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Abstract: Due to the risk of fetal anomaly, pregnant women of advanced maternal age are given the option to undergo amniocentesis. This study aimed to describe couples' decision-making process regarding amniocentesis, and assess whether it is influenced by marital intimacy and men's attendance of genetic counseling. During pregnancy, 112 couples answered the Personal Assessment of Intimacy in Relationships questionnaire and scales regarding the decision to undergo amniocentesis. Most couples shared and reached an agreement regarding this decision. Higher levels of marital engagement and communication, but not men's attendance, were associated with higher agreement, influence, and decision sharing. Clinical implications are discussed.

**Amniocentesis due to advanced maternal age: The role of marital intimacy in  
couples' decision-making process**

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This study is part of the “Transition to parenthood in couples with indication to undergo prenatal testing” research project, integrated in the Relationships, Development & Health research line of the R&D Unit Institute of Cognitive Psychology, Vocational and Social Development of the University of Coimbra (FEDER/POCTI– SFA–160–192).

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## Introduction

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2 During the last decades, the number of pregnancies at a maternal age of 35 years  
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4 or older has been rising in many western countries. In Portugal, it equaled 10% of the  
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6 total births during 1995, reaching 20.5% in 2009 (Instituto Nacional de Estatística,  
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8 2010). This contemporary reproductive trend is a consequence of women's decision to  
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10 postpone motherhood that has been attributed, among other factors, to their increased  
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12 dedication to work, as well as to their need of having a stable relationship with a partner  
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14 (Wijsen, 2002). Due to the risk of fetal anomaly, pregnant women who are 35 years of  
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16 age or older at the time of the birth are presented with the choice of whether or not to  
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18 undergo prenatal invasive diagnostic tests (IDTs). Although the majority opt to undergo  
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20 IDTs (Nakata, Wang, & Bhatt, 2010), little is known about the manner in which couples  
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22 make this important decision, which may lead to a prenatal diagnosis of fetal anomaly  
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24 and leave couples with the choice of continuing or interrupting the pregnancy.  
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31 This study aims to describe couples' decision-making process regarding  
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33 amniocentesis, and assess whether it is influenced by marital intimacy and men's  
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35 attendance of genetic counseling. Results from this study may help health professionals  
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37 to better assist couples with this decision-making process.  
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### *Advanced maternal age and prenatal testing*

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45 The association of maternal age and risk of fetal anomaly means that  
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47 aneuploidies and nonchromosomal malformations are more frequent in older pregnant  
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49 women (i. e., the probability of having an affected fetus tends to increase with women's  
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51 age; Hollier, Leveno, Kelly, McIntire, & Cunningham, 2000). It is estimated that when  
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53 a woman is 35 years or older (at the time of birth), the risk of miscarriage due to  
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55 amniocentesis is lower than the probability of having a child with Down's syndrome  
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(Bornstein et al., 2009). Consequently, advanced maternal age (AMA) is the most common routine indication for genetic counseling during pregnancy (Drugan & Evans, 2006).

Women with a higher probability of having an affected fetus are presented the choice of whether or not to undergo IDTs, namely amniocentesis and chorionic villus sampling. Compared to screening tests (as maternal serum screening or ultrasound scans), which allow for the identification of women more likely to carry an affected fetus but cannot guarantee whether or not there is a fetal anomaly, IDTs have the advantage of offering definite answers regarding several conditions, such as Down's syndrome (Green & Statham, 1996).

However, IDTs have an associated risk of miscarriage, which seems to be one of the most frequent concerns of women undergoing such tests (Cederholm, Axelsson, & Sjöden, 1999), as well as a reason for some to refuse it (Liamputtong, Halliday, Warren, Watson, & Bell, 2007). Despite these concerns, research has demonstrated that more than half of AMA women choose to undergo IDTs (Nakata et al., 2010). As uptake of amniocentesis seems to be higher in this group, in comparison with women with a positive screening test (Hoskovec et al., 2008), our study specifically considers the experience of women of AMA as the sole indication for genetic counseling.

Because IDTs can indicate the presence of abnormalities, couples may be faced with a new decision - whether to continue or to terminate the pregnancy (Green & Statham, 1996). Although women and their partners often prefer to know this information sooner rather than later (Bryar, 1997), receiving a positive prenatal diagnosis may be experienced by couples as a traumatic event with long-term consequences (Sandelowski & Barroso, 2005). Considering these implications, the study of the decision-making process regarding IDTs (i. e., how couples make a

1 decision whether or not to undergo these tests) appears to be extremely relevant. Our  
2 study will specifically focus amniocentesis, as this is the most frequently chosen test  
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5 (Nakata et al., 2010).  
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10 *Couples' decision-making regarding amniocentesis*

11 Presently, little is known on how couples decide whether or not to undergo  
12 amniocentesis. Most studies regarding this topic used samples that did not comprise  
13 men (e. g., Ho, 2008; Humphreys, Cappelli, Hunter, Allanson, & Zimak, 2003). This  
14 may reflect the fact that women are given a privileged role in this decision because they  
15 are carrying the fetus. Indeed, in many European countries, only their informed consent  
16 is required for the test to be taken, regardless of their partner's opinion (e. g. van der  
17 Berg, Timmermans, ten Kate, van Vugt, & van der Wal, 2006). Nevertheless, Lawson  
18 and Pierson (2007) pointed out that, as women's reproductive decisions take place  
19 within social contexts which may affect their choices, they cannot be truly understood if  
20 only the individual level is considered.  
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36 Furthermore, pregnancy and parenthood are couple experiences, so it can be  
37 expected that the decision made will have equally important consequences for both men  
38 and women. Although this has been undervalued by health professionals and  
39 researchers alike, men may also have an important role in this decision-making process.  
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41 Indeed, studies showed that only a minority of women views this choice as exclusively  
42 theirs, with more than half considering it to be a couple's decision (Cederholm et al.,  
43 1999; Humphreys et al., 2003).  
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53 Sharing the decision may lead to greater comfort and confidence in the chosen  
54 option, as a study showed that women who perceived the decision to be less shared by  
55 the couple reported higher levels of emotional distress during the waiting period for the  
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1 test results (Humphreys, Cappelli, Aronovitch, Allanson, & Hunter, 2008). On the other  
2 hand, when partners and health professionals encouraged women's autonomy, leaving  
3 the decision up to them, they felt less supported and even abandoned in what they saw  
4 as a meaningful decision (Wohlgemuth and Lawson, as cited in Lawson & Pierson,  
5 2007).  
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11 Partners are the ones who mostly influence this decision, apart from women  
12 themselves and regardless of the final option (Ho, 2008; Jaques, Bell, Watson, &  
13 Halliday, 2004). However, whenever there is conflict or disagreement within the couple  
14 regarding this topic, IDTs can become an interpersonal stressor. Although partners may  
15 provide support during this period, it's also possible that they contribute to conflict and  
16 uncertainty (Humphreys et al., 2008). Avoiding marital conflict can even lead women to  
17 follow their partners' opinion when couples disagree on whether or not to have IDTs  
18 (García, Timmermans, & van Leeuwen, 2008). Consistently, couple's level of  
19 agreement regarding IDTs before the first appointment predicted marital adjustment  
20 after receiving the results (Humphreys et al., 2008). These results further justify the  
21 need to attend to the partner's role during this period. In the present study, we propose a  
22 couple-based perspective to address the decision-making process regarding  
23 amniocentesis, by considering not only women's and men's subjective perceptions  
24 about it, but also by investigating possible intra-couple influences.  
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#### 48 *Marital intimacy and couples' joint decision-making*

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50 Among the factors that may contribute to shape the decision-making process  
51 regarding amniocentesis, the influence of relational factors, specifically those involving  
52 the couple, has been scarcely considered. Intimacy is one of the most commonly studied  
53 variables regarding marital relationships (Moreira, 2009). According to Schaefer and  
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1 Olson (1981), this multidimensional construct consists of a process that takes place  
2 throughout time, without ever being concluded, and it's fostered by couple's ability to  
3 communicate and solve conflicts, and by the sharing of intimate experiences. Intimate  
4 relationships have specific characteristics, such as interdependency (one member's  
5 behavior significantly influences the partner, in multiple ways and for a long period)  
6 and mutuality (partners in a relationship see themselves as a couple, and not as two  
7 completely separate persons) (Brehm, Miller, Perlman, & Campbell, 2002). Also, these  
8 relationships are characterized by an ability to communicate and share opinions within  
9 partners, which we view as important skills for a couple's joint decision-making. In this  
10 line of thinking, couples with higher marital intimacy could be expected to be more  
11 prone to make shared decisions in general, especially regarding amniocentesis.  
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29 *Men's attendance of genetic counseling and the decision-making process*  
30 *regarding amniocentesis*  
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34 Several investigations have focused on men's attendance of genetic counseling.  
35 Empirical research has showed that men who go to the appointments tend more to  
36 participate in the decision-making process and to view it as a couple experience  
37 (Humphreys et al., 2003, 2008; Ho, 2008). On the other hand, men's presence is also  
38 associated with higher levels of decisional conflict (regarding IDTs) and anxiety in  
39 women, prior to the first appointment. As a coping strategy, some women may ask for  
40 partner's support, while those who have more confidence in their decision might not  
41 need their partners to be present (Humphreys et al., 2003; Sahin & Gungor, 2008).  
42 However, to our knowledge, no study has considered the influence of men's attendance  
43 on the decision-making process regarding amniocentesis, which was a goal of the  
44 present study.  
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It also remains unclear whether or not men's attendance of genetic counseling influences uptake of amniocentesis. Although Humphreys et al. (2003) reported men's attendance not to be a predictor of the final decision, Browner and Preloran (1999) showed that men's role on the decision-making regarding amniocentesis was very important, and that women were more likely to undergo the test when their partners attended genetic counseling. In order to clarify this issue, this relationship was further explored in the present study.

### *Aims and hypotheses*

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With the objective of overcoming some of the limitations previously addressed (namely, the tendency to use women as the sole informants on couple's decision-making process regarding amniocentesis, and the lack of data on the possible influence of marital intimacy), the present study had four main goals: 1) to understand how each member of the couple perceived the decision-making process regarding amniocentesis, operationalized in terms of perceived decision sharing within the couple, perceived level of partner's influence on the decision, and perceived level of couple's agreement regarding the decision; 2) to investigate the relationship between marital intimacy perceived by each member of the couple and each member's subjective perception of the decision-making process regarding amniocentesis; 3) to investigate the relationship between men's attendance of genetic counseling and each member's subjective perception of the decision-making process regarding amniocentesis; and 4) to investigate the relationship between men's attendance of genetic counseling and uptake of amniocentesis. Gender differences were also investigated.

Based on a review of the literature, the following hypotheses were developed: 1) because both members of the couple report a common decision-making process, women

1 and men will experience similar levels of perceived decision sharing and couple's  
2 agreement; however, given that women seem to have a privileged role in this decision,  
3 men will likely perceive a higher partner's influence than women; 2) higher levels of  
4 perceived marital intimacy will be associated with higher tendency to perceive the  
5 decision to be shared, and with higher levels of partner's influence and couple's  
6 agreement for both men and women; 3) men's attendance of genetic counseling will be  
7 related to higher tendency to perceive the decision to be shared, and with higher levels  
8 of partner's influence and couple's agreement for both men and women; 4) attending to  
9 the inconsistent results regarding men's attendance and uptake of amniocentesis, no  
10 predictions will be made about our results.  
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## 27 **Method**

### 28 *Participants*

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34 The sample was comprised of 112 cohabitating couples with a mean relationship  
35 length of 8.36 years ( $SD = 5.09$ ). Women ( $M = 37.2$ ,  $SD = 2.42$ ) were not significantly  
36 younger than men ( $M = 38.13$ ,  $SD = 4.54$ ), although there were gender differences  
37 regarding educational level ( $t_{(217)} = 2.824$ ,  $p = .005$ ), with women ( $M = 14.12$  years;  $SD$   
38 = 3.61) studying for longer than their partners ( $M = 12.60$ ;  $SD = 4.33$ ). The majority of  
39 the participants were currently employed (91.1% of women and 97.3% of men). This  
40 was the first pregnancy for 38.4% of women. In 90 (80.9%) couples, both members  
41 attended genetic counseling. Couples answered the questionnaires approximately at 18  
42 weeks gestation ( $SD = 3.35$ ), with 59 (53.3%) of them opting for amniocentesis.  
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## Measures

### *Subjective perception of the decision making process regarding amniocentesis –*

The perception of participation in the decision (i.e. decision sharing) was assessed with the question “Whose responsibility was it to make the decision regarding amniocentesis?”, to which participants could answer “Shared between me and my partner”, “Exclusively mine”, or “Exclusively my partner’s” (these options were later grouped by the investigators in two categories: “Shared” and “Not shared” – this one included the last two alternatives). The level to which the partner influenced (i.e. partner’s influence) the other’s decision and the level to which both partners agreed with each other in the decision (i.e. couple’s agreement) were assessed with the questions “How much did your partner influence your decision regarding amniocentesis?” and “How much did you and your partner agree on the decision regarding amniocentesis?”, respectively, which were answered on analogical scales (ranging from 0 – *Not at all* – to 100 – *Totally*).

### *Personal Assessment of Intimacy in Relationships (Schaefer & Olson, 1981) -*

This 35-item measure assesses people’s perception of the intimacy level of a dyadic relationship. Answers are based on a 5-point Likert scale ranging from 0 (*Strongly disagree*) to 4 (*Strongly agree*), with higher scores indicating higher levels of intimacy. The Portuguese version is comprised of three factors: *Engagement* (couple’s sense of validation and acceptance by each other, regarding feelings and opinions, and emotional closeness), *Communication* (couple’s ability to express opinions, feelings, and desires to each other), and *Shared friendships* (couple’s relationships with others) (Moreira,

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Amaral, & Canavarro, 2009). Only the *Engagement* and *Communication* scales were used in the present study. In this sample, Cronbach alphas were of .87 (*Communication*) and .90 (*Engagement*) for women, and of .84 (*Communication*) and .88 (*Engagement*) for men.

Men's attendance of genetic counseling was reported by men themselves. Uptake of amniocentesis was assessed based on the women's medical records.

Sociodemographic (i.e. age; educational level; professional status; relationship length) and clinical data (number of previous pregnancies; current gestational age) were collected.

### *Procedure*

This study is part of an ongoing longitudinal investigation called "Transition to parenthood in couples with indication to undergo prenatal testing", which was approved by the Ethics Committee of University of Coimbra Hospitals. From September, 2009, to August, 2010, all women presenting for genetic counseling were approached by the researchers prior to their appointment. The study goals were presented and an informed consent was signed by those who accepted to participate in the research project. Women were given two versions of the questionnaires (their own and the one for their partners), and were told that both spouses should complete the questionnaires separately at home and return it to the investigators in the following appointment (i. e., prior to undergoing amniocentesis and receiving the results).

A total of 551 women were contacted, from which 26 (4.72%) refused to participate, and 149 (27.04%) didn't return the questionnaires or returned them incomplete (>20% of data missing). Of the remaining 376 (68.24%), only those in which both members of the couple answered the questionnaires and who met the

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inclusion criteria for the present study (AMA as the sole indication for PNT and a level of literacy that allowed participants to understand and complete the assessment protocol) were considered.

As the questionnaires were returned to the investigators at different times (prior to amniocentesis, after amniocentesis, after receiving the results), couples in which the woman underwent this test were compared in terms of the variables considered in this study, according to the moment at which they returned the questionnaires. In general, no significant differences were found. The only exception concerned a marginally significant result ( $p = .053$ ) regarding women's perception of partner's influence, which was lower in women who returned the questionnaires prior to undergoing amniocentesis.

### *Statistics*

All data analysis was carried out on the *Statistical Package for the Social Sciences, version 17.0* (SPSS, v.17.0). Data analyses were performed using the couple as a unit. The database was restructured in order to consider each couple as the subject of the analysis and each partner score as a different variable. Missing data were handled by group mean substitution as they were random and low level (< 5%). Demographic and clinical data were not substituted.

To investigate how each partner perceived the decision-making process regarding amniocentesis and whether this perception was different for women and men,  $\chi^2$  (with decision sharing as dependent variable [DV]) and paired-samples  $t$ -tests (with partner's influence and couple's agreement as DVs) were performed with gender (female, male) as the independent variable (IV).

1 The relationship between marital intimacy and each partner's subjective  
2 perception of the decision-making process regarding amniocentesis was explored with  
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4 logistic (with decision Sharing as DV) and linear (with partner's influence and couple's  
5 agreement as DVs) regressions. Because the Engagement and Communication  
6 dimensions of marital intimacy were highly correlated (Pearson *r* scores were .803 for  
7 women and .754 for men) and this would create a collinearity problem, separate  
8 regression models were developed for these dimensions. Logistic and linear regression  
9 analyses were based on the Actor-Partner Interdependence Model, using the couple as  
10 the unit of analysis (Cook & Kenny, 2005). This model was used because it could be  
11 expected that the level of marital intimacy perceived by one partner would be associated  
12 with the other partner's subjective perception of the decision-making process regarding  
13 amniocentesis and vice-versa. In accordance to this model, in one set of analyses the  
14 woman's outcome variables were regressed on the man's and woman's predictor  
15 variables and, in the other set of analyses, the man's outcome variables were regressed  
16 on the woman's and man's predictor variables.

17 To investigate the relationship between men's attendance of genetic counseling  
18 and decision sharing,  $\chi^2$  tests were used. To investigate the relationship between men's  
19 attendance of genetic counselling and partner's influence and couple's agreement,  
20 univariate analysis of variance (ANOVA) were used with attendance (no, yes) as the  
21 between-subjects factor and gender (female, male) as the within-subjects factor.

22 Finally, a logistic regression was performed to investigate the relationship  
23 between men's attendance of genetic counseling (considered as an IV) and uptake of  
24 amniocentesis (DV, with 1 meaning the woman underwent amniocentesis and 0  
25 meaning that the woman didn't take the test). Age was controlled for in this final  
26 analysis.

1 Post hoc power calculations made for all statistical analyses performed with a  
2 significance level of .05 and power  $\geq$  .80 indicated that small to medium effects could  
3 be detected (Faul, Erdfelder, Lang, & Buchner, 2007). As such, significance was  
4 defined as  $p < .05$ , but marginally significant results ( $p < .10$ ) are also reported.  
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## 10 **Results**

11 Table 1 presents descriptive statistics for the decision-making process regarding  
12 amniocentesis and for marital intimacy, according to gender.  
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### 26 *Decision-making process regarding amniocentesis*

27 *Decision sharing.* For the majority (86%), the decision regarding amniocentesis  
28 was shared and this perception tended to be congruent within the couple (i.e. in 84.6%  
29 of couples both members agreed that the decision was either shared or not shared), with  
30 only 15.4% expressing incongruence (i. e., one of the members of the couple thought it  
31 was shared and the other believed that it was not shared). Gender didn't relate to  
32 Decision sharing.  
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43 *Partner's influence.* Men perceived their partners to have a significantly higher  
44 influence on the decision than women ( $t_{95} = - 4.101, p < .001$ ).  
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48 *Couple's agreement.* Women perceived higher levels of couple's agreement  
49 comparing to men ( $t_{99} = 2.803, p = .006$ ).  
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### 56 *Marital intimacy and the decision-making process regarding amniocentesis*

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*Decision sharing.* Table 2 presents logistic regressions run in order to assess whether marital intimacy associated with decision sharing. Men's perception of Communication was found to be significantly associated to women's perception of decision sharing, meaning women were more likely to perceive the decision to be shared when their partners felt listened to. The model correctly predicted 83.3% of the cases.

Furthermore, the association between men's perception of decision sharing and their own perception of engagement was marginally significant ( $p = .095$ ). In other words, men who felt more valued by their partners tended to perceive the amniocentesis decision to be shared. This model accurately predicted 88.7% of the cases.

Although the model concerning engagement and women's perception of decision sharing was found to be significant, the variables concerning marital intimacy were not. Also, Hosmer & Lemeshow test was significant, which further supported the model's inadequacy. As such, this model was discarded. Finally, communication didn't associate with men's perception of decision sharing.

(Table 2 about here)

Table 3 presents linear regressions run in order to see if marital intimacy associated with partner's influence and/or couple's agreement.

*Partner's influence.* No significant predictors were identified.

*Couple's agreement.* Significant predictors were found only for women's perception of couple's agreement. Specifically, both men's perception of engagement (model's Adjusted  $R^2 = .050$ ) and men's perception of communication (model's Adjusted  $R^2 = .074$ ) positively associated with that DV. This means that women were



1 more likely to report higher levels of perceived couple's agreement when men felt more  
2 valued within the marital relationship and felt more able to communicate their thoughts  
3 and feelings with their partners. Marital intimacy didn't relate with men's perception of  
4 couple's agreement.  
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11 (Table 3 about here)  
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### 14 15 16 17 *Men's attendance of genetic counseling and the amniocentesis decision* 18

19 Men's attendance didn't relate to partner's influence nor couple's agreement. No  
20 interaction effects of men's attendance and gender were found. Decision sharing as  
21 perceived by women and men was also independent of men's attendance.  
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25 Finally, men's attendance of genetic counseling wasn't associated with uptake of  
26 amniocentesis either. Although the final model was significant (Model  $\chi^2_{(2)} = 10.759$ ,  $p$   
27 = .005; -2Log-Likelihood = 97.682; PseudoR<sup>2</sup> = .126 (Cox & Snell), .170 (Nagelkerke).  
28 R<sup>2</sup><sub>L(7)</sub> Hosmer & Lemeshow = 11.482,  $p = .119$ ), age was the only predictor ( $B = 0.370$ ,  
29  $SE = 0.133$ ,  $F_{Wald(1)} = 7.007$ ,  $p = .006$ ; Exp ( $B$ ) = 1.447) of uptake of amniocentesis,  
30 meaning older women were more likely to choose to undergo amniocentesis. This  
31 model allowed for 70% of the cases to be correctly classified.  
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### 46 **Discussion** 47

48 The present study showed decision sharing and agreement-reaching to be the  
49 most common experiences for couples having to make a decision regarding  
50 amniocentesis due to AMA, although men were significantly more influenced by their  
51 partners' opinion. Also, couple's perception of intimacy, contrary to men's attendance,  
52 was found to have an effect on the way this process occurred, although gender  
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specificities arose. Regarding uptake of amniocentesis, age was identified as the only significant predictor. By showing that both members of the couple participate in this decision and that this process is influenced by marital intimacy, results suggest that health services and practitioners should acknowledge men's participation in this process to a higher degree.

#### *Decision-making process regarding amniocentesis*

Results concerning decision sharing were in line with studies already mentioned (Cederholm et al., 1999; Humphreys et al., 2003), indicating that, for the majority of couples, the amniocentesis decision was conjoint. As expected, the congruence between partners regarding the perception of decision sharing was similarly elevated, which supported our hypothesis.

Although most couples shared this decision, each member's influence on the other seems to have not been equally significant. Consistent with our hypothesis, men reported to a higher degree than women that their partners had a much higher influence on their decision. This may reflect the power that is attributed to women in pregnancy-related decisions, as it is often believed they should have the final word in whatever choice concerns their body (Browner & Preloran, 1999), especially considering the risk of miscarriage associated with the procedure, along with the female's physical discomfort that is often mentioned by couples as an amniocentesis-related concern (Cederholm et al., 1999; Sahin & Gungor, 2008). However, it remains to be known whether men and women perceive this apparent unbalance.

In spite of this difference regarding influence, both partners perceived couple's agreement to be elevated, which seems to imply that the amniocentesis decision was consensual for most couples. However, women reported higher scores than men. This

1 result was not expected, considering that no gender differences were found regarding  
2 the perception of decision sharing. As women's prominent role in this decision seems to  
3 be highlighted by health professionals, it may be that men feel pressured to agree with  
4 their partners in a particular option. As such, some men may have not openly expressed  
5 their disagreement, so that they would not go against their partners' opinion. If so,  
6 women's perception of their partners' influence may reflect an intentional decision of  
7 men not to persuade their wives to choose a certain option. In order to clarify these  
8 results, this topic should be further explored in future studies.  
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21 *Marital intimacy and the decision-making process regarding amniocentesis*

22 The data confirmed our hypothesis that marital intimacy would be related to  
23 decision sharing and couple's agreement. Specifically, the more men perceived that  
24 their wives valued and accepted their opinions, the more women felt that the decision  
25 was shared and that couple's agreement was high. Furthermore, when men felt more  
26 appreciated by their partners, they tended more to perceive the decision as shared, and  
27 women tended to perceive higher levels of couple's agreement. As expected, the ability  
28 to communicate and share opinions with the partner, which may be fostered by feelings  
29 of appreciation, is relevant for couple's joint decision-making and facilitates the  
30 reaching of an agreement (Brehm et al., 2002). There seems to be an important dynamic  
31 within the couple, such that when men feel more valued and appreciated by their  
32 partners, they are more prone to be involved in the amniocentesis decision.  
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51 However, no relationship was found regarding marital intimacy and partner's  
52 influence. This was an unexpected finding, even more so given that marital intimacy  
53 was found to influence both decision sharing and couple's agreement. It may be that  
54 women's influence on men is independent of marital intimacy, as women may  
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1 consistently have a major influence on this decision, but further studies are needed in  
2 order to fully understand these results.  
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4 In conclusion, men's perception of marital intimacy may have assumed a more  
5 significant role in the decision-making process (both for women and men), compared to  
6 women's perception, as it seems to have influenced men's participation in the decision-  
7 making, while all women would participate in this decision, regardless of their  
8 perception of marital intimacy. As women seem to have a privileged role in the  
9 amniocentesis decision, it's possible that it was up to them to determine whether or not  
10 they wanted to share this decision with their partners. Considering Brehm et al.'s (2002)  
11 concept of interdependency, that is, the influence that one member's behavior has on the  
12 partner, it is plausible that women's own behaviors in relation to their partners, in the  
13 context of couple's daily interactions, were also responsible for men's perception of  
14 marital intimacy.  
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### 31 *Men's attendance and the decision-making process regarding amniocentesis*

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34 Contrary to other studies (Humphreys et al., 2003, 2008; Ho, 2008), in which  
35 our hypothesis was based, partners who attended the appointments weren't more likely  
36 to share the decision regarding amniocentesis. Furthermore, partner's influence and  
37 couple's agreement did not vary according to men's attendance. Thus, men's  
38 participation in the amniocentesis decision seems not to be affected by their absence in  
39 prenatal appointments. Although the reasons for not attending weren't explored in the  
40 present study, this result suggests that they might not have been related with  
41 involvement with pregnancy, but rather with work conflicts, identified by some authors  
42 as the most frequent motive for partner's absence (Browner & Preloran, 1999;  
43 Humphreys et al., 2008; Kenen, Smith, Watkins, & Zuber-Pittore, 2000).  
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Regarding the association between men's attendance and uptake of amniocentesis, conflicting results are presented in the literature. Our data were consistent with findings from Humphreys et al. (2003), who reported men's presence not to associate with uptake of amniocentesis. Browner and Preloran's (1999) finding that accompanied women had a higher tendency to undergo amniocentesis may be accounted for by cultural factors, as they used a sample of Mexican-origin women, for whom men's opinion seems to be usually determinant regarding reproductive decisions.

Conversely, age was found to be a significant predictor of uptake of amniocentesis. This is consistent with previous research (e. g. Nakata et al., 2010) and takes into account the fact that the risk of fetal anomaly increases with pregnant women's age (Hollier et al., 2000), an association which women seem to be familiar with (Lampinen, Vehviläinen-Julkunen, & Kankkunen, 2009). As, on the other hand, the risk of miscarriage associated with amniocentesis doesn't vary according to age, it's easily understandable that older women are more likely to undergo this procedure.

### *Strengths and limitations*

The present study has several strengths which make it an important contribution to the current state of the art. First of all, in an attempt to go against the tendency to only consider women when investigating the decision-making regarding amniocentesis, the present sample comprised men as well, which allowed us to understand how both partners perceived and influenced each other in this decision-making process. The present study also addressed previous unexplored issues such as the role of marital intimacy and of men's attendance of genetic counseling in the decision-making process regarding amniocentesis, which allows for a broader understanding of how couples make this particular reproductive decision.

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However, some limitations should also be acknowledged. First, as this study had a cross-sectional design, couples were assessed only once, which may be insufficient in order to fully capture the decision-making process and the way it is influenced by marital intimacy (e. g., we suggest that this variable be assessed prior to genetic counseling). Second, as the moment at which participants answered the questionnaires was not controlled, it is possible that couples may have been evaluating their decision-making process either prospectively or retrospectively. However, as no differences were found according to the moment when participants returned the questionnaires, the reliability of our data does not seem to be compromised.

Third, several potentially interesting variables related to the decision-making process, such as decisional conflict or decisional confidence, were not considered in the present study, and should be included in further investigations. Also, it would be interesting to assess not only how couples perceive the decision-making process (which was done in the present study), but also their level of satisfaction with the way the process occurred. Finally, our conclusions may not be applicable to couples in which only the woman answered the questionnaires. Although the reasons that men did not participate in the present study weren't explored, we cannot rule out less involvement in pregnancy as a possible explanation, which may also have implications for the variables we assessed.

#### *Implications for clinical practice*

Several clinical implications derive from our results. First of all, our study confirmed men to actively participate in the decision-making process regarding amniocentesis. Even when they didn't attend genetic counseling, couples jointly debated uptake of amniocentesis. Consequently, genetic counselors should not consider

1 women as the sole decision-makers, even when their partners are not present. As this  
2 doesn't prevent them from participating in the decision, efforts should be made in order  
3  
4 to compensate for their absence. For instance, it would be useful to provide women with  
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6 written materials about amniocentesis, which they could give to their partners in order  
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8 for them to be more informed and, hence, provide useful input into this decision.  
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11 A further reason to acknowledge men's role in this context concerns the fact that  
12  
13 not all of them perceived the decision to be consensual. As their active participation  
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15 may depend on genetic counselors (and maybe society in a broader sense) recognizing  
16  
17 the legitimacy of their contribution to this decision, prenatal appointments may be a  
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19 valuable opportunity for this position to be expressed. Thus, men should be encouraged  
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21 by health professionals to share their opinions on this topic, considering that this  
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23 decision also affects them. However, we don't advocate that a shared decision is the  
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25 most suitable option for every couple (as both members may prefer the woman to make  
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27 a decision by herself).  
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34 Considering that the perception of marital intimacy was found to be associated  
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36 with decision sharing and couple's agreement, it becomes clinically relevant to foster  
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38 this process within couples. Specifically, developing communication skills may be  
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40 particularly important in this context – for couples to be able to share the decision  
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42 regarding amniocentesis, they need to be capable of expressing their opinions as well as  
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44 of listening to the other's. As intimacy is a continuous process (Schaefer & Olson,  
45  
46 1981), it's likely that not only a more intimate relationship leads couples to share  
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48 pregnancy-related decisions and makes them more competent at this task (as they feel  
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50 that the partner really values their opinions and, as a result, they are more prone to  
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52 express them), but also that this sharing strengthens the marital intimacy perceived by  
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54 the couple.  
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2 In conclusion, our work underscores the importance of considering both  
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4 members of the couple and focusing on relationship variables when studying the  
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6 decision-making processes of topics regarding pregnancy and the family. As couples  
7  
8 constitute a dynamic unit in which each member greatly influences the other, their  
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10 ability to make conjoint decisions is deeply related to the manner in which they deal  
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12 with each other. Further investigation is needed in order to identify other important  
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14 factors influencing the amniocentesis decision, and also to better understand some of the  
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16 gender differences identified in the present study.  
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## 24 **References**

- 25  
26 Bornstein, E., Lenchner, E., Donnenfeld, A., Barnhard, Y., Seubert, D., & Divon, M. Y.  
27  
28 (2009). Advanced maternal age as a sole indication for genetic amniocentesis: Risk-  
29  
30 benefit analysis based on a large database reflecting the current common practice.  
31  
32 *Journal of Perinatal Medicine*, 37, 99-102. doi:10.1515/JPM.2009.032  
33  
34  
35  
36 Brehm, S. S., Miller, R. S., Perlman, D., & Campbell, S. M. (2002). *Intimate*  
37  
38 *relationships* (3<sup>rd</sup> ed.). New York: McGraw-Hill.  
39  
40  
41 Browner, C. H., & Preloran, H. M. (1999). Male partners' role in latinias' amniocentesis  
42  
43 decisions. *Journal of Genetic Counseling*, 8(2), 85-108.  
44  
45 doi:10.1023/A:1022890714866  
46  
47  
48 Bryar, S. H. (1997). One day you're pregnant and one day you're not: Pregnancy  
49  
50 interruption for fetal anomalies. *Journal of Obstetric, Gynecologic, & Neonatal*  
51  
52 *Nursing*, 26(5), 559-566. doi:10.1111/j.1552-6909.1997.tb02159.x  
53  
54  
55  
56 Cederholm, M., Axelsson, O., & Sjöden, P. (1999). Women's knowledge, concerns and  
57  
58 psychological reactions before undergoing an invasive procedure for prenatal  
59  
60  
61  
62  
63  
64  
65



karyotyping. *Ultrasound in Obstetrics and Gynecology*, 14, 267-272.

doi:10.1046/j.1469-0705.1999.14040267.x

Cook, W. L., & Kenny, D. A. (2005). The Actor-Partner Interdependence Model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development*, 29(2), 101-109. doi:10.1080/01650250444000405

Drugan, A., & Evans, M. I. (2006). Amniocentesis. In M. I. Evans, M. P. Johnson, Y. Yaron, & A. Drugan (Eds.), *Prenatal diagnosis* (pp. 415-422). New York: McGraw-Hill.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175-191.

García, E., Timmermans, D. R. M., & van Leeuwen, E. (2008). Rethinking autonomy in the context of prenatal screening decision-making. *Prenatal Diagnosis*, 28, 115-120. doi:10.1002/pd.1920

Green, J. M., & Statham, H. E. (1996). Psychosocial aspects of prenatal screening and diagnosis. In T. Marteau & M. Richards (Eds.), *The troubled helix: Social and psychological implications of the new human genetics* (pp. 140-163). Cambridge, UK: Cambridge University Press.

Ho, S. S. (2008). *Decision-making process in prenatal testing: The partner's influence* (Unpublished master's thesis). Sarah Lawrence College, Bronxville.

Hollier, L. M., Leveno, K. J., Kelly, M. A., McIntire, D. D., & Cunningham, F. G. (2000). Maternal age and malformations in singleton births. *Obstetrics & Gynecology*, 96(5), 701-706.

Hoskovec, J., Mastrobattista, J. M., Johnston, D., Kerrigan, A., Robbins-Furman, P., & Wicklund, C. A. (2008). Anxiety and prenatal testing: Do women with soft

1 ultrasound findings have increased anxiety compared to women with other  
2 indications for testing? *Prenatal Diagnosis*, 28, 135–140. doi:10.1002/pd.1935  
3

4 Humphreys, L., Cappelli, M., Aronovitch, E., Allanson, J., & Hunter, A. G. W. (2008).  
5 The role of women's relationship with their partners in their adjustment following  
6 prenatal genetic testing. *Journal of Applied Social Psychology*, 38(2), 482-512.  
7 doi:10.1111/j.1559-1816.2007.00314.x  
8  
9

10 Humphreys, L., Cappelli, M., Hunter, A. G. W., Allanson, J., & Zimak, A. (2003). What  
11 is the significance of the attendance by the partner at genetic counseling for  
12 advanced maternal age? *Psychology, Health & Medicine*, 8(3), 265-278.  
13 doi:10.1080/1354850031000135713  
14

15 Instituto Nacional de Estatística (2010). *Dados estatísticos: População* [Statistical data:  
16 Population]. Retrieved from [www.ine.pt](http://www.ine.pt)  
17

18 Jaques, A. M., Bell, R. J., Watson, L., & Halliday, J. L. (2004). People who influence  
19 women's decisions and preferred sources of information about prenatal testing for  
20 birth defects. *Australian and New Zealand Journal of Obstetrics and Gynaecology*,  
21 44, 233–238. doi:10.1111/j.1479-828X.2004.00225.x  
22  
23

24 Kenen, R., Smith, A. C. M., Watkins, C., & Zuber-Pittore, C. (2000). To use or not to  
25 use: Male partners' perspectives on decision making about prenatal diagnosis.  
26 *Journal of Genetic Counseling*, 9(1), 33-45. doi:10.1023/A:1009429106757  
27  
28

29 Lampinen, R., Vehviläinen-Julkunen, K., & Kankkunen, P. (2009). A review of  
30 pregnancy in women over 35 years of age. *The Open Nursing Journal*, 3, 33-38.  
31  
32

33 Lawson, K. L., & Pierson, R. A. (2007). Maternal decisions regarding prenatal  
34 diagnosis: Rational choices or sensible decisions? *Journal of Obstetrics and*  
35 *Gynaecology Canada*, 29(3), 240–246.  
36  
37  
38  
39  
40  
41  
42  
43  
44  
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55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65
- Liamputtong, Halliday, Warren, Watson, & Bell (2003). Why do women decline prenatal screening and diagnosis: Australian's women perspective. *Women & Health, 37*(2), 89-108. doi: 10.1300/J013v37n02\_06
- Moreira, H., Amaral, A., & Canavarro, M. C. (2009). Adaptação do Personal Assessment of Intimacy in Relationships Scale (PAIR) para a população portuguesa: Estudo das suas características psicométricas [Adaptation of Personal Assessment of Intimacy in Relationships Scale (PAIR) to the Portuguese population: A study of its psychometric properties]. *Psychologica, 50*, 353-373.
- Nakata, N., Wang, Y., & Bhatt, S. (2010). Trends in prenatal screening and diagnostic testing among women referred for advanced maternal age. *Prenatal Diagnosis, 30*, 198-206. doi:10.1002/pd.2434.
- Sahin, N. H., & Gungor, I. (2008). Congenital anomalies: Parents' anxiety and women's concerns before prenatal testing and women's opinions towards the risk factors. *Journal of Clinical Nursing, 17*, 827-836. doi:10.1111/j.1365-2702.2007.02023.x
- Sandelowski, M., & Barroso, J. (2005). The travesty of choosing after positive prenatal diagnosis. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 34*(3), 307-318. doi:10.1177/0884217505276291
- Schaefer, M., & Olson, D. (1981). Assessing intimacy: The PAIR inventory. *Journal of Marital and Family Therapy, 7*(1), 47-60. doi:10.1111/j.1752-0606.1981.tb01351.x
- van der Berg, M., Timmermans, D. R. M., ten Kate, L. P., van Vugt, J. M. G., & van der Wal, G. (2006). Informed decision making in the context of prenatal screening. *Patient Education and Counseling, 63*, 110-117. doi:10.1016/j.pec.2005.09.007
- Wijzen, C. (2002). *Timing children at a later age: Motivational, behavioural, and socio-structural differentials in the individual decision making process of older mothers*. Amsterdam: Rozenberg Publishers.

Table 1

*Descriptive Statistics Regarding the Decision-Making Process and Marital Intimacy (N*

*= 112 couples)*

	Men	Women
<i>Decision-making process</i>		
Decision sharing	<i>n (%)</i>	<i>n (%)</i>
Shared	86 (88.7)	80 (83.3)
Not shared	11 (11.3)	16 (16.7)
	<i>M (SD)</i>	<i>M (SD)</i>
Partner's influence	73.90 (33.76)	54.66 (39.55)
Couple's agreement	91.11 (21.86)	96.61 (7.76)
<i>Marital intimacy</i>		
	<i>M (SD)</i>	<i>M (SD)</i>
Engagement	40.75 (8.66)	41.73 (8.74)
Communication	31.05 (5.28)	31.48 (5.22)

Table 2

*Logistic Regressions with Intimacy Dimensions as Predictors of Men's and Women's Perception of Decision Sharing (N = 112 couples)*

	<i>B (SE)</i>	<i>OR</i>	<i>95% CI</i>	$\chi^2$	<i>p</i>
<i>Decision Sharing [Women]</i>					
Engagement [Women]	0.055 (0.041)	1.056	[0.97, 1.15]	8.447	.015
Engagement [Men]	0.054 (0.042)	1.055	[0.97, 1.15]		
Communication [Women]	0.022 (0.065)	1.023	[0.90, 1.16]	9.041	.011 <sup>a</sup>
Communication [Men]	0.147* (0.070)	1.158	[1.01, 1.33]		
<i>Decision Sharing [Men]</i>					
Engagement [Women]	0.016 (0.050)	1.017	[0.92, 1.12]	6.453	.040 <sup>b</sup>
Engagement [Men]	0.078 <sup>†</sup> (0.047)	1.081	[0.99, 1.19]		
Communication [Women]	0.000 (0.075)	1.000	[0.86, 1.16]	3.029	.220
Communication [Men]	0.103 (0.075)	1.108	[0.96, 1.29]		

<sup>a</sup> -2Log-Likelihood = 77.467; PseudoR<sup>2</sup> = .09 (Cox & Snell), .151 (Nagelkerke). R<sup>2</sup><sub>L(7)</sub> Hosmer & Lemeshow = 5.463, *p* = .604. <sup>b</sup> -2Log-Likelihood = 62.140; PseudoR<sup>2</sup> = .064 (Cox & Snell), .127 (Nagelkerke). R<sup>2</sup><sub>L(8)</sub> Hosmer & Lemeshow = 10.971, *p* = .203.

<sup>†</sup> *p* < .10, \* *p* < .05

Table 3

*Linear Regressions with Intimacy Dimensions as Predictors of Men's and Women's  
Perception of the Decision-Making Process (N = 112 couples)*

	<i>B (SE)</i>	$\beta$	<i>t</i>	<i>F</i>	<i>p</i>
<i>Couple's agreement [Women]</i>					
Engagement [Women]	-0.120 (0.179)	-.081	-0.670	3.708	.028
Engagement [Men]	0.440 (0.176)	.303	2.498*		
Communication [Women]	-0.127 (0.288)	-.052	-0.441	5.129	.008
Communication [Men]	0.795 (0.283)	.332	2.814**		
<i>Couple's agreement [Men]</i>					
Engagement [Women]	-0.129 (0.317)	-.050	-0.408	1.645	> .10
Engagement [Men]	0.521 (0.313)	.206	1.663		
Communication [Women]	0.108 (0.527)	.025	0.205	0.325	> .10
Communication [Men]	0.279 (0.537)	.064	0.519		
<i>Partner's influence [Women]</i>					
Engagement [Women]	0.082 (0.577)	.018	0.143	2.227	> .10
Engagement [Men]	0.896 (0.571)	.196	1.569		
Communication [Women]	0.210 (0.976)	.027	0.215	0.028	> .10
Communication [Men]	-0.045 (0.937)	-.006	-0.048		
<i>Partner's influence [Men]</i>					
Engagement [Women]	-0.049 (0.498)	-.013	-0.099	0.015	> .10
Engagement [Men]	-0.024 (0.501)	-.006	-0.048		
Communication [Women]	-1.218 (0.817)	-.186	-1.491	1.118	> .10
Communication [Men]	0.834 (0.846)	.123	0.986		

\*  $p < .05$ , \*\*  $p < .01$