), "DNA-based Identity Testing and the Future of the Family: A Research Agenda", *American Journal of Law & Medicine*, 28(2-3), 215-232.
- Anderson, Kermyt G. (2006), "How Well Does Paternity Confidence Match Actual Paternity? Evidence from Worldwide Nonpaternity Rates", *Current Anthropology*, 47(3), 513-520.

- Bellis, Mark A.; Hughes, Karen; Hughes, Sara; Ashton, John R. (2005), "Measuring Paternal Discrepancy and Its Public Health Consequences", *Journal of Epidemiology and Community Health*, 59(9), 749-754.
- Boyd, Susan B. (2007), "Gendering Legal Parenthood: Bio-genetic Ties, Intentionality and Responsibility", *Windsor Yearbook of Access to Justice*, 25, 63-94.
- Caenazzo, Luciana; Comacchio, A; Tozzo, P.; Rodriguez, D.; Benciolini, P. (2008), "Paternity Testing Requested by Private Parties in Italy: Some Ethical Considerations", *Journal of Medical Ethics*, 34(10), 735-737.
- Cohn, Wendy F.; Ropka, ME.; Pelletier, SL.; Barrett, JR.; Kinzie, MB.; Harrison, MB.; Liu, Z.; Miesfeldt, S.; Tucker, AL.; Worrall, BB.; Gibson, J.; Mullins, IM.; Elward, KS.; Franko, J.; Guterbock, TM.; Knaus, WA. (2010), "Health Heritage© a Web-based Tool for the Collection and Assessment of Family Health History: Initial User Experience and Analytic Validity", *Public Health Genomics*, 13(7-8), 477-491.
- Costa, Susana (2009), *Actores institucionais, perícias e paternidade no sistema judicial português*. Coimbra: Faculdade de Economia da Universidade de Coimbra.
- Curran, Laura; Abrams, Laura S. (2000), "Making Men into Dads - Fatherhood, the State, and Welfare Reform", *Gender & Society*, 14(5), 662-678.
- Davis, Dena S. (2007), "The Changing Face of 'Misidentified Paternity'", *Journal of Medicine and Philosophy*, 32(4), 359-373.
- Eekelaar, John; Sarcevic, Petar (1993), *Parenthood in Modern Society: Legal and Social Issues for the Twenty-first Century*. Dordrecht: Martinus Nijhoff Publishers.
- European Commission (1997), *Commission's Network of Legal Experts in the Fields of Employment, Social Affairs and Equality between Men and Women. Studies on the Socio-economic Impact of Biotechnology: Genetic Fingerprints, Scientific Truth and Affiliation Law*. Luxembourg: Office for Official Publications of the European Communities.
- European Commission (2007), *Commission's Network of Legal Experts in the Fields of Employment, Social Affairs and Equality between Men and Women: Report on Pregnancy, Maternity, Parental and Paternity Rights*. Brussels: Employment & Social Affairs.
- Fonseca, Claudia (2005), "Paternidade brasileira na era do DNA: a certeza que pariu a dúvida", *Cuadernos de Antropología Social*, 22, 27-51.

- Forder, Caroline; Saarloos, Kees (2007), "The Establishment of Parenthood: A Story of Successful Convergence", in Masha Antokolskaia (ed.), *Convergence and Divergence of Family Law in Europe*. Oxford: Intersentia, 169-236.
- Fuscaldò, Giuliana, (2006), "Genetic Ties: Are they Morally Binding?", *Bioethics*, 20(2), 64-76.
- Johnson, Louise; Kane, Helen (2007), "Regulation of Donor Conception and the 'Time to Tell' Campaign", *Journal of Law and Medicine*, 15(1), 117-127.
- Law 67/98 (1998), Approves the Law for the Protection of Personal Data. *Diário da República*, 247(series 1), 5536-5546.
- Machado, Helena (2008), "Biologising Paternity, Moralising Maternity: The Construction of Parenthood in the Determination of Paternity Through the Courts in Portugal", *Feminist Legal Studies*, 16(2), 215-236.
- Machado, Helena; Silva, Susana; Costa, Susana; Miranda, Diana (2011), "Biogenética e género na construção da intencionalidade da paternidade: o teste de DNA nas investigações judiciais de paternidade", *Revista de Estudos Feministas*, 19(3), 823-848.
- McGlynn, Clare (2006), *Families and the European Union: Law, Politics and Pluralism*. Cambridge: CUP.
- Mertens, Gerhard (2006), "The Ethical Debate on Present Day Paternity Testing Practices", *Acta Clinica Belgica*, 61(2), 74-78.
- Meslin, Eric M.; Cho, Mildred K. (2010), "Research Ethics in the Era of Personalized Medicine: Updating Science's Contract with Society", *Public Health Genomics*, 13(6), 378-384.
- Monson, Renée A. (1997), "State-ing Sex and Gender - Collecting Information from Mothers and Fathers in Paternity Cases", *Gender & Society*, 11(3), 279-295.
- Rhodes, Rosamond (1998), "Genetic Links, Family Ties, and Social Bonds: Rights and Responsibilities in the Face of Genetic Knowledge", *Journal of Medicine and Philosophy*, 23(1), 10-30.
- Schindler, Holy (2010), "The Importance of Parenting and Financial Contributions in Promoting Fathers' Psychological Health", *Journal of Marriage and Family*, 72(2), 318-332.
- Syurina, Elena; Brankovic, I.; Probst-Hensch, N.; Brand, A. (2011), "Genome-based Health Literacy: A New Challenge for Public Health Genomics", *Public Health Genomics*, 14(4-5), 201-210.

- Tug, Ayşim; Akduman, Gülümser G. (2009), "General Characteristics of Paternity Test Applicants", *Turkish Journal of Medical Sciences*, 39(6), 923-931.
- Turney, Lyn (2005), "The Incidental Discovery of Nonpaternity Through Genetic Carrier Screening: An Exploration of Lay Attitudes", *Qualitative Health Research*, 15(5), 620-634.
- Turney, Lyn; Gilding, Michael; Critchley, Christine R.; Shields, Penelope; Bakacs, Lisa; Butler, Kerrie-Anne (2003), "DNA Paternity Testing: Public Perceptions and the Influence of Gender", *Australian Journal of Emerging Technologies and Society*, 1(1), 21-37.
- Turney, Lyn; Wood, Paula (2007), "'Paternity Fraud' and The Invisible Child", *Australian Journal of Emerging Technologies and Society*, 5(2), 119-131.
- Wallbank, Julie (2004), "The Role of Rights and Utility in Instituting a Child's Right to Know her Genetic History", *Social and Legal Studies*, 13(2), 245-264.
- Widdows, Heather, (2002), "The Ethics of Secrecy in Donor Insemination", in Donna Dickenson (ed.), *Ethical Issues in Maternal-fetal Medicine*. Cambridge: CUP, 167-180.
- Zimmern, Ron (2011), "Genomics and Individuals in Public Health Practice: Are We Luddites or Can We Meet The Challenge?", *Journal of Public Health (Oxford)*, 33(4), 477-482.