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Executive control of married and cohabiting couples

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ABSTRACT

Attention mechanisms of 125 couples were assessed to determine whether married and cohabiting couples differ in their levels of executive control. Executive control is the attention network that is responsible for resolving cognitive conflicts among competing responses. Of the 125 couples, 85 were married (48 after premarital cohabitation) and 40 were in cohabiting unions. Executive control was assessed with a cognitive task, the Attentional Network Task. The participants' task was to identify the direction of a central arrow that was surrounded by flanker arrows. As predicted, cohabiting couples exhibited stronger deficits in executive control than married ones, after controlling for demographic confounders. Moreover, similar differences in executive control were observed between the subsample of married couples who cohabited with their spouses prior to marriage and currently cohabiting couples. Taken together, our results reveal that cohabiting couples have more trouble responding to some stimuli while ignoring extraneous stimuli.

1. Introduction

In recent decades, the same tendencies have been observed in many parts of the Western world: decreases in marriage and increases in rates of nonmarital cohabitation (Trost, 2010). In parallel with these changes, a large literature debates whether marriage per se is associated with more psychological and relational benefits than cohabitation. Although there is no definite answer to this question, many studies, if not most, have shown that married individuals enjoy more psychological (Klausli & Owen, 2009) and physical health benefits (Musick & Bumpass, 2012) than their cohabiting counterparts. For instance, compared to people who were cohabiting, married individuals show higher levels of well-being (Soons & Kalmijn, 2009) and relationship happiness (Lee & Ono, 2012; but see e.g., Musick & Bumpass, 2012, for an exception). Married couples also express higher levels of commitment and their relationships are more enduring over time than cohabiting ones (Cabrera, Fagan, & Farrie, 2008). Cohabiting couples who marry also differ from those who remain cohabiting in terms of their relationship quality (Brown, 2004). Perhaps more important is that there is evidence that married mothers behave more positively towards their infants and remain more sensitive to their children's needs than cohabiting mothers (Aronson & Huston, 2004; Klausli & Owen, 2009). Adolescents in married families may also fare better than those in cohabiting families (Manning & Lamb, 2003).

Two mechanisms are invoked to explain these differences between married and cohabiting couples: social selection (Horn, Xu, Beam, Turkheimer, & Emery, 2013) and social causation (Willoughby, Carroll, & Busby, 2011). On the one hand, social selection posits that people who choose cohabitation differ from those who choose marriage, suggesting that characteristics that precede union formation are important determinants of family structure. On the other hand, social causation suggests that the fact of being married itself changes individual interpersonal competence and relational dynamics (Willoughby et al., 2011). It is likely that both mechanisms play a part in explaining differences between union types. However, although more and more sophisticated research has documented selection and causation factors of marital status, the benefits of marriage over cohabitation are not yet fully understood. Therefore, it is necessary to determine whether other factors should be considered in the explanation of marriage's advantages (Soons & Kalmijn, 2009).

Inspired by more than a decade of studies, which revealed that many topics of psychological science can benefit from including measures of attention (Posner & Rothbart, 2007), we investigated whether executive control, one key aspect of attention, differs between married and cohabiting couples and should be considered when explaining the benefits of marriage over cohabitation. More specifically, we compared married and cohabiting couples as well

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as couples who got married after a cohabitation period and cohabiting couples on their level of executive control using a purely cognitive task, the Attentional Network Task (ANT; Fan, McCandliss, Sommer, Raz, & Posner, 2002). Executive control is the attention network that is responsible for resolving cognitive conflicts among competing responses. A person with a low level of executive control has more trouble responding to some stimuli while ignoring extraneous stimuli (Levy, Beeney, Wasserman, & Clarkin, 2010; MacLeod et al., 2010; Posner & Rothbart, 2007). Executive control is also involved in the regulation of emotions and in self-control. We chose to investigate executive control of married and cohabiting couples based on the premise that greater executive control may be associated with positive relationship processes, which are more typical of marriage than cohabitation. Relevant empirical work that led us to postulate that people who are married (following premarital cohabitation or not) could differ from those who are cohabiting on their executive control network was subsequently considered.

First, over a decade of research has stressed the importance of self-regulation (or self-control) in close relationships (see Fitzsimons & Finkel, 2011, for a review). For instance, self-regulation processes have been linked to low intimate partner violence perpetration (Finkel, DeWall, Slotter, Oaten, & Foshee, 2009), to the ability of refraining from intruding one's partner's privacy (Buyukcan-Tetik, Finkenauer, Kuppens, & Vohs, 2013), and to the willingness to sacrifice in intimate relationships (Righetti, Finkenauer, & Finkel, 2013). Recent work has also demonstrated that executive control helps romantically involved individuals to stay faithful (Pronk, Karremans, & Wigboldus, 2011).

Second, since the inception of the ANT by Fan et al. (2002), many studies provided evidence for the presence of executive control deficits among adults with externalizing problems (i.e., impulsivity, aggressiveness, and unstable relationships; Levy et al., 2010; Posner et al., 2002). In parallel, research have shown that people with the above-mentioned externalizing problems are more frequently in cohabiting than in marital unions (Brown, 2004; Brown & Bulanda, 2008; Horn et al., 2013).

Given all this prior work documenting the importance of self-control in close relationships, the need for research on new variables that could explain the benefits of marriage over cohabitation, and the indirect evidence linking marital status and executive control, we hypothesized that, after controlling for demographic confounders:

Hypothesis 1: Cohabiting couples should demonstrate lower levels of executive control, compared to married couples.

We also contrasted married couples with a premarital cohabiting experience with those that were in cohabiting unions and this, to take into consideration that cohabitation has become part of the pathway toward marriage for younger generations (Manning, Longmore, & Giordano, 2007). This comparison takes into account that couples' marital status could have changed over time and allows us to examine whether differences in executive control can be observed despite this change. In light of results showing that cohabiting couples who marry have higher levels of relationship quality than those who remain cohabiting (Brown, 2004), we expect that, after controlling for demographic confounders:

Hypothesis 2: Married couples who cohabited prior to their marriage should demonstrate higher levels of executive control than their unmarried counterparts.

2. Methods

2.1. Participants

A sample composed of 250 Canadian adults coming from 125 couples participated in the study. To be eligible, couples had to be living in marital (68%) or cohabiting unions (32%). Among married couples, 56% experienced premarital cohabitation with their spouses, while 44% did not. Overall, partners had been living together an average of 17 years (SD = 16.21). The number of children varied from 0 to 7 (M = 1.72, SD = 1.33). Although the vast majority of couples were heterosexual, two were lesbian couples in cohabiting unions. It is worth noting that same-sex marriage is legal in Canada since 2005. Demographics are presented in Table 1 according to marital status.

2.2. Procedure

The protocol was first approved by the university research ethics board. Couples were randomly selected from the general population through random digit dialing in the 2012–2013 academic year. This procedure has the advantage of including unlisted numbers that would be missed with a phone book, such as cell phones. On the phone, we indicated that we were looking for married or cohabiting adult couples and asked if a couple was living in this home. If so, we asked to speak to one member of this couple to explain the research project. Interested couples came to our laboratory. Partners first consented and then answered questionnaires and performed the ANT. All couples received $25 in Canadian dollars (equivalent to $24–$26 USD in 2012–2013) as a financial compensation.

2.3. Materials

All participants completed the ANT (Fan et al., 2002), illustrated in Fig. 1, to assess the level of executive control. The participant's task was to identify the direction of a centrally presented arrow. The target arrow was surrounded by flanker arrows that pointed in the same direction (congruent condition), by flanker arrows that pointed in the opposite direction (incongruent condition), or by lines (neutral condition). In addition, the target arrow was preceded by one of the following cue conditions: no cue, a center cue, a double cue, and a spatial cue located at the location of the upcoming target. Each participant undertook 288 experimental trials, one fourth in each of the four cue conditions. Reaction times were cleaned by removing all trials for which the value was larger or smaller than three standard deviations of the participant's mean reaction time for accurate trials. In total, 1.1% of trials were removed. The executive control score was computed by subtracting the reaction time (for accurate trials only) in congruent trials from the reaction time in incongruent trials (Posner et al., 2002). Reliability and validity of executive control, as measured by the ANT, are adequate. Executive control was shown to be stable across time (MacLeod et al., 2010). In addition, MacLeod et al. (2010) analyzed data from 15 studies, resulting in a large sample of 1,129 healthy individuals, and concluded that split-half reliabilities of reaction time were moderate high for executive control. The measure of executive control was also able to distinguish between people with psychiatric disorders known to have deleterious effects on interpersonal relationships, such as borderline personality disorders, and comparison groups (Posner et al., 2002). Lower scores on executive control reflect more efficient executive control.

Participants also answered a demographic questionnaire that included, for instance, questions on their marital status (i.e., "Are you married with your current partner?"; if yes: "Did you live together before marriage?"). To further describe the groups, participants evaluated their level of satisfaction with their current relationship and their desire to continue this relationship using the 10-item marital satisfaction scale of the Dyadic Adjustment Scale (Spanier, 1976). The total score can range from 0 to 50, with higher scores reflecting higher levels of satisfaction (see Table 1 for results). In the current sample, α for the scale was .78.