Converting Sentiments to Dollars: Scaling and Incommensurability Problems in the Evaluation of Child Support Payments

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ABSTRACT

We examine how ordinary citizens translate intuitions about child welfare and distributive justice into dollar amounts for post-divorce child support payments. Our analyses indicate that child support judgments are quite sensitive to anchoring and question-wording effects. Nevertheless, we find much that is both interpretable and principled in these judgments. For example, the amounts that citizens recommended in an open-ended format ("name") were nearly identical to the amounts other citizens selected from an array of choices in a multiple choice format ("choose").

Society routinely asks lay people and experts alike to make judgments that require an expression of moral and emotional sentiments on a dollar metric. A growing interdisciplinary literature seeks to understand this "commensurability" issue, especially as it pertains to the use of contingent valuation in regulatory policy and to punitive and non-economic damage assessment in torts (e.g., Aldred, 2002; Fiske & Tetlock, 1997; Robbennolt, Darley, & MacCoun, 2003; Sunstein, 1994). In this paper we extend this inquiry to the domain of family law, and specifically, to the evaluation of post-divorce child support payment orders. The family is a particularly complex and vexing domain for the commensurability issue, for several reasons. First, relating child support dollars to child well-being represents formidable commensurability problems. Second, family law is more likely to involve minors, who are legally, economically, and emotionally dependent on the adult parties to the dispute. Third, the family domain is more removed from the market context (and market pricing) than are the tort and regulatory domains. And fourth, the family domain requires legal authorities to intercede in the relationships of intimates, rather than strangers.

In this paper, we first draw on psychological theory and research to analyze these tensions. We then describe an experimental survey study involving 1,435 Arizona adults (see Ellman, Braver, & MacCoun, in press, for additional findings of our research program.) Our analyses indicate that child support judgments are quite sensitive to anchoring and question-wording effects. Nevertheless, we find much that is both interpretable and principled in these judgments. We reconcile these observations using the principle of "coherent arbitrariness" (Ariely, Lowenstein, & Prelec, 2003; Sunstein, Kahneman, Schkade, & Ritov, 2002): Citizens' judgments reflect coherent internal principles of justice, but these judgments are loosely and somewhat arbitrarily coupled to the dollar metric. Finally, we discuss possible policy interventions to improve the coherence and reliability of these judgments, and the perceived legitimacy of child support court orders.

THE CHILD SUPPORT CONTEXT

When parents (either married or unmarried) separate, their minor children typically reside primarily with one of them, usually called the custodial or residential parent. Most custodial parents are mothers.[1] Courts normally order the noncustodial or nonresidential parent to pay the custodial parent a monthly sum as "child support." The noncustodial parent thus becomes the "support obligor'. Until the early 1980's, the amount of child support was decided by the judge on a case by case basis, and individual judges exercised broad discretion. But then Congress required states to employ child support guidelines, as one of a number of measures intended to improve the enforcement of support obligations. The guidelines must be "based on specific descriptive and numeric criteria" that lead to the computation of a specific child support award in each case" in 1989.[2] Federal law requires the states to enact legal rules binding their judges to set child support awards at the exact dollar amount yielded by application of the required formulaic guideline, unless the judge writes an opinion explaining why the guideline amount would be "inappropriate or unjust" in the particular case. Not surprisingly, child support orders today conform to the amount specified in the formulaic guidelines in about 85% or more of support cases (Venohr & Griffith 2003; Guidubaldi 2001). The goal was to make it easier for single parents to obtain a support order by shifting the legal regime from a "retail" case-by-case system to a wholesale system capable of generating support orders at a lower cost per order.

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[1]Many studies show that around 90% of custodial parents are mothers. See Ellman et al., (2004a) at pp. 571–72 . Many of these studies are dated, and some authorities believe this figure is dropping. See Jane C. Venohr & Tracy E. Griffith (2003), ("The obligee is female in 90 percent of the [Arizona] child support orders examined in 2002. This is somewhat less than the percentage in the 1999 [Arizona] sample, which was 93 percent, but it is more than the national estimate, which indicates 85 percent of those eligible for child support are female ...[though the national figure] is based on a slightly different measurement."). For simplicity, albeit with some loss of accuracy, we refer to the nonresidential parent with masculine pronouns, and the receiver of child support with feminine ones.

[2]45 CFR § 302.56(a)(2) (1989). This regulation was issued by the Department of Health and Human Services, which is given responsibility by Congress for administering this program.

The advent of guidelines clearly led to far greater consistency in support awards *within* each state. But federal law imposes no national substantive standards on state guidelines, leaving states free to set child support amounts at whatever level they believe appropriate. Substantial variation *across* states thus continues. One state's guidelines may call for twice the support amount as do an adjoining state's guidelines, for an identical case. (Pirog et al. 2003; Morgan & Lino 1999; Pasley & Braver, 2004). Child support policy is thus effectively made by those who draft a state's support guidelines, not by judges deciding individual cases. States vary in the process they employ for generating their support guidelines, dividing approximately equally between those in which the legislature adopts them, and those in which the guidelines are set by a judicial order or an administrative process. States in both categories, however, often rely on *ad hoc* committees appointed for this purpose, whose recommendations are then adopted by the official promulgating agency. These *ad hoc* committees normally consist of ordinary citizens along with lawyers and judges.

Our empirical focus is on the reactions of ordinary citizens to child support questions. These reactions are directly relevant not only because of the role they play in establishing the state's standards for child support, but also in how citizen's view the legitimacy of, and compliance with, court-ordered child support judgments (MacCoun, 2005; Tyler & Lind, 1992). In the next section we review some theoretical issues that may enter into specifically how people formulate their views about child support amounts.

THEORY

Goal Conflicts and Taboo Tradeoffs

A major set of challenges for the assessment of economic values in the law stem from the need for legal decision makers to pursue multiple goals; e.g., consistency with the evidence,

allocation proportional to fault, compensation proportional to need, retribution for or deterrence of negligent or egregious conduct, and so on (see Anderson & MacCoun, 1999). In the 1970s, the predominant psychological theory of distributive justice was equity theory (e.g., Walster & Walster, 1975), which defined fairness as a function of the relative ratio of inputs to outcomes across actors. Equity theory provided a good account of many work-based allocation situations (e.g., Cohn, White, & Sanders, 2000), but empirically, it has fared more poorly in describing non-market contexts and cross-group relationships, where researchers have found public support for allocation by equality, by need, or by more complex multidimensional decision rules (see Deutsch, 1975; Fiske, 1992; Mellers & Baron, 1993).

Robbennolt, Darley, and MacCoun (2003; in press) argue that legal decision making routinely requires fact finders to pursue multiple goals; e.g., consistency with the evidence, allocation proportional to fault, compensation proportional to need, retribution for or deterrence of negligent or egregious conduct, and so on. They described four basic principles of cognitive goal management:

> First, the principle of equifinality holds that some goals may be alternately satisfied through multiple pathways. …Second, the principle of best fit holds that pathways may sometimes better fulfill some goals than others. …Third, the principle of multifinality holds that a particular pathway may accomplish multiple goals simultaneously. …Finally, the principle of goal incompatibility holds that some objectives will inevitably conflict and, thus, be difficult or impossible to satisfy concurrently.[3]

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[3] The authors argue that a form of cognitive architecture called a parallel constraint satisfaction network might best describe how people reconcile these four principles when making decisions.

Not all of these goals will be consciously accessible to the person making the judgment, and forcing a conscious assessment of them might be aversive and even counterproductive (MacCoun, 2000). Public policy making requires a willingness to make difficult tradeoffs. Unfortunately, people are often highly resistant to confronting such tradeoffs, as illustrated by the visceral discomfort many feel when confronted with expert analyses of the economic valuation of human life. A psychological analysis of this discomfort is provided by the "taboo tradeoffs" theory of Fiske and Tetlock (1997). Drawing on Fiske's (1992) work, the authors contend that relations in all societies are governed by various combinations of four fundamental psychological templates: We sometimes categorize individuals and treat category members identically (communal sharing), we sometimes treat individuals by their rank within a group (authority ranking), we sometimes keep score of outcomes and strive to equalize them (equality matching), and we sometimes value outcomes on an absolute metric and make tradeoffs among them (market pricing). Each template has its own rules of appropriate conduct, its own norms of distributive fairness, and most crucially, its own consensually agreed upon domains of operation in a community's life.

Fiske and Tetlock (1997, p. 294) argue that "cost-benefit analysis ignores and usually does violence to normative distinctions that people value as ends in themselves." They recognize that "taboo tradeoffs are unavoidable. …In practice, there is a limit to the dollars we will spend to enhance our own personal safety at the workplace or in cars or airplanes, and we will certainly spend less for the safety of others" (1997, p. 290). But they argue that attempts to apply market pricing to the domain of human life will inevitably encounter resistance: "It is gauche, embarrassing, or offensive to make explicit trade-offs among the concurrently operative relational modes" (1997, p. 273).

Child support judgments are likely to be susceptible to incommensurability problems, goal conflicts, and taboo tradeoffs. First, while all parties may agree that protecting child well-being is an important reason to require child support, there is no clear metric for connecting the dollar level of support to a particular child outcome. Second, the goal of maximizing the children's welfare is often in tension with the goal of establishing an allocation that is fair to the non-custodial parent. Third, there is no simple way to earmark the allocation for the dependent youth without enriching the custodial parent. And fourth, in addition to its forward-looking compensatory function, the allocation judgment is likely to serve additional expressive functions rooted in the past behavior that led to the divorce. These conflicts and taboos could well complicate intuitions about appropriate child support payments. But, in any event, trying to establish what people think is fair is probably further complicated by the inherent methodological issues that arise when people convert sentiments to dollars.

Anchoring Effects

Public opinion responses are notoriously vulnerable to a variety of biases, including the effects of question wording, framing, priming, assimiliation, contrast, and question order (Krosnick, 1999; Schaeffer & Presser, 2003; Tourangeau, Rips, & Raskinski, 2000). These problems pose serious threats to the journalistic use of single "horse race" items on public support for various positions, policies, and political candidates. What is less often recognized is that in much academic social science research, such artifacts can be controlled through use of multiple-indicator composite indices (aggregating across different ways of asking a question), as well as counterbalanced question ordering (Tourangeau et al., 2000).

Unfortunately, judgments about monetary child support (like pain-and-suffering awards, punitive damage awards, and willingness-to-pay judgments) are not well-suited to these

methodological fixes, at least not in current practice. Because these tend to be single judgments made on a monetary scale, they are susceptible to the aformentioned catalog of biases. And the quantitative nature of the response scale creates a special vulnerability to a particular form of context effect, which Kahneman and Tvesky named the *anchoring-and-adjustment heuristic* (Tversky & Kahneman, 1974). Briefly, when ordinary citizens are asked to make quantitative judgments in a domain they know relatively little about – e.g., casualties in war, corporate earnings, career at-bats in baseball, the weight of various objects, etc. – they tend to "anchor" on some initially salient value and then adjust upward or downward from there. But because the adjustments are often insufficient, the responses are unduly influenced by the initial starting point.

There has been some debate about the boundary conditions under which anchoring effects occur, and whether the anchoring-and-adjustment heuristic is the best theoretical account of their production (Lynch, Chakravarti, & Mitra, 1991; Strack & Musweiller, 1997; Epley & Gilovich, 2001, 2006; Petrov & Anderson, 2005). But anchoring effects are reliable and robust across various studies of tort awards (Robbennolt & Studebaker, 1999; Sunstein et al., 2002) and willingness-to-pay estimates in cost-benefit analysis (Green, Jacowitz, Kahneman, & McFadden, 1998; Green, Kahneman, & Kunreuther, 1994; Kahneman & Ritov, 1994).

The dilemma is that providing the evaluator with one or more anchors systematically biases the judgments, but failing to do so – "scaling without a modulus" – leaves the evaluator without any reference points, creating widely and arbitrarily variable responses, within and across evaluators. Kahneman and colleagues (Kahneman, Ritov, & Schkade, 1999; Kahneman, Schkade, & Sunstein, 1998; Sunstein, Kahneman, & Schkade, 1998; Schkade, Sunstein, & Kahneman, 2000) argue that citizens have great difficulty making judgments on a dollar scale

because the scale lacks clear anchors – citizens may agree that a defendant behaved outrageously, but how much money does it take to express that outrage or deter a multinational corporation? As a result, dollar judgments are likely to be much more variable across citizens than the range of their views on a 7-point attitude scale might predict. And because, in the tort context, the dollar scale is bounded at zero, variability can only be expressed in one direction – the larger end. (For discussion of the political and mass media consequences of this fact, see MacCoun, 2006).

Research Implications

About to embark on a program of research[4] on ordinary citizens' views about child support as a new and important way to inform policy for state guideline committees, we immediately encountered issues about how best to frame the questions. While we did collect detailed attitudinal responses from participants on Likert scales, our predominant planned method was to ask ordinary citizens to provide what they considered the appropriate dollar amounts for a large set of child-support scenarios.[5] Aware that the above discussed value tradeoffs and anchoring effects could affect the scaling of these normative evaluations of child support, we chose several different methods of eliciting these judgments. We randomly assigned participants to one of four different assessment formats in order to examine the psychometrics and psychophysics of child support judgments. To examine value tradeoffs, we varied the income of the custodial and non-custodial parents in the stimulus scenarios.

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[4]This research has so far been described in Ellman, Braver & MacCoun (in press), but several additional reports are in preparation.

[5]In Ellman, Braver & MacCoun (2008) we report not only our finding about these attitude items but also examine how those attitudes map onto the judgment of support amounts.

There have been two previous investigations in the child support literature using a similar approach. A 1985 telephone survey of Wisconsin residents that asked for the child support amounts they would recommend in various parental income situations was reported both in Schaeffer (1990) and in Corbett et al. (1992). While statistically significant effects were found for a number of investigated factors, variability across participants for individual items was very large. Bergmann and Wetchler (1995) conducted a telephone poll of Maryland residents in 1988. Each respondent was asked about four vignettes. Again, there was great dispersion across respondents in the preferred amounts; however, a small but statistically significant difference was detected between the mean amounts favored by men vs. women. And we summarized our own data on this point as follows: "The judgments are highly variable *across* respondents, which is the result one would expect if respondents have little frame of reference in which to make them. For example, …, the support award averaged $379 when respondents were told [Mom's] monthly take home income was $3,000 per month and [Dad's] was $2,000. But the standard deviation (not shown) around this mean was huge, $243" (Ellman, Braver & MacCoun, in press, p. 21).

We thus characterize citizen judgments as reflecting what Ariely, Loewenstein, and Prelec (2003) call "coherent arbitrariness": Within a set of judgments, there is coherence in a relative, ordinal sense; values vary meaningfully with underlying attitudes and with external, objective stimulus attributes. But the judgments are arbitrary in an absolute sense because of their variability, susceptibility to anchoring and other scale effects. By exploring anchoring and question format effects as a possible means of "taming" this wide variance, the present study examines the bounds on the coherent part and the magnitude of the arbitrary part to better understand how considerations of welfare and justice might be captured by the dollar metric.

Four variants of the format in which we sought dollar amount judgments were explored. In the first, NAME, we simply asked respondents to provide a dollar amount, with no context (other than the previous items). CHOOSE provided another method common in such studies: we supplied a range of possibilities arrayed on a horizontal scale, and asked them to circle the one they thought most appropriate. It was possible that such a format would constrain their choices, thereby taming or reducing variance, but also bias their responses by providing context that would influence their judgment. (Clearly, one could influence responses by skewing or contracting the available choices. We attempted to minimize such possibilities by offering respondents 18 choices that spanned the entire range of answers we received in a pilot study using the NAME method. Our goal was to determine whether the choice format itself affected respondent answers.) ANCHOR was similar to NAME in that we asked for them to simply write in a dollar amount. However, similar to Hinsz and Indahl (1995) and Saks et al., (1997), we first provided a specific dollar anchor on which to base these judgments. Mindful that while the latter authors did find reduced variability as a result of giving these anchors, they also found substantial impact on mean judgments, in other words, biasing effects, we used several different numerical anchors in different (between participants) versions to assess any bias, and also attempted to both give an anchor and at the same time weaken its effects (see below). Finally, we used RATE, a method derived from the classical psychophysics method called the Method of Constant Stimuli (Gescheider, 1997) to assign numerical values to stimuli. In RATE, each of a number of potential child support amounts were offered as potentials, and for each the respondent indicated on a scale whether and how much too high or too low s/he felt it was.

METHOD

Participants

Respondents were citizens called to serve on the jury panel in Pima County (Tucson) Arizona. Legal rules allow the county Jury Commissioner to summon citizens to appear on a specified day to serve on the jury panel. Those summoned are chosen from two lists, registered voters and those to whom the Department of Transportation has issued either a driver's license or a non-driver's identification card. After culling duplicates, the Jury Commissioner chooses individuals to summon using a computer generated random selection process intended to ensure that they constitute a representative cross-section of adult citizens in the county. Failure to respond constitutes contempt of court, punishable by a fine. These rules, along with their rather stringent enforcement, allow far less self-selection and bias in the Tucson jury pool than is common in other jurisdictions: well over 90 percent of those summoned eventually appear.[6]

After arriving and signing in at the jury assembly room, panel members wait to be called to jury service; they often had to wait more than an hour. They received instructions, as a group, from the Jury Commissioner staff about their prospective jury service. Following that

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[6]By statute in Arizona, Title 21, those chosen by this process are sent a jury summons and a questionnaire. Answers to the questionnaire allow the Jury Commissioner to determine whether the person is disqualified or eligible to be excused from service. To be qualified one must be over 18, a citizen, and a resident of Pima County. In addition, felons whose rights have not been restored, and insane persons, are disqualified from jury service. Excuses may be granted to persons who are over 75 years old, who are full-time caregivers, who have a medical reason for being unable to serve, who have served on a jury within the prior two years, or who do not speak English. There are no other bases for an excuse. Those who claim they are unable to speak English are called on the telephone and questioned in English to confirm their claim. Those who do not respond at all to the jury summons are sent a Failure to Appear notice three days later. A Failure to Appear notice is required in only ten to 12 percent of the cases, as the rest of those summoned appear on the specified day. The Failure to Appear Notice explains that a failure to respond to a jury summons constitutes civil contempt of court, and that a fine of up to $500 may be imposed on persons guilty of such contempt. Many of those who do not initially respond appear in response to this notice. *Telephone Interview with Kathy Brauer, Jury Commissioner, Pima County Superior Court, May 17, 2007.*

presentation, a research assistant requested that "as long as they were there anyway" would they voluntarily assist the researchers and the court by participating in a "university-based" survey. about child support? On most of the days we administered our survey, the entire jury panel had from 400 to 450 members. Approximately 75% of the panel members accepted the invitation and completed the survey form they were given.

Of those 1,435 citizens completing the survey, 55% were women, 62% were married, 35% had been divorced, and 69% had children. Twelve percent said they had at some time been ordered to pay child support (almost all of these were male); 18% had at some time been the person to whom someone else was ordered to pay support (almost exclusively female). The education levels of the respondents were higher than national averages: only about 3% had failed to graduate from high school, 25% had a Bachelors degree, and nearly 16% a graduate or professional degree. The high level of graduate degrees may reflect the location in Pima County of the University of Arizona. Our sample was also wealthier than the national average, with fewer respondents earning less than $15,000 (5.6 % vs. 14.6 % for the US) and more earning above $60,000 (46 % vs. 39 % for the US).[7]

Basic Task

All respondents were told the following:

This is a survey about child support. When a couple with children do not live together, the children will usually live more of the time with one parent than the other. In this situation, courts routinely order that child support be paid *to* the parent with whom the

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[7]The national figures here were derived from the data reported in the U.S. Census Bureau, Current Population Survey, 2006 Annual Social and Economic Supplement, Table HINC-01, *Selected Characteristics of Households, by Total Money Income in 2005*, available at <http://pubdb3.census.gov/macro/032006/hhinc/new01_001.htm>.

children live most of the time, *by* the other parent.

In *all* of the following stories,

- you should assume that there is one child, a 9 year-old boy
- this child lives mostly with Mom, but Dad sees him often,
- the child frequently stays with Dad overnight.

We want to know the *amount* of child support, if any, that *you* think Dad should be required to pay Mom every month all things considered. What will change from story to story is how much Mom earns, and how much Dad earns. There is no right or wrong answer; just tell us what *you* think is right.

Try to imagine yourself as the judge in each of the following cases. Picture yourself sitting on the bench in a courtroom needing to decide about what should be done about ordering child support in the case and trying to decide correctly. To do so, you might try putting yourself in the shoes of Mom or of Dad or both, or imagine a loved one in that position.

Experimental Design and Dependent Measures

Each respondent received one of four booklet types varying in the format in which the child support judgments were asked. These booklet types also varied with respect to their number of experimental variations. We refer to these four formats as NAME ("make up" a dollar amount); CHOOSE (circle a dollar amount on a scale from among numerous possibilities); ANCHOR (similar to NAME, but an "anchor" amount is provided), and RATE (indicate whether various proffered amounts seem too high or too low).

The basic format for the NAME response format was as follows:

Dad's monthly take-home pay is **$6,000 a month**, and **Mom's is $5,000**. How much should

Dad be required to pay Mom every month for child support, all things considered?

$_____ per month?

Each item specified that the father's (obligor's) take-home pay was either two, four, or (as in the above example item) six thousand per month, and the mother's (obligee's) take-home pay was either one, three, or (as above) five thousand per month. There were thus nine possible income combinations, and every respondent was asked to make a judgment about all nine, with their order counterbalanced in one of four versions.[8]

For CHOOSE*,* the items, versions and orders, followed the identical patterns of NAME. But instead of naming an amount based on an open-ended question, respondents were instructed to choose a response (circle it) from a set of 18 alternatives listed: zero, 100, 200, 300, 400, 500, 600, 800, 900, 1000, 1200, 1500, 1800, 2000, 2500, 3000, 3500, more than 3500. These specific alternative values were chosen on the basis of pilot results. Unequal intervals were chosen so that the same scale could be used to make discriminations for the items which elicited rather low and those which elicited rather high child support responses.

ANCHOR was similar to NAME, but added a phrase such as: "In this situation, some courts would order $620 per month as child support, but other courts would order a different amount." The "but" clause was intended to weaken somewhat the pull of the anchor. The exact numerical anchor that was given for each child support scenario was either the mean, median, 33rd percentile, or 66th percentile from pilot tested administrations of NAME**.** There were 16 variations based both on order of presentation (using the same 4 orders as for NAME and CHOOSE), but also differed <u>within version</u> on the "type" of anchor. Thus, for some of the

[8]Both parent's take-home income either increased from the lowest possible to the highest, or decreased. Whether the Dad's or the Mom's income incremented or decremented most quickly was also varied.

scenarios, a participant would be given as the anchor the average from previous administrations of NAME, while for other scenarios that same participant would be given as the anchor the median, while for still other the 33rd percentile, or the 66th percentile. Which scenario received which type of anchor was also counterbalanced over different versions of the ANCHOR format.

Finally, RATE had a series of 9-point scale items, each asking whether a specific proffered child support amount is (1) Much too low, (5) Just about right , or (9) Much too high. A sample item is:

> Mom's monthly take-home pay is $3,000 a month, and Dad's is $6,000. All things considered, what do you think of Dad paying Mom $1,200 per month in child support. Do you think $1,200 is just about the right amount for Dad to pay Mom? Or is $1,200 too low or too high?
>
> All things considered, a $1,200 child support payment in this situation is:

Much too low 1 2 3 4 5 6 7 8 9 Much too high

Just about right

The items progress in groups of 7, with the Mom's and Dad's monthly take-homes fixed in each group or series, but the proffered child support amount varying.

All versions had also identical sets of Likert-type attitude items and demographic items given at the end of the survey (examined in Ellman, Braver & MacCoun, 2008).

RESULTS

Results for the NAME vs CHOOSE comparison are presented in Table 1. It shows nearly identical mean responses in each scenario. For example, for the scenario in which Mom's monthly take home income was said to be $3,000 per month and Dad's was said to be $2,000 per month, the mean child support awarded was $356.34 when the respondents were asked to make up ('name') an amount, and $354.07 when they were asked to circle ('choose') an amount. Most

of the t-values for the comparisons of these means were less than ±1.00; none were statistically significant. Moreover, the standard deviations were very similar. For the same income scenario example as above, the standard deviation was $247.10 when the respondents were asked to name an amount, and $240.05 when they were asked to choose an amount to circle from among the listed alternatives. Whether these standard deviation (or variances) were significantly different was evaluated with Levene's test. Most weren't even close to significant; only when the Mom's income was $5,000 and the Dad's was $6,000 was there a significant SD difference, and here, surprisingly, it was CHOOSE with a higher SD than NAME.

It remained possible that parametric tests such as t-tests were misleading because of non-normality or other unusual distribution properties. To evaluate this possibility, a variety of non-parametric tests were conducted. These results are presented in Table 2. For no income scenario was the difference between the typical response in the NAME vs. CHOOSE format anywhere close to significant, by Mann-Whitney U, Wilcoxon W, or Kolmogorov-Smirnov Z test.

For the ANCHOR format, we explored first what happens to the child support judgments when the anchor given is the mean obtained in previous administrations of the survey using the NAME format. The results are reported in Table 3. As was true for CHOOSE, respondents given ANCHOR with mean gave extremely similar responses as NAME. For no income scenario was the mean difference between the two even close to significant by t-test. For example, in the same example (Mom's $3,000, Dad's $2,000) scenario, the mean response for ANCHOR with MEAN was NAME was $351.29, as opposed to the $356.34 found for NAME. However, as expected, the Levene's test showed that the standard deviations were generally reliably smaller in ANCHOR with MEAN (except for Mom's $1,000, Dad's $2,000, where it was reversed).

The fact that NAME and CHOOSE produced such similar mean responses may seem to

demonstrate remarkable collective coherence in citizen's intuitive views about child support payments. But we caution that it also reflects the anchoring provided by the parents' respective income levels. Our direct tests of anchoring lend support to this suggestion. Table 4 provides the mean child support judgments for all the ANCHOR values. For example for the scenario where Mom was said to take home $5,000 per month and Dad $6,000, the anchor provided the respondents was $781 when we gave the mean, $665 when we gave the median, $500 for the 33rd percentile and $1,000 when we gave the 66th percentile as the anchor. The child support judgments obtained back from the respondents was very similar to one another ($774.80 and $799.85) for the mean and median, respectively; lower ($654.73) when we gave the lower 33rd percentile, and higher ($897.14) when we gave the higher 66th percentile. The difference between these four means (or conditions) was significant, $F(3, 381) = 4.55$, $p < .01$. Although not all income scenarios demonstrated a significant difference, those that were significant generally had this pattern: those given the 66th percentile as anchor gave the largest child support value, those given the 33rd percentile as anchor gave the smallest child support value, and those given the mean and/or median as anchor gave child support values that were intermediate and similar.

It should be noted that the standard deviations for ANCHOR, although smaller generally than for NAME or CHOOSE, were still sizable. Respondents apparently have little frame of reference to make these judgments, and, accordingly, across people, the judgments were highly variable. However, our repeated measures design allowed us to probe whether, once one child support value had been given by a respondent, the subsequent ones were stably related. One way of answering this question is to observe the relationship between an earlier and a later judgment given by a respondent. For example, averaged over all orders in NAME and CHOOSE, the correlation between the first and second judgment given by a respondent was r=.78, while

between the second and the third, it was r=.80. This implies that whatever the standard deviation for the second judgment, predicting it once the respondent's first judgment was known would lower the standard deviation (more precisely, the standard error of estimate) to 37% of its former value. We interpret this as an illustration of coherent arbitrariness (Ariely, Loewenstein, & Prelec, 2003). More evidence of this tendency for the current data was reported in Ellman, Braver, & MacCoun (in press).

Analysis of RATE was considerably more complex. Recall that, rather than ask for an amount they think is appropriate, as we did in each of the other three formats, in RATE we provide a series of items for each Mom-Dad income scenario, offering in each a set of possible child support amounts, and obtain for each possibility offered a rating of that amount on a nine point scale from (1) "Much too low" through (5) "Just about right" to (9) "Much too high." How does one analyze these data to determine what the respondent thinks is the right amount? We begin by assuming there is a linear relationship between the proffered amount and the rating, as in Figure 1 (containing hypothetical data for the moment), so we fit a regression line for each respondent from that item's specific proffered amount ("CSAmount") to the Rating as follows.

$$CSRating' = \beta_0 + \beta_1 CSAmount \quad (1)$$

Our search is for the CSAmount that "would have" been rated as "Just About Right", i.e., have the value of 5 on the rating scale, CSRating. On the scatterplot of Figure 1, the red line represents the rating of 5; when it hits the best-fitting regression line and goes down to the X axis (as the orange line), it is at about the CSAmount value 1300. To find this value mathematically, we can substitute a "5" for the CSRating', and solve for the CSAmount that would yield such a Rating.

$$\mathbf{5} = \beta_0 + \beta_1 CSAmount$$

So, $$CSAmount = \frac{\mathbf{5} - \beta_0}{\beta_1} \quad (2)$$

Statistical analysis (described more fully below) can yield the beta coefficients.

To expand the above to yield a "Just About Right" Child Support amount for each of the 9 scenarios each respondent rates, we employ the formula:

$$CSRating' = \beta_0 + \beta_1 CSAmount + \beta_2 NCPIncome + \beta_3 CPIncome \quad (3)$$

In (3), NCPIncome represents the Dad's take home pay given in the scenario, while CPIncome represents the Mom's take home pay. For example, to obtain the Just About Right amount for a NCP Income of 4,000 and a CP income of $3,000, we substitute those amounts in the above formula, substitute 5 for the CSRating' and solve for CSAmount. This yields the following formula:

$$CSAmount = \frac{\mathbf{5} - \beta_0 - \mathbf{4000}\beta_2 - \mathbf{3000}\beta_3}{\beta_1}. \quad (4)$$

Again, β_0 to β_3 are obtained in the statistical analysis we describe below.

Another possibility was that there is an interaction of the NCP's and CP's income, implying that the lines fan out. To test this, one adds another predictor, the variable that is the product of the NCP's and CP's income (for the above example, 4,000 times 3,000 or 12,000,000) with a new β_4. For the present data set, this term was not significant (p=.626), and so was dropped in what follows.

It is also possible, indeed, it was obtained, that the above posited linear relationship from CSAmount to CSRating isn't found. Consider the scatterplot of Figure 2, that represents what was actually found for the NCP=4000, CP=3000 scenario.

The irregular function in Figure 2 was what SPSS fitted with its "LOESS" function, and is the best fit to the data without forcing the linearity assumption. It can be seen that the CSRating of 5 crosses the linear fit straight line at about 1.05 (for this analysis, CSAmounts were divided by 1000 so this amount translates into $1,050), while the Loess function crosses at $750. In this case, making the linearity seriously overestimates what our sample is trying to indicate is the Just Right Amount.

The Loess function is too irregular to permit formulaic estimation, but this problem is resolved because clearly the function is mainly quadratic. Thus instead we can fit the following equation which permits curvilinearity by adding the square of the CSAmount as a predictor (see Cohen, Cohen, Aiken and West, 2003):

$$CSRating' = \beta_0 + \beta_1 NCPIncome + \beta_2 CPIncome + \beta_3 CSAmount + \beta_4 CSAmount^2 \quad (5)$$

Rearranging terms and setting CSRating' to 5, we have the quadratic equation:

$$\beta_4 CSAmount^2 + \beta_3 CSAmount + (\beta_0 + \beta_1 NCPIncome + \beta_2 CPIncome - 5) = 0 \quad (6)$$

which we solve for its roots.

Our analytic approach to obtain the β values in the above formulae uses Hierarchical Linear Models (HLM), also known as multi-level models, mixed models, or random coefficient models, appropriate when variations are both within and between subjects. Thus, each respondent has *a series* of child support judgments (these vary *within* respondents), but *only one* gender or marital status (instead, these vary *between* respondents). To analyze such data, the HLM approach requires formulations of a regression model both at "Level 1", *within* each respondent, and at "Level 2", *between* respondents. Equation (5), as modified for use as an HLM Level 1 model, is shown below in (7).

$$CSRating_{ij}' = \beta_0 + \beta_1 NCPIncome_j + \beta_2 CPIncome_j + \beta_3 CSAmount_j + \beta_4 CSAmount_j^2 + \varepsilon_{ij} \quad (7)$$

To translate, we want to predict the Child Support Rating (CSRating) respondent *i* will produce for the j^{th} item. Our Level 1 model specifies that this is a function of a constant, b_0, plus an amount based on the NCPIncome we provide for that j^{th} item, plus another amount due to the CPIncome of that item, plus another amount due to the square of the CSAmount we provide for that item, plus a random error term, $\varepsilon_{i,j}$. CPIncome is either (in thousands) 1, 3 or 5, while NCPIncome is 2, 4 or 6.

The analysis of the RATE data using the Level 1 model of equation (7) (with SPSS HLM software), yielded numerical values for β_0 to β_4 (all were significantly different from zero), which we then plugged into (5) in turn, along with the 9 values for NCPIncome and CPIncome, and solved each for the roots of the resulting quadratic equation. The results are shown in Table 5, along with the average values of NAME and CHOOSE in bold italics (recall they were virtually identical), also as estimated from HLM.

We know of no way of obtaining standard error amounts from HLM for the RATE data, which precludes significance testing for differences from NAME and CHOOSE. Descriptively, the amounts appear to be quite similar when CPIncome is 1000, but when CPIncome is 3000, the amounts derived from RATE are at least $100 greater than those for NAME and CHOOSE (as well as average ANCHOR), as are two of the amounts when CPIncome is $5,000. The biggest discrepancy, of over $300, occurs when both incomes reach their maximum values, 5,000 and 6,000, respectively.

DISCUSSION

One of the more ubiquitous – and unique – functions often served by the law is converting moral judgments and emotional sentiments into a dollar metric. When a defendant harms another, the extent of that harm, and the defendant's degree of culpability for it, must

eventually be encapsulated in a damages award represented in monetary terms. That this task presents formidable issues of commensurating dollars against moral issues has not escaped the notice of a growing and interdisciplinary body of scholars (e.g., Fiske & Tetlock, 1997; Robbennolt, Darley, & MacCoun, 2003; Sunstein, 1994).

Family law potentially raises many similar issues. The commensurability issues are clear if property or alimony are decided on grounds that include assessments of marital misconduct, as is technically possible in about half the states (Ellman 1996). Even when property is allocated without regard to fault, courts may asked to make an "equitable allocation" that includes an assessment of the parties' relative contributions to the marriage, nonfinancial as well as financial (Ellman et al., 2004). Child support awards, too, demand such an analysis, but but the problem is arguably even more complex because its resolution requires balancing the competing claims of not only the payer and the payee, but also of the child whose well-being the award is intended to assure. Whereas earlier, such balancing and commensurating was the task of the individual judge deciding the award, child support amounts now are determined by "guidelines" that specify the support amount that should normally be ordered for any combination of parental incomes and number of children. These guidelines, in turn, are developed by *ad hoc* guideline committees, which typically consist of both ordinary citizens and lawyers and judges. So today, the balancing of interests and scaling the result within a dollar metric is partly the province of ordinary citizens, much like the deciding of personal injury awards is decided by everyday citizens serving on juries.

The current authors have embarked on a larger project aimed at understanding the child support intuitions of ordinary citizens as a means of bringing greater coherence and principle to guideline setting (Ellman, 2004; Ellman & Ellman, 2008; Ellman, Braver & MacCoun, in press).

But we faced the same kind of challenges that other researchers pursuing issues of commensurability and scaling face: how to properly elicit the participant's views. These issues have real import for both legal theory and legal policy, and the child support domain appears an ideal one to face these issues head on, because of the way it embodies goal conflicts and taboo tradeoffs. The past literature had indeed revealed that respondents have great difficulty arriving at these judgments, in that the amounts they prefer are greatly variable from person to person, implying normlessness. These two past studies simply asked respondents to name a dollar amount.

In the current experiment, we explored several ways of eliciting popular views that could potentially tame this variability. We included as a default simply NAMEing an amount, as the past studies had done, but also compared choosing an amount from among a set of "multiple choice" alternatives provided; naming an amount after an external amount is provided that might anchor the judgment; and pursuing the preferred amount by much less direct essentially psychophysical methods.

With respect to choosing an amount from among a list provided, our analysis revealed that virtually identical judgments are given as when one simply asks the respondent to name an amount. Virtually no difference was found between the two, with respect both to the mean judgment and the variance of those judgments. Thus, concerns that, in the attempt to provide a bit of frame of reference to help orient the respondent, the researcher might somehow simultaneously be biasing the results by suggesting "acceptable" responses, did not appear supported. But it is crucial to note that such a conclusion is constrained by the fact that the alternatives provided on the list here were very carefully chosen on the basis of a prior (pilot) study requesting freer "named" responses. In the absence of prior work establishing such a list, it

is indeed likely that biasing will occur in a choose format.

The above caveat is warranted on the basis of the results in our anchor conditions. While providing an anchor did indeed reduce the variability of the responses, it simultaneously moved the mean response in the direction of the anchor, even in the face of our attempt to reduce the anchor's pull by suggesting that while "some courts would order" the anchor amount, "other courts would order a different amount." This double-edged effect of providing anchors has been found in other areas of law by Saks et al., (1997) and by Hinsz and Indahl (1995), and suggests caution is needed when contemplating routinely providing anchors, in research studies or in real-life deliberations.

Our RATE method was a much more elaborate procedure to get individuals to express their moral judgments in a dollar metric. Built on psychophysical methods, it requires not an announcement of an absolute dollar amount, but only a comparative judgment of whether each of a set of proffered values seems higher or lower than the "right" amount. Had it fared much better here than alternate methods, it conceivably could be considered in a variety of commensurability settings. But since it is substantially more cumbersome to employ, a reasonable question is whether its greater accuracy merits its costs both in terms of respondent burden and much more complicated analytic procedures and assumptions. While the numeric values it yielded here were generally similar to those yielded by NAME and CHOOSE, there were some disparate findings as well. It could not be detected here whether the RATE or the NAME and CHOOSE values were the "better" ones; nor could we readily discern even whether they were the less biased or the less variable and noisy answers. For our future purposes in the subsequent projects in this program of research, we determined the costs of the RATE method were not outweighed by any clear benefits.

Instead, on the basis of results reported here we decided to use primarily NAME in our subsequent work. It is true that the judgments our respondents made for any specific scenario using NAME were indeed highly variable, no less so than in the comparable investigations by Bergmann and Wetchler (1995) and by Schaeffer (1990) and Corbett et al. (1992). However, what we were able to learn by using a larger set of systematically varying items evaluated by each respondent than used in the previous work is that there was substantial coherence to these judgments despite the respondent's seeming lack of frame of reference and normlessness. It was evident that the judgments were indeed somewhat arbitrary in an absolute sense because of their variability, and susceptibility to anchoring effects. Nonetheless, within the set of judgments, there was coherence in a relative, ordinal sense; there was relative consistency among observers in their view about how the amount should change with a given change in the stimuli, reflecting what we believe is the underlying "coherent arbitrariness" (Ariely, Loewenstein, & Prelec, 2003) of these assessments.

Finally, and perhaps surprisingly, given the large initial variability in our respondents' answers, their mean responses were very much "in the ballpark" of support amounts actually called for under existing law, locating toward the middle of the range of state law guideline amounts (Ellman, Braver, & MacCoun, in press). Certainly our research suggests that there are valid bases for concern about the mapping of welfare and justice intuitions on a dollar metric. Citizens (and, possibly, judges and lawyers) have genuine difficulty "finding their bearings" on the dollar scale. But it is easy to overstate that case; their judgments are neither chaotic in a relative sense, nor unprincipled. Clearly, then, states and courts can learn much by soliciting citizen intuitions.

REFERENCES

Aldred, J. (2002). Cost-benefit analysis, incommensurability and rough equality. Environmental values, 11, 27-47.

Anderson, M. C., & MacCoun, R. J. (1999). Goal conflict in juror assessments of compensatory and punitive damages, 23 Law & Human Behavior 313.

Ariely, D., Loewenstein, G., & Prelec, D. (2003) Coherent Arbitrariness: Stable Demand Curves Without Stable Preferences, 118 Quarterly Journal of Economics 73.

Davis, J. H., Tindale, R. S., Nagao, D. H., Hinsz, V. B., & Robertson, B. (1984). Order effects in multiple decisions by groups: a demonstration with mock juries and trial procedures. Journal of personality and social psychology 47:55, 1003-1012.

Deutsch, M. (1975). Equity, equality, and need: What determines which value will be used as the basis of distributive justice? Journal of Social Issues, 31:137-149.

Ellman, Ira Mark (1996). *The Role of Fault in A Modern Divorce Law*, Arizona State Law Journal 28:773-837

Ira Mark Ellman, *Fudging Failure: The Economic Analysis Used to Construct Child Support Guidelines*, 2004 University of Chicago Legal Forum 162

Ellman, I. M., Braver, S.L., & MacCoun, R.J. (in press). *Intuitive lawmaking: The example of child support.* Journal of Empirical Legal Studies.

Ellman, I.M., Braver, S.L., & MacCoun, R.J. (2008). *More intuitive lawmaking about child support.* Manuscript in preparation. Arizona State University.

Ellman, Ira Mark and Tara O'Toole Ellman, The Theory of Child Support, 45 Harvard Journal on Legislation 107 (2008)

Ira Mark Ellman, Paul M. Kurtz, Elizabeth Scott, Lois Weithorn, & Brian Bix (2004). Family Law: Cases, Text, Problems (4th edition)

Epley, N., & Gilovich, T. (2001). Putting adjustment back in the anchoring and adjustment heuristic: Differential processing of self-generated and experimenter-provided anchors, 12 Psychol Sci. 391.

Epley, Nick and Thomas Gilovich,The Anchoring-and-Adjustment Heuristic: Why the Adjustments Are Insufficient, 17 Psychological Science 311 (2006);

Fiske, Alan Page. (1992). The Four Elementary Forms of Sociality: Framework for a Unified Theory of Social Relations, 99 Psychological Review 689 (1992).

Fiske, Alan Page & Philip E. Tetlock, Taboo Trade-Offs: Reactions to Transactions that Transgress the Spheres of Justice, 18 POL. PSYCHOL. 255, 285-86 (1997).

Gescheider, G. (1997). *Psychophysics: the fundamentals*, 3rd edition, Lawrence Erlbaum Associates

Green, Donald, Karen E. Jacowitz, Daniel Kahneman, Daniel McFadden, Referendum Contingent Valuation, Anchoring, and Willingness to Pay for Public Goods, 20 Resource and Energy Economics 85-116 (1998).

Green, Donald, Daniel Kahneman, and Howard Kunreuther, How the method and scope of public funding affects willingness to pay for public goods, 58 Public Opinion Quarterly 48-67 (1994);

Guthrie, Chris, Jeffrey J. Rachlinski, and Andrew J. Wistrich, "Can Judges Ignore Inadmissible Information?: The Difficulty of Deliberately Disregarding," 153 University of Pennsylvania Law Review 1115 (2005).

Guthrie, Chris, Jeffrey Rachlinski, and A. Wistrich, "Inside the Judicial Mind," 86 Cornell Law Review 777 (2001).

Hinsz, V. B., & Indahl, K. E. (1995). Assimilation to anchors for damage awards in a mock civil trial. *Journal of Applied Social Psychology, 25,* 991-1026.

Hogarth, Robin M. and Hillel J. Einhorn Order effects in belief updating: The belief-adjustment model Cognitive Psychology , Volume 24, Issue 1, January 1992, Pages 1-55

Kahneman, D., and Ritov, I. Determinants of stated willingness to pay for public goods: A study in the headline method. Journal of Risk and Uncertainty, 9, 1994, 5-38.

Kahneman, D., Schkade, D. A., & Sunstein, C. R. (1998). Shared outrage and erratic awards: The psychology of punitive damages. Journal of Risk and Uncertainty, 16, 49–86.

Kahneman, D., Ritov, I., & Schkade, D. (1999). Economic preferences or attitude expressions? An analysis of dollar responses to public issues. Journal of Risk and Uncertainty, 19, 220–242.

Norbert L. Kerr, Douglas L. Harmon, James K. Graves (1982) Independence of Multiple Verdicts by Jurors and Juries Journal of Applied Social Psychology 12 (1), 12–29.

Krosnick, Jon A. Survey Research, 50 Annual Review of Psychology 537-567 (1999); Nora Cate Schaeffer and Stanley Presser, The Science of Asking Questions, 29 Annual Review of Sociology 65-88 (2003);

Lind, E. A., J Thibaut, L Walker Discovery and Presentation of Evidence in Adversary and Nonadversary Proceedings -- Michigan Law Review, Issue 6 May 1973 Vol 71 1129-1144

Lynch Jr, JG, D Chakravarti, A Mitra, Contrast Effects in Consumer Judgments: Changes in Mental Representations or in the Anchoring of Rating Scales? Source: The 18 Journal of Consumer Research 284 (1991);

MacCoun, Robert J., "Voice, control, and belonging: The double-edged sword of procedural fairness." Annual Review of Law and Social Science, 1, 171-201 (2005).

MacCoun, Robert J. (2006). Media reporting of jury verdicts: Is the tail (of the distribution) wagging the dog? Clifford Symposium on Tort Law, DePaul Law Review, 55, 539-562.

MacCoun, R. J. (2000). The costs and benefits of letting juries punish corporations: Comment on Viscusi. *Stanford Law Review, 52,* 1821-1828.

Mellers B A, Baron J (eds.) 1993 Psychological Perspectives on Justice. Cambridge University Press, New York.

Parducci, Allen (1965). Category judgment: A range-frequency theory. Psychological Review. Vol 72(6), Nov 1965, 407-418.

Parducci, Allen (1995). Happiness, Pleasure, and Judgment: The Contextual Theory and Its Applications. Lawrence Erlbaum Associates. Place of Publication: Mahwah, NJ.

Petrov, AA, JR Anderson The dynamics of scaling: A memory-based anchor model of category rating and absolute identification, 112 Psychological Review 383 (2005).

Robbennolt, Jennifer K. Evaluating Juries by Comparison to Judges: A Benchmark for Judging? Florida State University Law Review, Vol. 32, p. 469, 2005.

Robbennolt, J. K., Darley, J. M., & MacCoun, R. J. (2003). Symbolism and incommensurability in civil sanctioning: Decision-makers as goal managers. Symposium on "Responsibility and blame: Psychological and legal perspectives," Brooklyn Law Review, 68, 1121-1158.

Robbennolt, J., Darley, J., & MacCoun, R. J. (in press). Constraint satisfaction and judging. To appear in David Klein & Gregory Mitchell (eds.), The psychology of judicial decision making, Oxford.

Robbennolt, Jennifer K., and Christina A. Studebaker, Anchoring in the Courtroom: The Effects of Caps on Punitive Damages, Law and Human Behavior Volume 23, Number 3 / June, 1999.

Saks, M.J., Hollinger, L.A., Wissler, R.L., Evans, D.L., & Hart, A.J. (1997). Reducing Variability in Civil Jury Awards. *Law and Human Behavior, 21(3),* 243-256.

Schaeffer, Nora Cate and Stanley Presser, The Science of Asking Questions, 29 Annual Review of Sociology 65-88 (2003);

Schkade, David, Cass R. Sunstein, and David Kahneman 2000 "Deliberating About Dollars: The Severity Shift." Columbia Law Review 100: 1139.

Strack, Fritz and Thomas Mussweiler, Explaining the Enigmatic Anchoring Effect: Mechanisms of Selective Accessibility, 73 Journal of Personality and Social Psychology 437 (1997);

Sunstein, Cass R., Reid Hastie, John W. Payne, David A. Schkade, and W. Kip Viscusi 2002 Punitive Damages, How Juries Decide. Chicago, IL: University of Chicago Press.

Sunstein, Cass R., Daniel Kahneman, and David Schkade 1998 "Assessing Punitive Damages (With Notes on Cognition and Valuation in Law)." Yale Law Journal 107: 2071.

Sunstein, Cass R., Daniel Kahneman, David Schkade, and Ilana Ritov. 2002. "Predictably Incoherent Judgments." Stanford Law Review 54: 1153.

Sunstein, C. R. (1994). Incommensurability and Valuation in Law. Michigan Law Review, Vol. 92, No. 4 (Feb., 1994), pp. 779-861.

Tourangeau, Roger, Lance J. Rips, and Kenneth Rasinski, The Psychology of Survey Response, Cambridge 2000.

Tversky, A., & Kahneman, D. Judgment under uncertainty: Heuristics and biases. Science, 1974, 185, 1124-1131.

Tyler TR, Lind EA. 1992. A relational model of authority in groups. In Advances in Experimental Social Psychology, ed. MP Zanna, 25:115--91. San Diego, CA: Academic Press.

Walster E, Walster G 1975 Equity and social justice. J. Social Issues, 31: 21-43.

Table 1. Means (standard deviations) of Child Support judgments for various income scenarios, by NAME vs CHOOSE format

		CHOOSE		NAME			
Mom's take home (in $K)	Dad's take home (in $K)	N	Mean (SD)	N	Mean (SD)	t-test of mean difference	Levene's test for equality of variance
1	2	142	466.90 (254.53)	187	489.92 (251.23)	-0.82	0.07
1	4	142	926.06 (537.35)	188	985.24 (497.94)	-1.03	0.50
1	6	142	1402.11 (836.11)	189	1491.06 (800.62)	-0.98	0.08
3	2	142	356.34 (247.10)	182	354.07 (240.05)	0.08	0.05
3	4	142	669.72 (439.37)	186	652.15 (387.71)	0.38	1.38
3	6	143	1089.51 (670.90)	183	1108.20 (603.23)	-0.26	0.36
5	2	142	314.79 (284.08)	168	342.71 (399.83)	-0.70	0.67
5	4	143	548.95 (433.76)	177	603.67 (505.59)	-1.02	0.06
5	6	144	868.06 (658.31)	182	779.42 (467.75)	1.42	6.95**

Table 2. Nonparametric tests of differences between NAME and CHOOSE format Child Support judgments, for various income scenarios

Mom's take home (in $K)	Dads' take home (in $K)	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Kolmo-gorov-Smirnov Z	Asymp. Sig. (2-tailed)
1	2	12587.5	22740.5	-0.82	0.41	0.75	0.62
1	4	12275.5	22428.5	-1.26	0.21	0.88	0.42
1	6	12344.5	22497.5	-1.25	0.21	0.89	0.41
3	2	12756	29409	-0.20	0.84	0.79	0.56
3	4	13143.5	30534.5	-0.07	0.94	0.75	0.63
3	6	12394.5	22690.5	-0.82	0.41	0.86	0.45
5	2	11549	21702	-0.49	0.63	0.68	0.75
5	4	11616.5	21912.5	-1.27	0.20	1.15	0.14
5	6	12800	29453	-0.36	0.72	0.50	0.97

Table 3. Means (standard deviations) of Child Support judgments for various income scenarios, by NAME vs ANCHOR format, when the anchor provided is the mean of previous administrations of NAME

		NAME		ANCHOR			
Mom's take home (in $K)	Dad's take home (in $K)	N	Mean (SD)	N	Mean (SD)	t-test of mean difference	Levene's test for equality of variance
1	2	142	466.90 (254.53)	113	539.25 (766.74)	-1.05	0.03
1	4	142	926.06 (537.35)	111	954.54 (449.84)	-0.45	12.9*
1	6	142	1402.11 (836.11)	102	1523.58 (755.02)	-1.17	9.57**
3	2	142	356.34 (247.10)	111	351.29 (245.42)	0.16	9.65**
3	4	142	669.72 (439.37)	101	660.61 (427.50)	0.16	6.52**
3	6	143	1089.51 (670.90)	112	1090.66 (455.57)	-0.02	13.29**
5	2	142	314.79 (284.08)	107	310.39 (157.61)	0.14	22.08**
5	4	143	548.95 (433.76)	107	574.63 (303.55)	-0.52	12.14**
5	6	144	868.06 (658.31)	107	774.80 (342.47)	1.34	27.87**

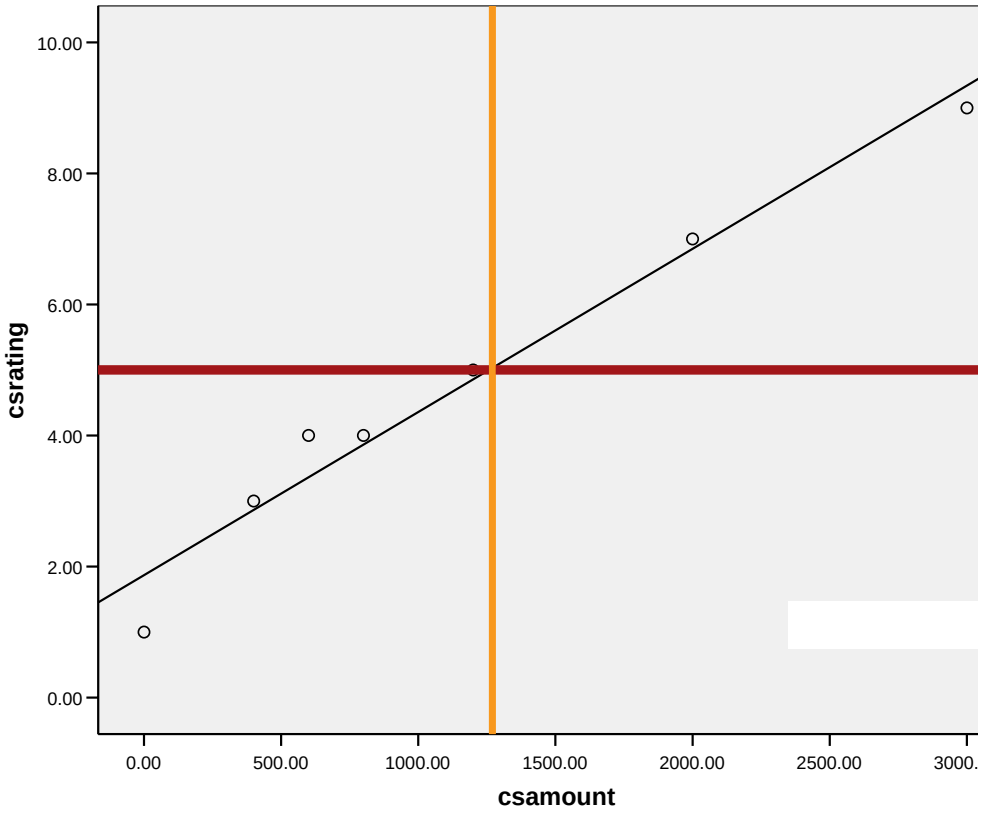
Table 4. Means (standard deviations) of Child Support judgments in the ANCHOR format, by income scenario and type and value of anchor provided

Mom's take home (in $K)	Dad's take home (in $K)		Anchor is Mean	Anchor is median	Anchor is 33rd percentile	Anchor is 66th percentile	One way ANOVA F
1	2	Anchor $	485	500	350	500	
		Mean	539.25	487.27	434.47	550.49	0.88
		SD	766.74	177.58	387.79	557.39	
1	4	Anchor $	984	1000	700	1200	
		Mean	954.54	1046.28	872.98	1130.19	5.05*
		SD	449.84	414.53	344.51	594.53	
1	6	Anchor $	1481	1500	1000	2000	
		Mean	1523.58	1488.74	1490.95	1721.12	3.48*
		SD	755.02	591.67	630.35	756.35	
3	2	Anchor $	351	300	200	500	
		Mean	351.29	335.98	329.04	406.22	1.86
		SD	245.42	175.28	364.26	184.29	
3	4	Anchor $	657	500	500	750	
		Mean	660.61	616.79	667.41	681.60	0.50
		SD	427.50	282.17	484.20	285.32	
3	6	Anchor $	1108	1000	800	1400	
		Mean	1090.66	1177.00	1025.06	1309.14	4.47*
		SD	455.57	500.51	468.75	730.27	
5	2	Anchor $	325	250	200	400	
		Mean	310.39	279.44	260.05	346.34	2.57+
		SD	157.61	269.88	236.69	242.97	
5	4	Anchor $	603	500	400	600	
		Mean	574.63	511.83	503.20	564.22	0.86
		SD	303.55	262.13	434.10	228.76	
5	6	Anchor $	781	665	500	1000	
		Mean	774.80	799.85	654.73	897.14	4.55*
		SD	342.47	684.32	297.80	464.98	

Table 5. Mean values for scenarios as estimated by HLM for NAME and CHOOSE (bold italics) and as estimated for RATE.

		NCP Income		
		2000	4000	6000
		568	948	1394
	1000	***480***	***960***	***1453***
CP Income		473	840	1265
	3000	***355***	***660***	***1100***
		382	736	1143
	5000	***330***	***580***	***819***

Figure 1.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csamount

Figure 2.