

Social Security Survivors Benefits: Exploring the Effects of Reproductive Pathways and State Intestacy Laws on Attitudes Regarding Benefit Eligibility and Awards

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Abstract

Most minor children are eligible for Social Security survivors benefits if a wage-earning parent dies, but eligibility of children not in utero at the time of death is more nuanced. The purpose of this study was to examine attitudes concerning access to Social Security survivors benefits in the context of posthumous reproduction. A probability sample of 540 Florida households responded to a multiple-segment factorial vignette designed to examine the effects of state intestacy laws and five reproductive pathways—normative, posthumous birth, cryopreserved embryo, cryopreserved gametes, and posthumous gamete retrieval—on attitudes toward eligibility for the Social Security survivors benefits. Broad support was found for the survivors benefits following normative and posthumous birth pathways, but attitudes were decidedly less favorable when the child was not in utero at the time of parental death. In addition, in stark contrast to the recent U.S. Supreme Court decision in *Astrue v. Capato*, the vast majority of respondents did not believe state intestacy laws should determine eligibility for Social Security survivors benefits.

Introduction

According to the Social Security Administration (2011), 98% of minor children are eligible to receive survivors benefits if a working parent dies. However, the eligibility of children born, and even conceived, *after* a working parent dies is less clear. In recent years, the Social Security Administration has received more than 100 applications for survivors benefits files on behalf of children conceived after a parent's death, and one such case, *Astrue v. Capato*, was heard by the U.S. Supreme Court in 2012. The purpose of this study is to examine attitudes concerning access to Social Security survivors benefits (hereafter referred to as *survivors benefits*) in the context of various reproductive pathways and varying state intestacy laws.

The Social Security Act generally stipulates that financially dependent unmarried children may qualify for survivors benefits based on a deceased parent's work history (Social Security Administration, 2011). Eligibility for survivors benefits is not affected by parental transitions into or out of marriage, and children born to a mother within 300 days of her husband's death are generally recognized by law as children of the deceased and survivors benefits are therefore awarded. However, when the legal status of the parent-child relationship is more tenuous, such as in the case of a child *conceived* after the death of a parent, determination of the child's eligibility for survivors benefits is more complicated.

Several legal cases have stemmed from rejected applications for survivors benefits submitted on behalf of posthumously conceived children. In perhaps the first legal case to address this issue, the Social Security Administration preempted a test case on the constitutional issues *Hart v. Shalala* raised by granting survivors benefits prior to a court ruling. Both the Superior Court of New Jersey (*In re Estate of Kolacy*, 2000) and the Massachusetts Supreme Court (*Woodward v. Commissioner of Social Security*, 2002) set aside statutory law on paternity and inheritance by ruling that posthumously conceived children are legal heirs. Interestingly, a single court—the U.S. Court of Appeals for the Ninth Circuit—ruled differently in two cases that originated in different states. Survivors benefits were awarded in an Arizona case (*Gillett-Netting v. Barnhart*, 2004) based on state law that emphasized biological parenthood, and was not awarded in a California case (*Vernoff v. Astrue*, 2009) based on state law that emphasized family roles and relationships over biological ties.

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This *functional parenthood* approach (see Storrow, 2002) taken by California allows legal parentage to be awarded based on the role an adult takes in a child's life subsequent to childbirth and is progressive in that so-called non-traditional parents, such as stepparents and same-sex partners of genetic parents, can gain legal recognition in the absence of biological ties or legal adoption. However, in this sense posthumous reproduction reflects inherently traditional values that emphasize genetic ties over functional roles, and posthumously conceived offspring can therefore be disadvantaged by the functional approach to establishing legal parentage.

In the only empirical study we are aware of that has examined the juxtaposition of posthumous conception and inheritance or death benefits, Nakhuda, Wang, and Sauer (2011) asked a sample of 106 couples presenting for an initial fertility evaluation: "Do you think a child conceived with your eggs/sperm after the time of your death should be entitled to an inheritance for your estate, or other death benefits?" (p. 1464). About 80% of their sample indicated that children conceived posthumously should have inheritance rights and access to death benefits associated with their deceased parent.

In our study, we undertake a more sophisticated analysis of the role that reproductive pathways and state intestacy laws have on attitudes toward the provision of Social Security survivors benefits. Specially, we use a multiple segment factorial design to examine the effects of three contextual variables on attitudes toward eligibility for survivors benefits: (a) sex composition of the deceased and surviving parents, (b) reproductive pathways, and (c) state intestacy law. Prior to describing the design and vignette in greater detail, we briefly explain our rationale for examining each of these variables.

Literature Review

Sex Composition

Recent decades have seen a dramatic rise in dual-earner households, coupled with a less-than-dramatic rise in the domestic and childrearing contributions of fathers (Bianchi & Milkie, 2010; Pew Research Center, 2010). Nevertheless, gendered expectations about parenting roles prescribing women as caregivers and men as breadwinners persist (Doucet, 2012; Katz-Wise, Priess, & Hyde, 2010; Riggs, 1997); indeed, normative gender role expectations of domesticity become more pronounced in dual-career couples where women earn more money than men (Bittman, England, Sayer, Folbre, & Matheson, 2003). The gendered nature of attitudes toward parenting roles has been observed in attitudinal research on posthumous reproduction, which has consistently found that posthumous reproduction is viewed more favorably when the deceased is male and the survivor is female (Hans, 2008; Hans & Dooley, 2012; Hans & Frey, 2012; Nakhuda, Wang, & Sauer, 2011). Given the persuasive influence of traditional gender role expectations on attitudes and behaviors, it stands to reason that attitudes toward eligibility for survivors benefits will be more favorable when the deceased is male, the presumed breadwinner for the family.

Reproductive Pathways

Survivors benefits are intended to subsidize children's financial needs following the death of a parent whose income had provided for those needs. However, modern reproductive technology has expanded the range of reproductive pathways through which a child of the deceased may be produced. Consequently, claims are now made for survivors benefits on behalf of children who have no history of financial dependence on the deceased parent.

Reproductive pathways can be classified according to the timing of parental death within the gamete donation, conception, in utero, and birth sequence (see Figure 1).

Normative:	gamete donation → fertilization → in utero → birth → parental death
Posthumous birth:	gamete donation → fertilization → in utero → parental death → birth
Cryopreserved embryo:	gamete donation → fertilization → parental death → in utero → birth
Cryopreserved gametes:	gamete donation → parental death → fertilization → in utero → birth
Posthumous gamete retrieval:	parental death → gamete donation → fertilization → in utero → birth

Figure 1. Reproductive pathways according to the timing of parental death within the gamete donation, conception, in utero, and birth sequence.

The *normative* sequence, wherein parental death occurs at any time following the birth of offspring, is the most common reproductive pathway. Like the normative sequence, the *posthumous birth* sequence is also a natural experience that has existed throughout time as men have died while their offspring were in utero and as women have died in the process of childbirth, but it has become less prevalent in recent centuries as life expectancy has increased and maternal morbidity in childbirth has declined precipitously (Hogan et al., 2010).

Although other reproductive pathways can also involve cryopreserved embryos, in practical terms the *cryopreserved embryo* sequence requires the use of cryopreserved embryos due to the delay between the fertilization and in utero stages of reproduction. Essentially, an egg is fertilized in vitro then cryopreserved for future implantation, but in our context one of the progenitors dies after fertilization but prior to implantation (i.e., while the embryo is in a cryopreserved state). This scenario is perhaps most common in cases where a woman wishes to preserve her reproductive potential when faced with a potential threat to her future fertility, such as cancer treatments. Although embryo cryopreservation disadvantages women without a known male reproductive partner (Dondorp & De Wert, 2009; Gosden & Oktay, 2000), cryopreservation of embryos is preferred over oocytes due to the substantially lower success rates of the latter (Ethics Committee of the American Society for Reproductive Medicine, 2005).

The final two reproductive pathways involve fertilization after one of the progenitors is deceased. The *cryopreserved gametes* sequence occurs when gametes (usually sperm) are cryopreserved by the donor at some point prior to death, often as insurance against infertility associated with an impending experience such as cancer treatments or military deployment (Alvord, 2003a, 2003b; Buckley, 2003; Ethics Committee of the American Society for Reproductive Medicine, 2005), and fertilization takes place following the donor's death. *Posthumous gamete retrieval* is performed in the hours following the donor's unanticipated death, usually at the request of a surviving spouse or parent and without explicit consent from the deceased (Associated Press, 2009; Conley, 2011; Dwyer, 2000; Kerr et al., 1997), to preserve the possibility of producing a child or grandchild genetically related to the deceased. The retrieved gametes are then cryopreserved and available for fertility treatments if desired at some point in the future.

We anticipate that level of support for paying survivors benefits will cluster into four distinct groups, with declining levels of support according to whether the birth occurred prior to parental death, whether the child was in utero prior to parental death, and whether fertilization occurred prior to or following parental death. A birth that occurs prior to parental death (i.e., the normative sequence) can be considered the prototypical scenario for which survivors benefits are intended; the child's financial dependence can be assumed. Financial dependence is more difficult to assume in cases where the child was in utero at the time of an untimely parental death; good faith intentions at the time of conception that the deceased's income would be available to provide for the child can be presumed, but we suspect will carry slightly less weight than the assumed financial dependence in the normative sequence. Finally, some people conceptualize the beginning of life as the moment of fertilization (Jury Still Out, 2008), and will therefore give a cryopreserved embryo special status over cryopreserved gametes.

State Intestacy Laws

The Social Security Act provides several criteria for establishing eligibility for survivors benefits under the heading "Determination of family status" (see 42 U. S. C. §416(h)). Most are beyond the scope of this article because they are not generally feasible in the context of posthumous reproduction. Of particular interest, however, is a provision that hinges upon whether the child can inherit from the deceased parent under intestacy law in the parent's state of residence.

State intestacy laws for posthumously conceived children are inconsistent across states. For example, many states have fully adopted the Uniform Probate Code (2008), which was amended in 2008 to (among other things) explicitly address the treatment of children conceived after a parent's death. In short, the revised code establishes a parent-child relationship if a child is born within 300 days of a father's death or, importantly, if the deceased consented in writing to posthumous reproduction using his

or her gametes. This *intentional parenthood* approach (see Storrow, 2002) to establishing legal parentage is common, but most states have not adopted the Uniform Probate Code or similar statutory language that makes allowances for posthumously conceived children. Consequently, posthumously conceived children's eligibility for survivors benefits is arbitrary based on the deceased parent's state of residence.

Equal protection concerns notwithstanding, the use of state intestacy law for determining eligibility for survivors benefits was upheld by the U.S. Supreme Court in *Astrue v. Capato* (2012), thereby confirming that access to the federal survivors benefits is largely contingent upon intestacy law in the deceased individual's domiciliary state. Therefore, it is incumbent upon each state to ensure that statutory law appropriately addresses the status of posthumously conceived children and, more generally, the myriad of ways emerging forms of reproductive technology can lead to legitimate parentage claims. However, little is known about attitudes among the general population that could otherwise inform policy decisions.

Methods

Sample

Surveying was conducted in February and March, 2012, using random-digit dialing to provide every household telephone number in Florida an equal probability of being contacted. The respondent within each household was randomly selected according to the youngest or oldest adult of a given sex living in the household. Up to 13 attempts were made to each telephone number in the sample, and a conversion attempt was made for each initial refusal. These procedures resulted in a sample of 540 respondents ranging in age from 18 to 100 years of age ($M = 60$, $SD = 17$). The majority of respondents were male (52%), married (59%), and non-Hispanic Whites (81%). Level of education, annual household income, and political party were distributed across categories. The demographic characteristics of respondents are more fully described in Table 1.

Table 1

Demographic Characteristics of Respondents (N = 540)

Characteristics	<i>n</i>	%
Sex		
Male	280	52
Female	260	48
Education		
Less than high school diploma	31	6
High school diploma	120	23
Some college	164	31
Bachelor's degree	120	23
Post-bachelor's degree	86	17
Annual income (\$)		
0-29,999	134	31
30,000-49,999	103	24
50,000-99,999	128	29
100,000-149,999	38	9
150,000+	32	7
Marital Status		
Single (never married)	63	12
Married	311	59
Separated or divorced	67	13
Widowed	87	17
Political Party		
Democrat	151	29
Independent	138	27
Republican	187	37
Other party	7	1
No preference	30	6
Race/ethnicity		
Asian or Pacific Islander	4	1

Black (African-American)	35	7
Hispanic	37	7
White (non-Hispanic)	437	81
Other	14	3
Multi-racial or mixed race	4	1

Age

Range: 18-100, $M = 60$, $SD = 17$

Design and Procedures

A three-segment factorial vignette (see Ganong & Coleman, 2006) was designed to assess the effect that sex of the deceased, reproductive pathway, and intestacy laws have on attitudes toward children's receipt of survivors benefits following parental death. Respondents were informed that a brief description of a hypothetical scenario would be read to them and that they would then be asked a few questions. They were also assured that there were not any right or wrong answers; that we only wanted their honest opinions.

First segment. The deceased parent's sex was randomly manipulated in the first segment by changing his or her name; some respondents heard that *John* was deceased and others heard that *Kim* was deceased. For example, respondents who were randomly selected to hear that the deceased parent was a male heard:

John died in a car accident. Nearly every child is eligible to receive financial assistance from Social Security if a working parent dies, and John had worked enough to qualify for Social Security survivors benefits. Do you think that John's child *should* or *should not* receive the Social Security survivors benefits following his death, in accordance with current policy?

Then respondents were asked to briefly explain in their own words why they chose that answer, and their responses were typed verbatim prior to beginning the second vignette segment.

Second segment. In addition to sex of the deceased parent, by default the first segment was also a measure of attitudes toward survivors benefits in the normative birth sequence. In the second segment of the vignette, respondents were randomly assigned to one of the other four reproductive pathways (see Figure 1): (a) posthumous birth following a natural fertilization; (b) cryopreserved embryo, in which posthumous fertilization occurred prior to the death but implantation occurred after the death; (c) cryopreserved gametes, in which gametes were frozen by the deceased prior to death but fertilization occurred after death; and (d) posthumous gamete retrieval, in which the deceased's gametes were harvested and cryopreserved after death. Assuming a deceased male was the condition presented in the first segment, and depending on the condition they were randomly assigned to hear, respondents were read one of the following:

- **Posthumous birth.** It turns out that John was not yet a father at the time of his death. His wife was 7-months pregnant when he died.
- **Cryopreserved embryo.** It turns out that John was not yet a father at the time of his death, but John's wife was still able to have a biological child with him after his death using an embryo—that is, a fertilized egg—they had frozen at a fertility clinic prior to the car accident.
- **Cryopreserved gametes.** It turns out that John was not yet a father at the time of his death, but John's wife was still able to have a biological child with him after his death using some sperm that John had frozen at a fertility clinic prior to the car accident.
- **Posthumous gamete retrieval.** It turns out that John was not yet a father at the time of his death, but John's wife was still able to have a biological child with him after his death using some sperm that, in the hours following the accident, she asked medical professionals to retrieve from John's body and freeze for later use.

Then respondents were asked, "Given this additional information, do you think that John's child *should* or *should not* receive Social Security survivors benefits following his death?" They were also asked again to briefly explain in their own words why they chose their answer to this question.

Third segment. In the final vignette segment, respondents either heard that state intestacy law where John (or Kim) lived either did or did not allow the child to inherit from the deceased parent given the timing of the child's birth relative to the death. However, unlike sex of the deceased parent and reproductive pathway in the first two segments, intestacy law was not randomly selected. Rather, those who responded that the child *should* receive survivors benefits following the second segment were then presented a scenario where state intestacy law did not permit the child to inherit, and those who

responded that the child *should not* receive survivors benefits following the second segment heard that state intestacy law did permit the child to inherit. For example, the following was read to those who heard that inheritance was not permitted:

Inheritance laws vary from state to state, but for practical reasons all states place some limit on the time after death that someone can make a claim on an estate. In John's case, his biological child cannot legally inherit from him because the child was born too long after his death. Social Security survivors benefits are not inheritance, but do you think the fact that John's child cannot legally inherit from him in their particular state of residence *should* or *should not* affect the child's ability to receive the federal Social Security survivors benefits?

Once again, respondents were also asked to briefly provide a rationale for their responses.

Analytic Approach

Separate logistic regression models were created for each of the questions following the first and second segments asking whether survivors benefits *should* or *should not* be paid. An additional two logistic regression models were created for the third segment by separating those who had stated following the second segment that survivors benefits should not be paid and consequently heard that the child was a legal heir in the state of residence, and those who had stated following the second segment that survivors benefits should be paid and consequently heard that the child was not a legal heir. Those who did not indicate either that survivors benefits should or should not be paid following the second segment, or who did not indicate whether intestacy law should affect eligibility for survivors benefits following the third segment, were excluded from the logistic regression analyses associated with the third segment. In all four models, the main effects of the independent design variables and respondent characteristics were forced into the models, save one instance (described below) where insufficient variation according racial classification precluded inclusion in a model. Respondents who had *no opinion* were omitted from the logistic regression analyses.

The rationales respondents provided for their responses to the closed-ended questions were typed verbatim and coded inductively. Roughly 2% of respondents were more comfortable providing their rationale in Spanish. In these cases multilingual telesurvey specialists typed responses verbatim in Spanish, and later translated the responses into English prior to coding. The coding unit was a unique rationale, so a single response may have been coded into multiple categories but most respondents only provided one coded rationale ($M = 1.03$) per vignette segment. All responses were also coded by a second coder to test for inter-rater reliability, which resulted in a substantial amount of agreement ($\kappa = .71$) between the two coders (Landis & Koch, 1977).

Results

Does Sex of the Deceased Affect Attitudes?

The first vignette segment randomly assigned respondents to hear that either the mother or father had died. Thus, any variation in responses distributions according to vignette condition could be attributed to the sex composition of the deceased and living parents. As depicted in Table 2, however, response distributions were nearly identical between those who heard about a deceased father and those who heard about a deceased mother; in both cases, 88% of respondents believed survivors benefits should be paid. These results were also confirmed in the logistic regression model (see Table 3), where the odds ratio of 1.00 indicated that respondents were equally likely to state that survivors benefits should be paid regardless of whether they heard about a deceased mother or a deceased father.

Table 2

Descriptive Statistics for Responses Within Each Level of the Design Variables

Design variables	n	Benefits should or should not be paid?		
		Should %	Should not %	No opinion %
Sex of deceased				
Male	271	88.1	7.1	4.9
Female	269	88.1	6.2	5.8
Reproductive pathway				
Posthumous birth	141	81.2	15.9	2.9
Cryopreserved embryo	128	35.0	56.1	8.9

Cryopreserved gametes	139	26.3	62.0	11.7
Posthumous gamete retrieval	132	23.3	64.3	12.4
Legal status				
Cannot inherit	235	81.7	6.8	11.5
Can inherit	283	6.8	72.5	20.7

Does Reproductive Pathway Affect Attitudes?

In the normative birth sequence (as measured in the first vignette segment), broad support was shown for survivors benefits; the vast majority of respondents (nearly 9 out of every 10) indicated that survivors benefits should be paid, compared to fewer than 7% who opposed payment and 5% who did not have an opinion. Logistic regression results (see Table 3) indicated that male respondents were about 5 times less likely to indicate that survivors benefits should be paid than were female respondents. An important caveat, however, is that quintupling an odds ratio is not particularly impressive when the comparison odds are widely disproportionate. In this case, the vast majority of male respondents who took a position believed that survivors benefits should be paid (88.4% favored, 11.6% opposed), but the response distribution of the female comparison group was even more disproportionate (97.9% favored, 2.1% opposed).

Table 3

Logistic Regression Predicting Whether Social Security Survivors Benefits Should be Paid

Predictor	Segment 1 <i>n</i> = 473; <i>should</i> = 93%					Segment 2 <i>n</i> = 456; <i>should</i> = 46%				
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% <i>CI</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% <i>CI</i>
Male deceased ^(female)	- 0.01	0.40	.990	1.00	[0.46, 2.16]	- 0.28	0.23	.224	0.76	[0.49, 1.19]
Reproductive pathway										
Embryo/posthumous implantation ^(natural)						- 2.19	0.33	< .001	0.11	[0.06, 0.21]
Gametes/posthumous conception ^(natural)						- 2.51	0.33	< .001	0.08	[0.04, 0.15]
Posthumous harvesting & conception ^(natural)						- 2.72	0.34	< .001	0.07	[0.03, 0.13]
Respondent characteristics										
Male ^(female)	- 1.58	0.56	.005	0.21	[0.07, 0.62]	- 0.11	0.24	.636	0.89	[0.56, 1.42]
Age	- 0.01	0.01	.473	0.99	[0.97, 1.02]	0.01	0.01	.463	1.01	[0.99, 1.02]
Education	- 0.07	0.08	.385	0.94	[0.81, 1.09]	- 0.02	0.04	.725	0.99	[0.91, 1.07]
Household income	- 0.18	0.11	.077	0.83	[0.67, 1.03]	- 0.06	0.06	.312	0.95	[0.85, 1.05]
Marital status										
Widowed ^(married)	1.22	1.06	.250	3.40	[0.42, 27.39]	- 0.22	0.35	.536	0.80	[0.40, 1.61]
Never married ^(married)	- 0.08	0.72	.917	0.93	[0.23, 3.82]	0.06	0.40	.882	1.06	[0.49, 2.30]
Divorced or separated ^(married)	- 0.10	0.68	.881	0.90	[0.24, 3.40]	- 0.45	0.37	.228	0.64	[0.31, 1.32]
Political affiliation										
Democrat ^(republican)	0.98	0.59	.094	2.65	[0.85, 8.32]	0.17	0.30	.571	1.18	[0.66, 2.13]
Independent ^(republican)	0.40	0.47	.392	1.49	[0.60, 3.73]	- 0.21	0.30	.486	0.81	[0.46, 1.45]
Independent ^(democrat)	- 0.58	0.65	.372	0.56	[0.16, 1.99]	- 0.37	0.31	.227	0.69	[0.38, 1.26]
Race/ethnicity										
Black/African American ^(White, non-Hispanic)						1.27	0.47	.007	3.57	[1.42, 9.00]
Hispanic ^(White, non-Hispanic)						0.81	0.44	.070	2.24	[0.94, 5.34]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (OR).

Table 3 also indicates that political independents were somewhat more likely than Republicans and less likely than Democrats to indicate that survivors benefits should be paid in the normative birth sequence, although the confidence intervals of these point estimates were too large to reach statistical significance. Respondent racial and ethnic characteristics were not included in this model due to the lack of variation; for example, 100% of Blacks and all but one Hispanic indicated that survivors benefits should be paid. Nearly three-quarters of respondents who favored paying survivors benefits indicated that they did so out of concern for the surviving spouse and child's financial need or the fact that it was a benefit earned by the deceased parent, whereas the small number of respondents who were not in favor of paying the survivors benefits indicated that doing so is an inappropriate use of Social Security or amounts to a handout (see Table 4).

Table 4

Most Common Rationale for Why Social Security Survivors Benefits Should or Should Not be Paid

Rationale	Segment 1		Segment 2		Segment 3	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Should be paid	453		211		174	
Financial need	194	42.8	41	19.4	41	23.6
Earned benefit	142	31.3	16	7.6	27	15.5
Legal right or entitlement	83	18.3	33	15.6	36	20.7
Social or moral obligation	64	14.1	21	10.0	9	5.2
Deceased's biological child/dependent			99	46.9	41	23.6
State intestate law irrelevant					22	12.6
Should not be paid	35		242		175	
Inappropriate use of Social Security	19	54.3	19	7.9	33	18.9
No handouts	6	17.1	20	8.3	12	6.9
Personal choice to have posthumous child			114	47.1	30	17.1
Death preceded birth or conception			66	27.3	44	25.1
State intestate law irrelevant					22	12.6

Once a non-normative reproductive pathway was revealed in the second vignette segment, responses concerning whether survivors benefits *should* or *should not* be paid became more varied (see Table 2). Among those who believed the benefits should be paid following a normative birth sequence, 91% maintained that opinion after hearing in the second vignette segment that the child was in the mother's womb at the time of the death (i.e., a posthumous birth sequence). By comparison, only 40% maintained a supportive position after hearing that an embryo had been implanted following the parent's death, 28% after hearing that conception occurred following the parent's death using previously cryopreserved gametes, and 26% after hearing that the gametes had been posthumously harvested from the deceased parent for subsequent conception (see Table 5).

Table 5

Segment 2 Responses According to Reproductive Pathway Among Respondents Who Indicated Following the First Vignette Segment that Survivors Benefits Should be Paid following a Normative Reproductive Pathway

Reproductive pathway	Should be paid		Should not be paid		No opinion	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Posthumous birth	105	90.5	9	7.8	2	1.7
Cryopreserved embryo	43	40.2	57	53.3	7	6.5
Cryopreserved gametes	34	27.9	78	63.9	10	8.2
Posthumous gamete retrieval	29	25.7	76	67.3	8	7.1

As suggested by these descriptive statistics, the logistic regression model (see Table 3) indicated that reproductive pathway had a substantial impact on responses; those who heard about an embryo with posthumous implantation, cryopreserved gametes with posthumous fertilization, and posthumous retrieval of gametes from the deceased with subsequent fertilization were, respectively, 9, 12, and 14 times less likely to state that survivors benefits should be paid than were those who heard about a posthumous birth

sequence where the child was in utero at the time of parental death. Unlike the first segment, responses did not statistically differ according to respondent sex or political leaning following this segment of the vignette, but statistical differences according to race were found. Specifically, Blacks were about 4 times more likely, and Hispanics were about twice more likely, than Whites to indicate that the benefits should be paid, regardless of which reproductive pathway was portrayed.

As depicted in Table 4, nearly half of respondents who remained in favor of the survivors benefits after learning about the circumstances of reproduction indicated that the child was still the deceased's biological child or dependent. Many others continued to cite financial need, referenced current law that dictates the benefits should be paid, believed there was a social or moral obligation to assist, or pointed out that the survivors benefits were earned by the deceased parent. Nearly three-quarters of those opposed to payment of survivors benefits after learning about the reproductive circumstances based their decisions on the surviving spouse's voluntary decision to have a child subsequent to the other parent's death.

Should State Intestacy Law Affect Eligibility?

Respondents self-selected into the version of the third vignette segment they heard; those who stated after the second segment that survivors benefits should be paid then heard that intestacy law in the state of residence did not allow the child to inherit from the deceased parent, and those who stated after the second segment that survivors benefits should not be paid then heard that state intestacy law did allow the child to inherit from the deceased parent. Only 8% of respondents believed that a state intestacy law in opposition to their established position on the issue should affect a child's ability to receive the federal survivors benefits, and a chi-square analysis failed to find a statistical difference in the effect of intestacy law between those who heard that the child was legally recognized as an heir (8.6%) and those who heard that the child was not legally recognized as an heir (7.8%), $\chi^2(1, N = 342), 0.01, p = .95$. Nearly 12% of respondents who had heard about a case of posthumous gamete retrieval deferred to state intestacy law, as did about 7.5% of those who heard about cryopreserved gametes or embryos, and just less than 6% of those who heard about a normative reproductive pathway.

The rationales respondents used to justify their positions after learning that state intestacy law contradicted their prior responses remained largely consistent with the rationales provided following the second vignette segment; as the quantitative data suggested, few respondents were swayed by intestacy law, so most simply reiterated their previous explanations. Among those who indicated that survivors benefits should be paid, most rationales focused on some aspect of the view that the deceased had earned the right to survivors benefits for his or her family and, as the biological child of the deceased, the child had a right to that earned benefit. Those who were opposed to paying survivors benefits tended to focus on some aspect of the view that it was a personal choice to have a posthumous child after the qualifying parent's death and that the survivor benefit would therefore be an inappropriate use of Social Security. Several respondents defended their positions, whether for or against paying survivors benefits, by indicating that they believed state intestacy law was irrelevant to determining eligibility for the federal survivors benefits. Table 4 summarizes the rationales provided in more detail.

Discussion

The primary focus of this study was to examine attitudes toward Social Security survivors benefits according to various reproductive pathways, and to assess attitudes concerning whether state intestacy laws should dictate who is eligible to receive the federal survivors benefits. Our results show broad support for Social Security survivors benefits in the normative birth sequence regardless of which parent died and across respondent demographic characteristics. That support was tempered yet remained remarkably strong when the child was in utero at the time of death, but support dropped precipitously if the child was not in utero at the time of death, and further eroded if fertilization occurred posthumously. The vast majority of respondents did not believe eligibility for survivors benefits should be determined by state intestacy laws when those laws contradicted the position they had formed based on the reproductive pathway presented.

Well-reasoned arguments can be made against the provision of survivors benefits to children born after parental death. The primary purpose of survivors benefits are to shield immediate family members from the financial impact of a wage-earning parent's death, and children born after a wage earner's death were never financially dependent upon the deceased wage-earner. Consistent with our data, an argument can also be made that a child in utero at the time of parental death should qualify for survivors benefits presuming it was reasonable to expect that the deceased wage-earner would financially

support the child at some point while it was in utero. The same cannot be argued when fertilization or implantation occurs after parental death. Indeed, many respondents implied in their rationales that the intentionality of proceeding with posthumous reproduction while knowing that the deceased wage-earner would not provide financial support had led to the decision that survivors benefits should not be paid.

However, this is a potentially slippery-slope argument that should give policymakers reason to pause. If an earned benefit can be denied to dependents on the basis that the circumstances to activate that benefit were hastened or willingly precipitated by a third party (e.g., the surviving parent), then a similar line of reasoning can be used with children born into poor families that utilize entitlement programs to buffer their children from the ill effects of poverty. Moreover, this line of reasoning seems misdirected in its emphasis on not rewarding parents for what some may perceive as willfully irresponsible behavior rather than on ensuring that the needs of children are met. Indeed, based on the rationales provided for their responses, a key determinant of attitudes in the context of intentional posthumous reproduction seems to be whether one focuses on the parent receiving financial support or the child's need for financial support. We would argue in favor of protecting children by providing for their financial needs than punishing parents for what some may perceive to be irresponsible behavior; as one respondent stated, posthumous reproduction is "such a rare occurrence that I would err on the side of favoring the child." Although many people in the general Florida population we sampled did emphasize parental punishment over protecting children, we are not aware of any earnest attempts by policymakers or decisions offered in court decisions that align with that viewpoint.

Our results also indicated that most people do not believe eligibility for survivors benefits should hinge on state intestacy law; only a very small minority of respondents changed their positions in deference to an intestacy law that contradicted the opinions they had formed in response to the reproductive circumstances presented in the vignette. However, existing policy does defer to state intestacy law, and the recent U.S. Supreme Court decision in *Astrue v. Capato* (2012)—for which arguments were heard a few days after we completed collection of these data—ensures that state law will continue to determine eligibility for survivors benefits among children born following parental death unless the Social Security Act is revised to explicitly address the status of these children.

As it stands, survivors benefits are awarded inconsistently based upon state intestacy law. Inconsistent access to federal benefits according state of residence is undesirable, but is particularly problematic in states where the issues associated with posthumous reproduction have not been considered and resident children are therefore disqualified due to laws of omission rather than commission. Posthumous reproduction is increasingly accessible and utilized, so states that have not yet done so should directly address the legal status and parentage of posthumously fertilized and conceived children.

Advanced planning at an individual level provides another avenue to proactively counter legal ambiguity with regard to posthumous reproduction. Financial planners, fertility counselors, and medical practitioners should understand the estate planning needs and economic implications of posthumous assisted reproduction to better advise their clients. As with estate planning and advance directive documents such as a will or power of attorney, one's wishes regarding posthumous reproduction should be outlined in a written directive. For example, as a condition to cryopreservation of gametes and embryos, fertility centers should require contingency planning documentation that clearly specifies directives, such as who will be the custodian of the reproduction material and under what circumstances its use will be permitted in the event of death.

The decision to posthumously reproduce is not only an emotional decision but also has financial implications. Given the inconsistent awarding of survivors benefits to children of posthumous reproduction according to state of residence, those contemplating posthumous reproduction would be wise to consider income sources and amounts without assuming that Social Security survivors benefits will be awarded to the resulting offspring and, if possible prior to an anticipated death, to establish residence in a state where laws are hospitable to the offspring of posthumous reproduction.

Conclusion

Social Security survivors benefits are widely supported under normative conditions, but non-normative reproductive pathways that blur the boundaries of death and reproduction are being used with increasing frequency. Our results suggest that support for survivors benefits in the context of non-normative reproductive pathways is mixed and particularly low when the offspring is not in utero at the time of death, signaling that posthumous reproduction was intentional. The philosophical divide between support and non-support for survivors benefits in these cases appears to hinge upon whether survivors

benefits are viewed as earned benefits to buffer children from the financial consequences of an untimely parental death, or as a handout to irresponsible parents who chose to reproduce under circumstances perceived by some to be inappropriate. Finally, regardless of one's perspective, few people support the existing policy that predicates eligibility for the federal Social Security survivors benefits upon state intestacy laws where one the deceased was domiciled. These results, juxtaposed with the increasing number of applicants for survivors benefits on behalf of children born of non-normative reproductive pathways as well as recent court decisions that contradict public sentiment, indicate that the *Social Security Act* would benefit from new language that directly and uniformly addresses the eligibility status of these children.

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