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Sole Physical Custody and Mother's Repartnering After Divorce

Research consistently finds that divorced mothers with full-time residential children exhibit lower repartnering rates than mothers whose children also stay with their ex-partners. Yet the selectivity of mothers who take up sole physical custody could have biased the estimations. Using data from the Divorce-in-Flanders study (N = 959), the authors model mothers' heterogeneity in the uptaking of sole physical custody as a factor influencing repartnering. They find that failure to account for the endogeneity of sole physical custody leads to a large underestimation of its effect on repartnering. Accounting for its endogeneity, sole physical custody reduced the mother's repartnering rate by 63%, whereas this was just 33% according to the naïve estimate. The results suggest that mothers with full-time residential children are disproportionally selected among those who have better chances of repartnering but that

sole physical custody itself acts as an important impediment to stepfamily formation following divorce.

There is consistent evidence that having children from a previous union living permanently in the household—in so-called sole physical custody—substantially decreases one's likelihood to form a new coresidential partnership (Beaujouan, 2012; de Graaf & Kalmijn, 2003; Ivanova, Kalmijn, & Uunk, 2013; Juby, Le Bourdais, & Marcil-Gratton, 2005; Theunis, Pasteels, & Van Bavel, 2015; Vanassche, Corijn, Matthijs, & Swicegood, 2015). Nevertheless, studies have treated the child custody arrangement after separation as exogenous to repartnering. This leaves it unclear as to what extent the correlation between child custody and repartnering is a result of the causal effect of the former on the latter because the selectivity of mothers who take up sole physical custody could have biased the estimations. The negative effect of sole physical custody may be underestimated if an unobserved factor, for example, a high family orientation, makes mothers more likely to both be the primary caretakers and repartner to restore the image of a complete family. Similarly, the effect may be underestimated when health issues make some mothers less prone to obtain sole physical custody and find a new partner because such a situation would generate a positive correlation between sole custody

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and repartnering. Alternatively, it may be the case that some unobserved characteristics tend to lead mothers to be both sole custodian and without a new partner, and these confounders thus explain the negative correlation between sole custody and repartnering, leading to an overestimation of its effect.

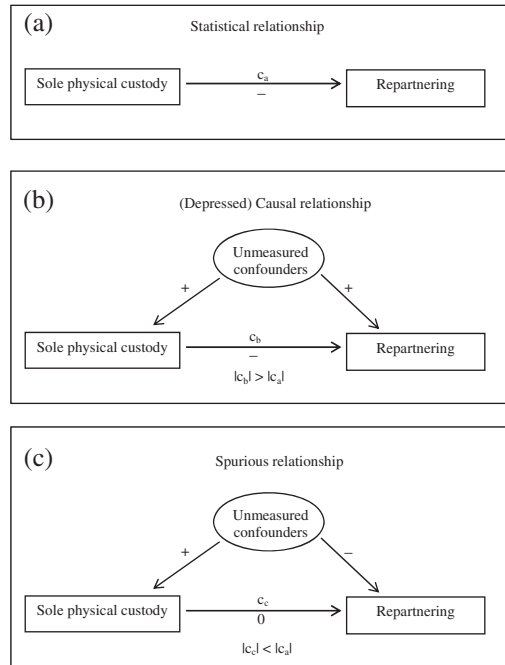
We extend the literature on children’s residential arrangement and repartnering by accounting for the potential endogeneity of the physical custody arrangement. Investigating repartnering patterns among separated mothers is important because the transition to a new partnership can limit the negative consequences of marital dissolution and single parenthood for mothers (Dewilde & Uunk, 2008; Jansen, Mortelmans, & Snoeckx, 2009). Understanding the consequences of custody arrangements—which may be imposed by a court—is a prerequisite for designing effective policies that aim to support families in their postdivorce lives and reduce social inequality within the population. Specifically, it is crucial to know whether the custody arrangement itself constitutes an impediment for stepfamily formation or if a correlation arises for other reasons.

We concentrate on the mother’s perspective and on sole physical custody to compare the “traditional” and most common arrangement on one hand with postdivorce arrangements in which women share childrearing tasks with their former partner on the other hand. We estimate the causal effect of sole physical custody on repartnering within the first 5 years following marital dissolution with a potential outcome framework that accounts for the potential endogeneity of custody arrangement using a reform-based exclusion restriction.

BACKGROUND

Poor repartnering prospects of sole custodians are explained in the literature by the following three factors: a low level of attractiveness, few opportunities to meet and mate, and low emotional and social needs to repartner (de Graaf & Kalmijn, 2003; Goldscheider, Kaufman, Sassler, 2009; Ivanova et al., 2013). This argumentation assumes that differences between mothers in attractiveness, opportunities, and needs emerge with custody choice. Perceiving the custody arrangement as exogenous to repartnering, a simple comparison of repartnering outcomes of mothers with and without sole physical custody

FIGURE 1. INFLUENCE OF UNOBSERVED THIRD FACTORS



Note. “c” indicates the effect of sole physical custody on repartnering. The “+” sign indicates a positive, significant relationship; the “-” sign indicates a negative, significant relationship; and the “0” sign indicates a spurious relationship.

would give consistent estimates. If, however, mothers with sole physical custody and mothers in alternative arrangements differ in their background characteristics and these characteristics affect the outcome of the repartnering process, the estimates will be biased (Wunsch, 2007). The direction of the bias depends on the influence of these unobserved third factors, as illustrated in Figure 1. The top part of the figure (a) illustrates the naive estimator (c_a) of the effect of sole physical custody on repartnering that neglects the potential endogeneity of custody. This estimator is consistently reported to be negative in the literature. The lower parts of the figure (b and c) illustrate how the true causal effect may be respectively stronger ($|c_b| > |c_a|$) or weaker ($|c_c| < |c_a|$) than indicated by the naive estimator. Case (b) applies when unmeasured factors affect both sole custody and repartnering in the same direction, generating a positive correlation between the two and leading to an

underestimation of the true negative effect of sole custody. Case (c) applies when unmeasured factors have an opposite effect on custody and repartnering, generating a negative correlation between the two and leading to an overestimation of the true negative causal effect. In the latter case, the effect might actually be entirely spurious ($c_c = 0$) because unobserved characteristics and not sole custody itself make a woman less likely to be in a new partnership and because the same characteristic also increases her likelihood to be the primary caretaker. Often, factors such as physical attractiveness, attitudes, or emotional needs remain unobserved because they are not available in large-scale retrospective partnership data, although mating market research has revealed their importance for repartnering (Bereczkei, Voros, Gal, & Bernath, 1997).

Thus, the possibility of unobserved heterogeneity among mothers with different custody arrangements affects our interpretation of the data and results in two competing hypotheses. On one hand, we might expect that the association between sole custody and repartnering is underestimated if custody is taken as exogenous because sole custodians may be disproportionately selected among those with more positive attitudes about new union formation or with a higher level of attractiveness. Having a positive attitude toward forming a new union and being committed to family life are factors that increase the likelihood of repartnering (Goldscheider et al., 2009). For example, women who are very family oriented may opt for having the children permanently living in the household and for introducing a stepfather to the family. By contrast, certain women may be less prone to become sole custodians and to reenter a partnership to focus on their own needs and to take time to develop their social and human capital (de Graaf & Kalmijn, 2003; McNamee, Amato, & King, 2014). Mothers who have serious (mental or physical) health problems or alcohol-related disorders might not be granted sole physical custody, and, at the same time, they are likely to experience difficulties in finding a new partner (Nielsen, 2011). In sum, this leads us to Hypothesis 1: The true causal negative effect of sole physical custody on repartnering is on average stronger than the naïve estimator suggests.

On the other hand, the association of custody and repartnering may be spurious. Self-selection processes are operating when sole custodian

mothers disproportionately possess attributes that decrease their need to repartner or their attractiveness on the mating market. For example, sole custodians may possess rather traditional attitudes and may refrain from forming a stepfamily because it does not conform to the image of the traditional family (McNamee et al., 2014). Some women may feel disappointed in their relationship expectations because of the marriage dissolution, and this keeps them away from forming a new partnership. Disappointments experienced with the first marriage partner may also motivate women to avoid a shared custody arrangement, because they do not want to coparent with the ex-husband or because they believe that children are better off with the mother. A low level of physical attractiveness may motivate mothers to opt for sole custody because they place more weight on raising their children than on searching—likely without success—for a new partner. These arguments lead to Hypothesis 2: The true causal effect of sole custody on repartnering is less negative than indicated by a naïve estimator.

METHOD

Country Setting

We analyzed the custody arrangement and repartnering of Dutch-speaking Belgian (i.e., Flemish) mothers. The Belgian context is particularly suitable for our study purpose. First, the Belgian divorce rate has been among the highest of wealthy countries, and two of three divorces involve minor children (Organization for Economic Cooperation and Development, 2014). Second, the country has pioneered legal changes that promote shared physical custody, and these changes have effectively increased the likelihood that children live with both parents following separation. From April 13, 1995 onward, parents were by default given joint legal custody after divorce, which implies active involvement and shared decision making in child-related matters (Sodermans, Matthijs, & Swicegood, 2013). Third, the small geographic scope of our study population facilitates the implementation of shared physical custody. Belgium is divided in different language communities. Flanders, the northern part of the country, is Dutch speaking. The maximum distance from north to south is approximately 100 km, and from west to east it is 200 km, which restricts

the commuting distance between the household of the mother and the father after separation to a maximum of 2 driving hours. This encourages shared physical custody or at least renders it more feasible and makes Flanders a particularly suitable region to study the effect of household arrangements on postdivorce repartnering.

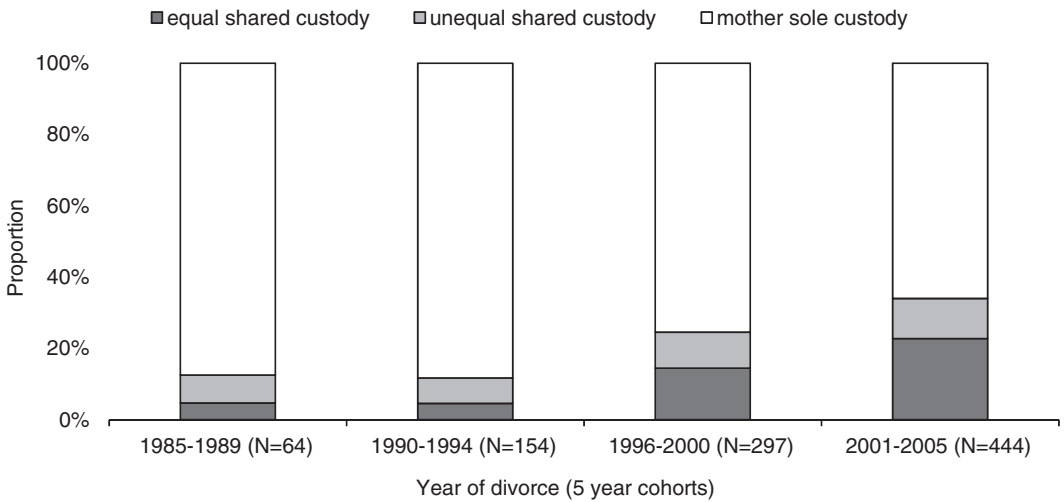
Data

We used retrospective partnership data on divorced mothers collected in 2009 and 2010 within the Divorce in Flanders study (Mortelmans et al., 2012). The sample of divorced first marriages was selected from the population register proportional to the marriage formation year (1971–2008). The response rate was 42.2%, comparable to other European multi-actor surveys (Brüderl et al., 2016; Dykstra et al., 2005). The distribution of our outcome variable remained robust to weighting procedures with information for nonrespondents available from the sampling frame. If the partners from the reference marriage had common children, one of the children was randomly selected as the reference child on whom the partners received questions about the physical custody arrangement. Only 6.5% of the families used different arrangements for their children, so focusing on the target child is unlikely to bias our results (Sodermans et al., 2013). The residential arrangement was recorded with the help of a calendar corresponding to a regular month without holiday periods (Sodermans et al., 2013). The parents were asked where the child lived immediately after the residential separation and whether the arrangement changed afterward. For our analytical sample, we concentrated on women with biological children younger than age 18 at the time of separation and who dissolved their first marriage in the 10 years before or after the legal custody reform in 1995 ($N = 1,155$). We aimed to compare mother sole custody with shared physical custody arrangements; thus we excluded women who had the children living in father sole custody. There were only a few of these cases ($n = 107$), and most often (80%) the mothers involved had no contact at all with their children. Women were omitted if there was missing information on custody arrangement ($n = 56$), on education ($n = 2$), and on the initiator of the divorce process ($n = 2$) or if there was inconsistent information on the repartnering date ($n = 22$). The final number of

separated mothers considered in our analysis was 959. Of these, 455 (47%) had entered into a union within 5 years.

Measures

Our dependent variable is repartnering. Similar to the study by Beaujouan (2012), we defined it as the formation of a household with a new partner within the first 5 years after the dissolution of the marriage. Mothers become at risk of repartnering at the moment of marital separation, which may precede formal divorce. Of those divorced mothers who started to live with their new partner before the interview date, 77% did so within the first 5 years after divorce. The first arrangement of child custody after marital dissolution is our main independent variable, as Berger, Brown, Joung, Melli, and Wimer (2008) showed that mother sole custody tends to be a stable living arrangement. Sole physical custody has been defined in previous studies as having the children more than 66% of the time (Sodermans et al., 2013), more than 75% of the time (Cancian, Meyer, Brown, & Cook, 2014), or roughly as having the children most of the time (Beaujouan, 2012; de Graaf & Kalmijn, 2003; Ivanova et al., 2013). The traditional arrangement is, however, that children spend only every other weekend with their father and the rest of their time with their mother, which can be translated into women having the children around 85% of the time (Nielsen, 2013). We assumed the difference in partnering opportunities between sole custodians and mothers who had more child-free time at disposal to be highest when taking this rather narrow definition of sole child custody. Figure 2 displays the distribution of physical custody arrangements across divorce cohorts, distinguishing next to mother sole custody further between equal shared custody (33% to 66%) and unequal shared custody (67% to 85%), following the custody definitions of Cancian and colleagues (2014). Mother sole custody was the most common arrangement. Prior to the legal custody reform in 1995, the vast majority of the mothers had the children always living at home. After the policy reform, children stayed increasingly more time with their father, mostly in equal shared arrangements. In the multivariate part, we constructed our main independent variable as a binary indicator of the mother sole physical custody arrangement (1 = if mother has children

FIGURE 2. MOTHERS' CUSTODIAL ARRANGEMENTS AFTER DIVORCE, DIVORCE COHORTS 1985–2005 ($N = 959$).

more than 85% of the time in her household, 0 = otherwise).

Other independent variables included the woman's educational attainment level (low, medium, high), the number of children from the divorced marriage (one child, two children, or three children and more), the gender of the target child (1 = girl, 0 = boy), and the age of the youngest child (continuous, in years) and the mother at the time of separation (continuous, in years). Furthermore, we considered whether the woman, her husband, or both initiated the marital dissolution. An additional variable indicated whether the woman divorced before or after the policy reform that stimulated joint legal custody (1 = divorced after 1995, 0 = otherwise). Sample statistics are displayed in Table 1. The table also shows the differences in the proportions and means between sole physical custody mothers and mothers in other custody arrangements, including test results on the equality of proportions for binary variables and on the equality of means for continuous variables. Sole custodians were more often low educated and less often college educated. Furthermore, their divorce was more likely to have been initiated by their partner.

Analytical Strategy

To disentangle causal from selection effects, one would ideally study how a change in custody

arrangements affects the repartnering chances for the same woman, but only few parents change the custodial arrangements (Berger et al., 2008). A common solution to produce consistent results in empirical studies is to consider analytically the existing reciprocal effects in a potential outcome framework (Moffitt, 2005). We used this framework to formalize the effect of sole physical custody C on repartnering Y and assumed that each mother i can be exposed to two alternative states of a cause: being in sole physical custody or not (Wooldridge, 2002, p. 477). A mother who did not receive treatment ($C = 0$) would have the observed repartnering outcome Y_0 . Y_1 would be her counterfactual repartnering outcome if the same mother had undergone the treatment of sole physical custody. For a mother who actually received treatment ($C = 1$), we observe Y_1 , whereas Y_0 would be the counterfactual outcome in her case. Because of the unobservability of the counterfactual, the causal effect of C on Y can only be estimated with some type of identifying assumption, for example, by applying an exclusion restriction (Heckman, 1997; Moffitt, 2005; Wilde, 2000). A relevant exclusion restriction, or instrument, exists if a variable affects the likelihood of the treatment, but not directly the outcome. We assumed that the legal custody reform in 1995 has the characteristics of a varying exogenous regressor Z (DeMaris, 2014; Wooldridge, 2002; see Supplementary Material

Table 1. Variable Definitions and Sample Statistics (N = 1,044)

Variable	Range	M	SD	Δ ^a
Sole physical custody (children >85% of time in household)	0–1	0.73	0.44	
Number of children from first marriage				
One child	0–1	0.36	0.48	.00
Two children	0–1	0.46	0.50	.03
Three or more children	0–1	0.18	0.38	–.03
Target child female	0–1	0.48	0.50	–.03
Age of the youngest child at time of marital dissolution (in years)	0–17	5.82	4.30	.63*
Mother’s age at time of marital dissolution (in years)	19–52	33.10	5.55	.20
Highest educational attainment				
Low (lower secondary school)	0–1	0.21	0.42	–.11***
Medium (upper secondary school)	0–1	0.44	0.50	–.00
High (university degree)	0–1	0.34	0.47	.11***
Initiator of marital dissolution				
Woman	0–1	0.60	0.49	.00
Partner	0–1	0.22	0.41	–.06*
Both	0–1	0.18	0.38	.06*
Divorced after 1995	0–1	0.77	0.42	.09***

Note. Data are from the Divorce in Flanders study, authors’ calculations. Variables displayed with their range, mean (M), standard deviation (SD), and difference in proportion or mean with regard to custody arrangement (Δ).

^aDifference between nonsole custody and sole custody group (test on equality of proportions for binary variables and on equality of means for continuous variables).

* $p < .05$. *** $p < .001$.

for a detailed discussion). The custody reform induced exogenous variation in the fraction of sole custodians from 88% in the prereform period to 70% in the postreform period (see also Figure 2), whereas the proportion of women who repartnered in the first 5 years remained stable at 47% (see Figure 3). The reform is one step removed from the individual’s own personal characteristics, and we assumed that the individual had little control over whether the divorce occurred before or after the reforms. There is a trade-off between the study’s internal validity, which holds when Z is truly exogenous, and its external validity, which holds when the estimate can be generalized (Moffitt, 2005). In consequence, the results refer to the study population and may be different for other periods, policy reforms, or groups of parents. The average treatment effect (ATE) is the mean of the difference between Y_1 and Y_0 and can be interpreted as the average effect of sole child custody for those who would have changed their custody arrangement in response to the policy reform (so-called switchers or compliers). The potential outcome means are the respective means of Y_1 and Y_0 .

For the estimation of the model, we used a recursive bivariate probit model (Monfardini

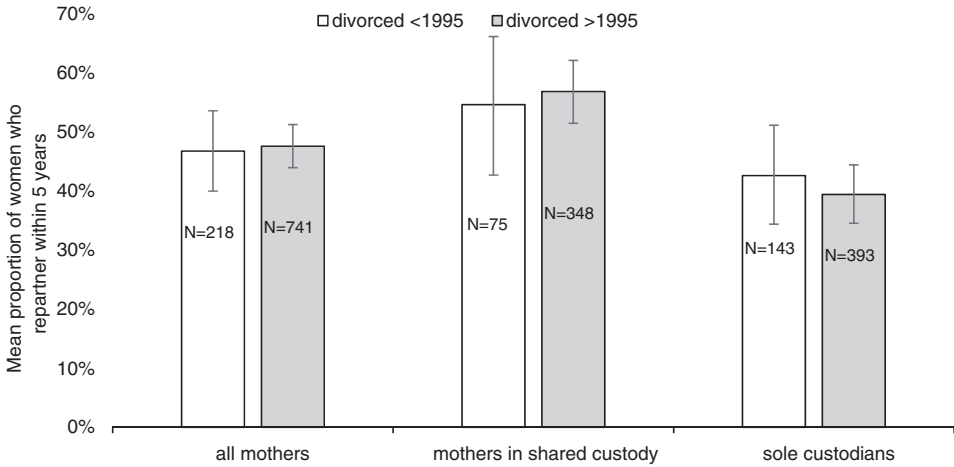
& Radice, 2008; Wooldridge, 2002, p. 477). This approach allowed us to refrain from making assumptions about the order of the considered processes (and thus allowed for reverse causality). It was sufficient to account for the fact that the probabilities of interest are interrelated. The probit approach fitted the best a comparison of the repartnering likelihoods of sole custodians and mothers in alternative arrangements because it emphasizes the outcome instead of the timing until the event (the latter estimated in hazard models). Formally, the model was the following:

$$Y_i = 1 \left[\alpha C_i + \gamma X_i + u_i > 0 \right]$$

$$C_i = 1 \left[\beta Z_i + \varphi X_i + \varepsilon_i > 0 \right]$$

where the treatment indicator C_i took the value 1 if treatment was received (the mother lived full-time with her children) and 0 otherwise. The matrix X_i consisted of a set of control variables that were considered to influence both custody choice and repartnering. We assumed u_i and ε_i to be independent from Z_i and to have 0 mean and a bivariate normal distribution, $\rho = \text{Corr}(u_i, \varepsilon_i)$. Thus, we assumed that the variance and correlation parameters are identical across the treatment and control groups. A positive sign of

FIGURE 3. PROPORTION OF MOTHERS WHO REPARTNER WITHIN 5 YEARS, DIVORCED BEFORE OR AFTER POLICY REFORM IN 1995 (N = 959), MEAN WITH 95% CONFIDENCE INTERVAL.



Note. Data are from the Divorce in Flanders study, authors' calculations. Sample excludes mothers who have the children 33% or less of the time living in their household.

ρ would suggest that unobserved characteristics make some women more prone to have sole custody and to repartner, confirming Hypothesis 1. In contrast, a negative sign of ρ would be in line with Hypothesis 2. The parameters α , γ , β , ϕ , and ρ were estimated by maximum likelihood.

We estimated the effect of sole physical custody C_i on repartnering Y_i first in a univariate probit model of repartnering and then in the recursive bivariate probit model, in which sole physical custody was allowed to be endogenous (Wooldridge, 2002, p. 477). A comparison of the models informs whether self-selection is nonignorable. The potential outcome means were calculated by estimating the marginal predicted repartnering probabilities of sole physical custody mothers and mothers in other custody arrangements while keeping their other characteristics at their mean values. For the set of control variables, derivatives of the marginal predicted probabilities of repartnering success were calculated with the estimator for custody arrangement being the average treatment effect. All margins and marginal effects reported are mean predictions.

FINDINGS

Model 1 was a univariate probit model of repartnering. Model 2 was a recursive bivariate

probit model that accounted for the potential endogeneity of custody arrangement using a reform-based exclusion restriction. In Table 2, the results of the counterfactual model are displayed, which allows comparisons of the potential outcome means of divorced mothers with and without the treatment of sole physical custody in the probit model and the recursive bivariate probit model. Below the counterfactual model results, Table 2 reports the model coefficients and marginal effects of physical custody as well as further controls. The coefficients indicated that the effect of being a full-time residential parent on repartnering within the first 5 years after marriage dissolution was negative and significant ($p < .001$) in both models. Model 2 showed that the effect of having divorced after the policy reform of 1995 on sole physical custody was negative and highly significant ($p < .001$), as should be expected. The Wald test confirmed that unobserved selection influenced repartnering (ρ is significantly different from 0) and also indicated that there was no identification problem (Monfardini & Radice, 2008).

Ignoring the endogeneity of custody choice in Model 1, 61% of the mothers would repartner within the first 5 years after marital dissolution if they were sharing childrearing obligations with the children's father. In contrast, 41% of the mothers would repartner if they were sole

Table 2. Potential Outcome Means, Average Treatment Effects of Sole Physical Custody, and Complete Model Results of Repartnering Within the First 5 Years Following First Marital Dissolution, Univariate Probit Model and Recursive Bivariate Probit Model (N = 959)

	Biprobit: Model 2				
	Probit: Model 1		Repartnering within		
	Repartnering within 5 years		5 years		
	M	95% CI	M	95% CI	Sole physical custody
Potential outcome mean of repartnering within the first 5 years after marital dissolution					
For women in shared physical custody (Y_0)	0.61	0.60, 0.63	0.86	0.78, 0.93	
For women in sole physical custody (Y_1)	0.41	0.41, 0.42	0.32	0.28, 0.37	
	ME	95% CI	ME	95% CI	
Effect of having sole physical custody	-0.19	-0.25, -0.12	-0.54	-0.65, -0.43	
Change in repartnering outcome after being assigned to sole physical custody	-33%		-63%		
	B	SE	B	SE	ME
Physical custody arrangement (ref. = Shared custody)					
Sole custody	-0.52***	0.10	-1.66***	0.22	-0.54
Number of children from first marriage (ref. = One child)					
Two children	-0.00	0.10	-0.01	0.09	-0.04
Three or more children	-0.06	0.13	0.04	0.13	0.21
Target child female	-0.07	0.09	0.02	0.08	0.20*
Age of youngest child at marital dissolution	0.04*	0.02	0.04*	0.02	0.00
Mother's age at marital dissolution (-33)	-0.09***	0.01	-0.09***	0.01	-0.03
Highest educational attainment (ref. = High)					
Low	-0.31*	0.12	-0.09	0.13	0.45***
Medium	-0.08	0.10	0.04	0.10	0.28**
Initiator of divorce (ref. = Mother)					
Partner	-	-	-	-	-
Both	-0.42***	0.11	-0.23†	0.12	0.38**
Divorced after 1995	-0.14	0.11	-0.16	0.11	-0.15
Constant	0.42*	0.19	1.01***	0.21	-0.60***
Rho					0.56* 0.56*

Note. Data are from the Divorce in Flanders study, authors' calculations. Potential outcome means and effect of having sole physical custody are calculated (delta method) as margins (M) and marginal effects (ME), with mean predictions and 95% confidence intervals (CI). Complete model results in beta coefficients (B), standard errors of the beta coefficients (SE), and marginal effects (ME, in percentage points), calculated as mean over the sample. Log likelihood in Model 1: -453, Log likelihood in Model 2: -1106. Wald test in Model 2: $\chi^2(1) = 5.247$; Prob > $\chi^2 = 0.0220$.

* $p < .1$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

custodians. This means that sole physical custody reduces repartnering by 33%. Accounting for the endogeneity of custody choice in Model 2, 86% of the mothers would repartner within the first 5 years after marital dissolution if the children were staying also with the father, whereas 32% of the mothers would repartner within the same period if they had the children living in the household almost always. Sole physical custody was thus reducing the repartnering prospects by 63% in our study population. This result supported our first hypothesis: Ordinary models tend to underestimate the negative effect of sole physical custody. Indeed, we found ρ to have a positive sign, suggesting that unobserved characteristics make mothers both more likely to have sole physical custody and repartner. This counterfactual approach showed that ordinary models tend to be too optimistic about the effects of sole custody on mothers' repartnering prospects and that they underestimate the repartnering probabilities that mothers would have if custody was more equally shared with their ex-partners and fathers of their children.

Looking at the coefficients of the control variables of Model 1 and Model 2, we found that the number of children did not influence custody arrangements or repartnering. Mothers were more often sole custodians if the target child was a girl. The older the children and the younger the mother, the more likely the repartnering. Low educational attainment appeared to lower the mother's repartnering according to Model 1. Yet, accounting for the fact that low-educated mothers had a higher probability to obtain sole physical custody in Model 2, educational differences in repartnering vanished. This suggested that educational differences in repartnering could be explained with the heterogeneity in the uptaking of sole physical custody among mothers from different educational groups. A similar effect could be found for the variable measuring who initiated the divorce. The results of Model 1 indicated that if the former husband took the initiative, the wife's repartnering probability was significantly lower when compared with the case in which she took the initiative alone or together with her ex-partner. Model 2, however, suggested that women who were left by their spouses only exhibited lower repartnering rates because they ended up more often in a sole physical custody arrangement.

We conducted a number of tests to check the robustness of our findings (see Supplementary Material for a detailed discussion). First, we conducted specific tests on the functional form and the exclusion restriction. By taking 5-year dummies, we checked whether another underlying trend in custody choice or repartnering existed. These checks pointed out that the policy reform presented a valid instrument. Different model specifications gave very similar estimates. Second, we restricted our sample to selected divorce cohorts (1988–2002 [$n = 642$], 1985–2000 [$n = 515$], 1990–2005 [$n = 895$]) and to women who had no romantic partner at the time of marital dissolution ($n = 809$). We reduced the heterogeneity in the category of mothers who shared custody with their ex-husband by excluding first women in equal shared arrangements ($n = 805$) and then women in unequal shared arrangements ($n = 863$). The results were robust to these modifications, and only the standard errors increased somewhat as a result of the smaller sample size. Third, we modified our dependent and endogenous variables. We defined our dependent variable as repartnering within the first 3 years—instead of 5 years—after the marital split. We also changed our binary endogenous variable by defining those having sole physical custody as (a) having the children more than 80% of the time, (b) having the children more than 70% of the time, and (c) having them more than 60% of the time. The results were robust to these changes. The average treatment effect was with -0.51 (a), -0.50 (b), and -0.49 (c), somewhat smaller than when defining sole physical custody as living with the children more than 85% of the time. Fourth, additional information was added to the model to check if parallel time trends, such as the expansion of Internet access or the increase in female employment rates, affected repartnering. Overall, the treatment effects were substantively invariant to sample restrictions, model modifications, and additional covariates.

DISCUSSION

Divorced women who are the main child-care providers have lower chances of repartnering than women who share the physical custody with their former partners. In this article, we discussed how custody choice and repartnering after divorce can be related. Our findings

indicate that the negative effect of sole physical custody is causal. Furthermore, we find that the negative effect of having full-time residential children on repartnering rates may be largely underestimated in ordinary models that do not account for the endogeneity of custody choice. We estimated that in ordinary probit models, sole physical custody reduces the probability of repartnering within the first 5 years after marital dissolution by 33%. Accounting for the endogeneity of custody choice in the recursive bivariate probit model, we found that sole physical custody reduces the probability of repartnering by 63%. Other things equal, this means that only about one of three stepfather families (instead of two of three, according to ordinary regression results) would be formed if the mothers had to take care of their children almost always when compared with a setting in which separated fathers shared child-rearing tasks with the mother.

The study shows that custody arrangements are not randomly distributed among divorced mothers. Unobserved factors make some women more likely than others to have sole physical custody and be in a new union. It is possible that sole custodians are disproportionately selected among those with more positive attitudes toward repartnering. They may have a high family orientation, which makes them prone to accept the first suitable candidate to provide the children a new father figure and to restore the image of a complete family. Among mothers who decide against sole physical custody, some may have less positive attitudes toward forming a new partnership. Prioritizing self-actualization, these women may want to commit their daily lives to neither children nor the partner. It is also possible that mothers with rather low levels of attractiveness may be overrepresented among those who do not have sole custody. Women who have physical or mental health deficits may be less likely to obtain sole physical custody, and at the same time they are less likely to find a new partner because the deficits make them less attractive candidates on the mating market. Avoiding sole custody to increase their opportunities to meet potential partners may also be a strategy for women who perceive their physical attractiveness as rather low and who anticipate difficulties in finding a partner. We can only speculate about the precise selection processes that relate custody choice to repartnering, but it seems plausible that several of the mentioned selection

mechanisms play a role at the same time, with different mechanisms being relevant for different women. Future studies with access to better information on attractiveness and emotional needs may have a closer look at the precise nature of these mechanisms.

We believe the sample used for this study to be very well suited for our research purpose because it includes detailed information on the custody arrangement in the period of interest. The data nevertheless have several limitations that need to be mentioned (Sodermans et al., 2013). First, the sampling design of Divorce in Flanders excluded mothers that divorced for a second time. Leaving these women out of the sample might have led to an underestimation of mothers' repartnering probabilities. Second, information on custody arrangement was about one selected target child, which did not represent the population of Flemish children with divorced parents because it was, on average, somewhat older (Sodermans et al., 2013). Third, as any other retrospective data, our sample will have been subject to a recall bias. Mothers who divorced before 1995 might recall the characteristics of the first postmarital period differently than mothers who divorced more recently; for example, they might not remember all of the changes over time in the custody arrangement, but only the most stable arrangements. We took only the first residential arrangement after divorce into account, which might not be remembered as well by all mothers of different divorce cohorts. Finally, the sampling did not include mothers from dissolved nonmarital unions. Selection into sole physical custody is possibly not the same for separated and divorced mothers (Le Bourdais, Desrosiers, & Laplante, 1995). Furthermore, cohabitation has spread in the respective period and, thus, divorced mothers from more recent marriage cohorts might be more selective when compared with mothers from older marriage cohorts.

In sum, our study revealed that the effect of physical custody on repartnering chances may be more important than would be thought based on earlier studies. We have shown that failing to consider the endogeneity of physical custody arrangement produces biased results. In that sense, our study provides better estimates than prior work. The counterfactual approach allowed us to analyze how repartnering outcomes would change if the same woman was assigned sole physical custody instead of shared custody. Still,

definite conclusions about the causality of custody arrangements cannot be drawn from a single study because the approach comes with some costs of generalizability. Further evidence from other studies and sources is thus needed to fully validate our findings. In the end, it is the combination of both descriptive and advanced statistical studies that each come with their strengths and weaknesses that will enhance our insight on the effect of custody arrangements on repartnering and on how these factor to each other.

NOTE

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix S1. online supporting material

REFERENCES

- Beaujouan, É. (2012). Repartnering in France: The role of gender, age and past fertility. *Advances in Life Course Research, 17*, 69–80. doi:10.1016/j.alcr.2012.03.001
- Bereczkei, T., Voros, S., Gal, A., & Bernath, L. (1997). Resources, attractiveness, family commitment; reproductive decisions in human mate choice. *Ethology, 103*, 681–699. doi:10.1111/j.1439-0310.1997.tb00178.x
- Berger, L. M., Brown, P. R., Joung, E., Melli, M. S., & Wimer, L. (2008). The stability of child physical placements following divorce: Descriptive evidence from Wisconsin. *Journal of Marriage and Family, 70*, 273–283. doi:10.1111/j.1741-3737.2008.00480.x
- Brüderl, J., Schmiedeborg, C., Castiglioni, C., Arránz Becker, O., Buhr, P., Fuß, D., Ludwig, V., Schröder, J., Schumann, N. (2016). *The German Family Panel: Study Design and Cumulated Field Report (Waves 1 to 7)*. Munich, Germany: Pairfam.
- Cancian, M., Meyer, D. R., Brown, P. R., & Cook, S. T. (2014). Who gets custody now? Dramatic changes in children's living arrangements after divorce. *Demography, 51*, 1381–1396. doi:10.1007/s13524-014-0307-8
- de Graaf, P. M., & Kalmijn, M. (2003). Alternative routes in the remarriage market: Competing-risk analyses of union formation after divorce. *Social Forces, 81*, 1459–1498. doi:10.1353/sof.2003.0052
- DeMaris, A. (2014). Combating unmeasured confounding in cross-sectional studies: Evaluating instrumental-variable and Heckman selection models. *Psychological Methods, 19*, 380. doi:10.1037/a0037416
- Dewilde, C., & Uunk, W. (2008). Remarriage as a way to overcome the financial consequences of divorce—A test of the economic need hypothesis for European women. *European Sociological Review, 24*, 393–407. doi:10.1093/esr/jcn025
- Dykstra, P. A., Kalmijn, M., Knijn, T. C. M., Komter, A. E., Liefbroer, A. C., & Mulder, C. H. (2005). *Codebook of the Netherlands Kinship Panel Study* (NKPS Working Paper No. 4). The Hague, The Netherlands: Netherlands Interdisciplinary Demographic Institute. Retrieved from <http://www.nkps.nl/NKPSen/nkps.htm>
- Goldscheider, F., Kaufman, G., & Sassler, S. (2009). Navigating the “new” marriage market: How attitudes toward partner characteristics shape union formation. *Journal of Family Issues, 30*, 719–737. doi:10.1177/0192513X09331570
- Heckman, J. (1997). Instrumental variables: A study of implicit behavioral assumptions used in making program evaluations. *Journal of Human Resources, 32*, 441–462. doi:10.2307/146178
- Ivanova, K., Kalmijn, M., & Uunk, W. (2013). The effect of children on men's and women's chances of re-partnering in a European context. *European Journal of Population, 29*, 417–444. doi:10.1007/s10680-013-9294-5
- Jansen, M., Mortelmans, D., & Snoeckx, L. (2009). Repartnering and (re)employment: Strategies to cope with the economic consequences of partnership dissolution. *Journal of Marriage and Family, 71*, 1271–1293. doi:10.1111/j.1741-3737.2009.00668.x
- Juby, H., Le Bourdais, C., & Marcil-Gratton, N. (2005). Sharing roles, sharing custody? Couples' characteristics and children's living arrangements at separation. *Journal of Marriage and Family, 67*, 157–172. doi:10.1111/j.0022-2445.2005.00012.x
- Le Bourdais, C., Desrosiers, H., & Laplante, B. (1995). Factors related to union formation among single mothers in Canada. *Journal of Marriage and the Family, 57*, 410–420. doi:10.2307/353694
- McNamee, C. B., Amato, P., & King, V. (2014). Nonresident father involvement with children and divorced women's likelihood of remarriage. *Journal of Marriage and Family, 76*, 862–874. doi:10.1111/jomf.12118

- Moffitt, R. (2005). Remarks on the analysis of causal relationships in population research. *Demography*, 42, 91–108. doi:10.1353/dem.2005.0006
- Monfardini, C., & Radice, R. (2008). Testing exogeneity in the bivariate probit model: A Monte Carlo study. *Oxford Bulletin of Economics and Statistics*, 70, 271–282. doi:10.1111/j.1468-0084.2007.00486.x
- Mortelmans, D., Pasteels, I., Bracke, P., Matthijs, K., Van Bavel, J., & Van Peer, C. (2012). *Divorce in Flanders. Codebooks and questionnaires*. Retrieved from www.divorceinlanders.be
- Nielsen, L. (2011). Shared parenting after divorce: A review of shared residential parenting research. *Journal of Divorce & Remarriage*, 52, 586–609. doi:10.1080/10502556.2011.619913
- Nielsen, L. (2013). Shared residential custody: Review of the research (Part I of II). *American Journal of Family Law*, 26, 61–71.
- Organization for Economic Cooperation and Development. (2014). *Family database*. Retrieved from www.oecd.org/social/familydatabase
- Sodermans, A. K., Matthijs, K., & Swicegood, G. (2013). Co-parenting over time: The incidence and characteristics of joint physical custody families in Flanders. *Demographic Research*, 28, 821–848. doi:10.5172/jfs.2013.19.2.139
- Theunis, L., Pasteels, I., & Van Bavel, J. (2015). Educational assortative mating after divorce: Persistence or divergence from first marriages? *Journal of Family Research*, 27(Special Issue: Family Dynamics after Separation), 183–202. ISBN 978-3-8474-0686-0
- Vanassche, S., Corijn, M., Matthijs, K., & Swicegood, G. (2015). Repartnering and childbearing after divorce: Differences according to parental status and custodial arrangements. *Population and Policy Review*, 34, 761–784. doi:10.1007/s11113-015-9366-9
- Wilde, J. (2000). Identification of multiple equation probit models with endogenous dummy regressors. *Economics Letters*, 69, 309–312. doi:10.1016/S0165-1765(00)00320-7
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge, MA: MIT Press.
- Wunsch, G. (2007). Confounding and control. *Demographic Research*, 16, 97–120. doi:10.4054/DemRes.2007.16.4