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Quality of Romantic Relationships and Mortality Salience Predict Parenthood vs. Career-Oriented Intentions: A Terror Management Perspective

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Abstract

Drawing on Terror Management Theory (TMT; Greenberg et al., 1986; for reviews: Arrowood & Cox, 2020; Pyszczynski et al., 2015), this study examined how people living in a high-quality romantic relationships would react to reminders of their own mortality and increase their desire for offspring. Two hundred and twenty undergraduate students engaged in romantic relationships were first asked about the quality of their relationship, and then randomly assigned to one of two experimental conditions (mortality salience vs. dental pain). After completing a filler task, intended to activate distal terror management defenses, participants were asked about their desire for children, ideal time-lapse before having children, and relevance of professional vs. family goals (the dependent variables). Results showed that participants involved in high-quality relationships, if compared with their counterparts in low-quality relationships, when reminded of their mortality, manifested a stronger desire for children, were less intentioned to postpone parenting, and were also less ready to prioritize their professional career over having children. The above results suggest that people in high-quality relationships—i.e., people involved in secure, harmonious, and stable relationships—may rely on comparatively stronger intentions concerning parenthood as pertinent terror management defenses as a way of coping with their existential anxieties.

Keywords: Terror management, motivation, parental desire, life-planning, romantic relationships, professional career

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Introduction

Building stable romantic relationships and becoming parents are generally considered major life goals (Baumeister & Leary, 1995; Roberts & Robin, 2000), as they give meaning to our life, guarantee the survival of the species, and the transmission of our genes and memories to the following generations (Solomon, 2019)—and, thereby, also satisfy our existential needs (Greenberg et al., 1986). However, modern societies have recalibrated their priorities and placed so much importance on professional life, that primary existential needs are often overwhelmed (Polivanova, 2018). When, for instance, university students consider building a family vs. developing their professional career on the one side they typically aim at reaching a stable professional position and economic independence, on the other they realize that they are grown-up enough to start feeling pressure about building their own family. What factors, then, determine which desires and plans will be pursued—at least ideally—in such a situation? Grounded on terror management theory (Greenberg et al., 1986; for reviews: Arrowood & Cox, 2020; Pyszczynski et al., 2015), this research aimed at testing whether the quality of romantic relationships among university students, when combined with experimentally induced existential anxiety, may strengthen a preference for becoming parents vs. pursuing a professional career.

Types of Relationships and the Desire for Offspring

Parenthood has been extensively studied so far, and we nowadays know a wide range of factors that, typically, increase the desire for becoming parents. They range from so-called 'baby fever' to more stable personality characteristics (for a review, McAllister et al., 2016). In this respect, Adair (2013) highlighted the differential role of social pressure exerted on men and women on their fertility intentions. Social pressure about having children can in fact produce opposite effects on the desired time for offspring depending on gender, with women typically anticipating and men postponing the desired time for offspring. Social pressure can even enhance negative attitudes towards children in both males and females.

Fertility intentions are also associated with relationship status (i.e., type of relationship). For instance, the perception of a stable and supportive relationship (Wilson & Koo, 2006) and general positive feelings towards the romantic partner (Carter et al., 2013) both increase the desire for offspring. Additionally, being involved in a relationship, as compared to being single, enhances the visceral desire to have children, and also increases the number of desired children (Adair, 2013).

Taking a wider-scale perspective, it has been demonstrated that fertility intentions are also affected by strong economic and social uncertainty (Griskevicius et al., 2011; Nolin & Ziker, 2016), as well as by major historical events. For example, birth rates increased in Manhattan after the World Trade Center terrorist attacks (Ruther, 2010), and after the Oklahoma City bombings (Rodgers et al., 2005). In this respect, scholars (e.g., Rodgers et al., 2005) tend to think that terror management theory (Greenberg et al., 1986; see also Arrowood & Cox, 2020; Pyszczynski et al., 2015, for reviews) can explain such an increase, as people may have felt a strong need to have children right in response to existential threats.

Terror Management Theory (TMT)

Terror management theory (TMT) was proposed in 1986 by Greenberg et al. (1986; see Arrowood & Cox, 2020; Pyszczynski et al., 2015, for reviews), building on earlier suggestions by Becker (1973; 1975). The theory posits that humans are aware of their mortality and must find ways to attach value to both their social world and themselves to come to terms with that awareness (e.g., Solomon, 2019). More specifically, the theory proposes that people strive to preserve their self-esteem by being faithful to their culture's prescriptions (i.e., cultural norms and values; e.g. Rosenblatt et al., 1989), and that self-esteem is their main protection against existential anxiety from vulnerability and mortality feelings (e.g., Harmon-Jones et al., 1997). Importantly, parenting and romantic relationships, like culture and self-esteem, represent defenses against terror management, both acting as *distal* defenses since they are activated when death thoughts are outside of consciousness and, thus, let people deal with the threat (i.e., to manage their existential terror) in indirect and symbolic ways (Pyszczynski et al., 1999).

The gist of TMT is based on three chief tenets: 1) terror management defenses are activated when people are reminded of their mortality, 2) a booster for terror management defenses can reduce existential anxiety and defensive reactions, and 3) when terror management defenses are threatened, death thoughts accessibility increases, and defenses are activated. Concerning the first tenet, Rosenblatt et al. (1989) showed that mortality salience intensifies behaviors consistent with cultural beliefs, even in rational conditions such as those in which City Court judges assign sentences for a crime. Additionally, and as an instance of the second tenet, a seminal study by Harmon-Jones et al. (1997) showed that people with moderate self-esteem exhibit increased death thoughts accessibility and worldview defenses after a mortality salience manipulation, while those with high self-esteem do not. Finally, in support of the third principle, when individuals face people with different cultural worldviews, they may react with aggression or attempts to change their beliefs (Greenberg, 2012) to reaffirm the centrality and correctness of their own worldview and existential perspective.

The relationship between self-esteem and existential anxiety is pivotal in TMT and, as such, deserves some clarification. The theory posits that self-esteem acts as a *buffer* against existential anxiety caused by the awareness of mortality. People with high self-esteem would then be better at coping with reminders of their own mortality, while those with low self-esteem would be more vulnerable to existential anxiety. In other words, when individuals feel good about themselves (*high self-esteem*), they are less likely to be threatened by reminders of their own mortality. In contrast, when they feel uncomfortable (*low self-esteem*), they may also feel more vulnerable to the inevitability of their own mortality. A direct implication of this reasoning is that researchers should witness the strongest effects of mortality salience when people suffer from low self-esteem and, as such, are unprotected from existential anxiety – a finding observed

several times in research (e.g., Pyszczynski et al., 2015, for reviews; see also Sætrevik & Sjåstad, 2022, for a contrarian view, and Chatard et al. , 2020; Chen et al., 2022, for further reviews and diverging discussions).

TMT, Parenting and Romantic Relationships

Having children has several positive effects on humans' capacity to manage existential anxieties (Solomon, 2019). Through procreation, we approach both literal (i.e., through genes' transmission) and symbolic (i.e., through family name transmission) immortality. Further, offspring transmit our values and culture to future generations; also, in this respect, having children is positively valued by our societies (Solomon, 2019). Past research has shown that mortality salience increases the accessibility of offspring-related words (Fritsche et al., 2007), the importance attached to parenthood, and the vividness of parenthood-related thoughts (Yaakobi et al., 2014). Moreover, Yaakobi and colleagues (2014) also found that mortality salience increases death thoughts accessibility and worldview defenses (Fritsche et al., 2007), but only when parenthood thoughts are not salient. Not least, thinking about infertility crucially increases the accessibility of death thoughts (Yaakobi et al., 2014).

Establishing close relationships is another effective way of managing existential anxiety (Mikulincer et al., 2003). Self-esteem is fed by the appreciation of the loved ones, and being involved in romantic relationships is positively valued also by society. Further, immortality can be approached from different points of view, bringing to a widening of our sense of social connection and belongingness, including the internalization of relevant aspects of significant others (e.g., Aaron et al., 1992). We are aware that we will be remembered after our death, and this is partially due to the possibility of having children with our partner. Not least, again, we can give meaning to our lives through the very experience of romantic love. To be sure, research in terror management unmistakably points to the existential function of romantic relationships. Mortality salience, in fact, increases relationship commitment towards the partner but also leads to different worldview defenses when the romantic relationship is not salient (Florian et al., 2002). Further, the accessibility of death-related thoughts increases when people are asked to think about unsolved issues in their romantic relationship (Florian et al., 2002)—all signs of the importance of having secure and stable relationships when people are brought to face death-related thoughts.

Past research also informs us that, when activated simultaneously, romantic relationships and parenthood-based terror management defenses can conflict with each other. That is, the presence of one kind of defense typically reduces or cancels (i.e., inhibits) the presence of the other. In this respect, Yaakobi and colleagues (2014) found that mortality salience generally increases the desire for intimacy with the partner, but that clearly reduces such a desire when offspring thoughts are made salient. Hence, to manage existential anxiety, when parenthood defenses are active, it would seem unnecessary to enhance (also) the desire for intimacy. Further, and importantly, intimacy could divert energies from parenting tasks. Hoppe et al. (2018) found that thinking about a romantic relationship with children typically increases the accessibility of death-related thoughts, while imagining a romantic relationship without children typically reduces the defensive reactions brought about by mortality salience. Existential anxiety can thus be managed through romantic love, which can be reduced by the presence of children. Both the studies of Yaakobi and colleagues (2014), and Hoppe et al. (2018), highlight that close relationships and parenthood instantiate two terror management defenses that, however, conflict with each other. Which defense will then prevail, depends on the momentarily cognitive focus either on the 'romantic' or the 'reproductive' aspects of the relationship.

Finally, parenthood defenses can conflict also with other significant motivational drives such as —in the case of our research— the pressure to achieve high professional goals. Wisman et al. (2005) found that women who prioritized their professional careers over other activities responded to death-threat inductions by desiring *fewer* children than their unthreatened counterparts (i.e., by conforming to the unwritten social rule of hard-working people). This effect, however, disappeared for women who, before being exposed to the death-threat manipulation, were given the opportunity to read an excerpt about the full compatibility between having children and advancing, simultaneously, a professional career (i.e., a text proposing a different social norm as a conformity standard).

The Present Research

In sum, terror management theory (Greenberg et al., 1986) posits that human beings are generally motivated to protect themselves from awareness of death, that is from existential anxiety ensuing from death-related thoughts. This necessity influences both parenting (e.g., Fritsche et al., 2007) and strength of romantic desires (e.g., Florian et al., 2002), both seen as specific ways of coping with existential anxiety through specific terror management defenses. Further, relational conflicts can already be found in the interplay between romantic desires and parenting aspirations (e.g., Yaakobi et al., 2014), whereby parenting aspirations can also be affected by the presence of professional needs (e.g., Wisman et al., 2005). Besides this extended body of accumulated knowledge, however, research still needs to disentangle how feelings of existential anxiety, when interacting with the quality of one's romantic relationships, may jointly affect the choice to prioritize procreation vs. the strict pursuit of professional goals.

The present research aimed to deepen our understanding of the relationship between romantic relationships and parenthood defenses—specifically, their effects on both fertility and career-oriented intentions (Wisman & Goldenberg, 2005). We hypothesized that, when relationship quality is high, people assigned to a mortality salience (vs. dental pain) condition would increase their desire for offspring, because high-quality relationships may be regarded as firm and reassuring bases for nurturing offspring, and simultaneously decrease focus on competing career-oriented intentions. By contrast, when relationship quality is low, there is no reasons to

expect any specific relationship between death-related anxiety and people's desire for parenting vs. pursuing a professional career.

Importantly, previous research on romantic relationships highlighted the effects of social pressure on fertility intentions (Adair, 2013), and its specific relevance especially in a condition of mortality salience (Rosenblatt et al., 1989). Therefore, we decided to measure a) participants' perception of social pressure towards having children, and b) participants' fear of not having children, and use those measures as covariates in our research design, to hold them statistically constant across conditions. Finally, we decided to test, on purpose, a sample of university students to target exactly a certain and critical life period in their lives, a moment in which people typically start feeling both the ticking of the 'biological clock' and the pressure to orient themselves toward a professional career.

Finally, in this article, we will not focus, on purpose, – either empirically or conceptually – on variations in self-esteem, as in our experimental plan we assume self-esteem to remain constant among experimental conditions due to randomization. In so doing, we let (experimentally induced) existential threat interact 'only' with the (assessed) quality of romantic relationships to produce the predicted effects. Thereby, we are able to offer to the reader a far more conservative test of the effects of death threat in TMT – i.e., a test that does *not* harness the vulnerability of threatened, low self-esteem people to produce the intended effects of mortality salience on people's parenting intentions but, rather, builds on the sheer potential of mortality salience – here, in combination with high relationships' quality, of course – to affect parenting plans, desires, and intentions.

Methods

Participants, Design, and Procedure

To test our hypotheses, we recruited 220 Italian undergraduate university students (80% females; *Mage*=22.41; *SDage*=3.23; 18 to 39 years old). Being a university student, and being actively involved in a romantic relationship, were inclusion criteria, while having children was an exclusion criterion. In addition, we excluded people who either did not complete a substantial part of both the filler and dependent measures (see below), or who did not comply with the experimental manipulation. Participants were enrolled in a 2 (mortality salience vs. dental pain) x 2 (high vs. low perceived relationship quality) quasi-experimental design. Specifically, we first measured the perceived quality of the relationship, and then randomly assigned participants to one of two experimental conditions (mortality salience vs. dental pain). Participation in the study was voluntary.

The study was presented as an investigation of the Italian population's opinions about having children. Once participants gave their informed consent, they were required to fulfill an online questionnaire, which was spread within Italian universities through *Qualtrics* (Waddell et al., 2022). The first part of the questionnaire collected participants' demographic and background information (i.e., gender, age, university's degree program in which they were enrolled, and whether they were actually engaged in a romantic relationship). Then, we measured the amount of perceived social pressure about having children. Next, participants were asked about the perceived quality of their relationships; then they were exposed to the experimental manipulation, followed by some filler questionnaires to guarantee the temporal delay needed to increase the accessibility of death-related thoughts and, thereby, to activate *distal* defenses (Pyszczynski et al., 1999). Specifically, participants were asked to answer some bogus filler questions about an emotionally neutral literary excerpt drawn from the book *"Life of Pi"* (Martel, 2001). Then, they were asked to answer some questions about the quality of their sleep last night. These additional filler questions were adapted from the *Pittsburgh Sleep Quality Index* (Carpenter & Andrykowski, 1998). Lastly, we collected the dependent variables. At the end of the procedure, participants were carefully debriefed and thanked for their participation.

Mortality Salience Manipulation

To manipulate mortality salience, we used the Italian version of the *Mortality Attitudes Personality Survey* (Rosenblatt et al., 1989). In the mortality salience condition, participants answered two open questions: a) *"Describe sensations evoked by the thought of your own death"*; and b) *"Write what one thinks will happen while dying and after death*". To ensure that the effects of the manipulation were due to fear of death, and not to more general states of anxiety (e.g., general pain), in the control group we asked some typical questions about dental pain (i.e., a traditional control condition within TMT research– *'Please briefly describe how you would feel if you started to feel pain in your teeth while you were at the dentist*'; *'What physical sensations would you feel while you are undergoing dental work?*'). Participants' answers to all of the above questions were not considered for the analyses but were used to exclude participants who either did not answer at all, and thus did not comply with the experimental manipulation, or answered casually, i.e. without following the instructions.

Measures

Covariates: Social pressure and fear of not having children. We assessed participants' perceived social pressure about having children and participants' fear of not having children (i.e., the two variables we used as covariates in all models we estimated) with two items (i.e., '*In modern society, there is a pressure toward having children'; 'The idea of not having children scares me*'). Participants responded on a 9-point Likert-type scale ranging from 1 (*not at all*) to 9 (*very much*).

Relationship quality. We also assessed participants' perceived relationship quality with five items. Participants responded on a 9-point Likert-type scale ranging from 1 (*not at all*) to 9 (*very much*). More specifically, we measured participants' degree of commitment, satisfaction, stability, intimacy, and perceived support received from the partner (e.g., '*How much do you feel*

committed to your partner?'; 'How much do you feel supported by your partner?' etc.). Overall, this scale showed good internal consistency (Cronbach's α = 0.85).

Parental desire. We assessed participants' desire to have children with four items (e.g., '*How much do you desire having children in the future?'; 'Having children is very important to me*' etc.). Items were adapted from Yaakobi et al. (2014). Participants responded on a 9-point Likert-type scale ranging from 1 (*not at all*) to 9 (*very much*). Also in this case, the scale showed high internal consistency (Cronbach's α = 0.95).

'Perfect time' for having children. We measured in how many years participants desired to have children, if any, with a single item (*'Within how many years would you like to have children?'*)—this representing participants' perceived adequate time-lapse before having children. This item was adapted from Fritsche et al. (2007). Participants responded on a 9-point scale ranging from 1 (< *4 years*) to 9 (> *12 years*). This variable was named *'perfect time'* (for having children).

Family-career conflict. We assessed how much participants preferred to attain their professional goals, rather than having children, with four targeted questions (i.e., '*I feel I must reach my professional goals before having children'; If I could choose, I would prefer to focus on my career* rather than *on having children'*, etc.) Items were adapted from Wisman & Goldenberg (2005). Participants answered the above questions on 9-point Likert-type scales ranging from 1 (*completely disagree*) to 9 (*completely agree*). The scale showed good internal consistency (Cronbach's α = 0.80).

Results

Analytic strategy. To test the effect of the interaction between the experimental conditions (mortality salience vs. dental pain) and relationships' quality on (a) participants' parental desire, (b) estimated 'perfect time' for having children (i.e., here called ideal 'age' for having children), and (c) the preference for pursuing a successful career vs. building a family (i.e., here called 'family vs. career conflict'), we tested three distinct multiple regressions models with an SPSS version 27.0 (PROCESS MACRO V. 4.0; Model 1; Hayes, 2018), where we estimated bias-corrected confidence intervals with 5,000 bootstrap re-samples. Descriptive statistics for all the variables considered in our study are displayed in Table 1. Following the lead of Adair (2003) and Rosenblatt and colleagues (1989), we inserted both the 'pressure exerted by society on having children' and 'fear of not having children' variables, as covariates in all analytic models, to hold those variables statistically constant and thus control for their possible unintended influence.

Importantly, in agreement with the standards outlined by Wilkinson and the APA Task Force on Statistical Inference (1999), recently reminded and strongly advised also by Gendolla and Wright (2016), in an influential Editorial Comment given the directional, theory-driven nature of some of our a-priori pairwise (planned) comparisons, we added one-tailed focused *t-tests* to our hypotheses testing where appropriate and theoretically justified (Rosenthal and Rosnow 1985; see also Miron et al. 2008, p. 331, footnote 2, for practical instances in the same research area, and the complete rationale; Sciara & Pantaleo, 2018). For each moderation analysis, thus, the directional tests assessed respectively: a) the simple effects of mortality salience *within* high levels of relationship quality, with the explicit TMT-derived and *a priori* prediction of a significant association between mortality salience and each of the three dependent variables, such that the presence of mortality salience would bring people to favor parental and family-oriented over career-oriented choices, and b) the simple effects of relationship quality *within* high levels of mortality salience, again with the TMT-derived – thus *a priori* – explicit prediction of a significant association between increasing quality of the relationship and, again, each of our three dependent variables, such that people in high-quality relationships would prefer parental and family-oriented over career-oriented choice when threatened existentially (i.e., in the high mortality salience condition), as effective means to deal with the threat in all of the above instances. All other (theoretically irrelevant) significance tests were two-tailed.

Moderation Analyses

Parental desire. Analyses revealed neither an effect of the manipulation (p = .291), nor an effect of relationship satisfaction on participants' parental desire (p = .131). The effect of the interaction between the experimental manipulation of death and relationship satisfaction on parental desire neared statistical significance [b = 0.37, SE = 0.19, t = 1.89, p = 0.060, (95% C.I. = -0.01; 0.75)]. At a closer look, however, at high levels of relationship satisfaction (+ 1SD), parental desire was significantly and positively predicted by the experimental condition [b = 0.64, SE = 0.31, t = 2.06, p = 0.039, (95% C.I. = 0.03; 1.26)]. As shown in Figure 1, when relationship quality was high, mortality salience increased participants' parental desire. Further, when considering the theory-driven nature of this *a-priori* directional comparison – i.e., a comparison amounting exactly to the expected difference between the low vs. high mortality salience groups within the high quality of relationship condition – the *a-priori* directional *t-test* maintained full statistical significance, t = 2.06, p = 0.020 (*one-tailed*, directional test). By contrast, at low levels

Tab. 1. Descriptive statistics.

Group	SP1	SP2	SAT	DES	TIME	FAMvsPAR
Contr. (n=102)	5.34(2.43)	4.72(2.71)	7.78(1.14)	5.71(2.49)	4.97(2.71)	6.67(1.61)
Exp. (n=118)	5.66(2.12)	5.10(2.97)	7.92(1.11)	6.16(2.48)	4.69(2.52)	6.57(1.81)
Total (n=220)	5.51(2.27)	4.92(2.86)	7.86(1.13)	5.95(2.49)	4.82(2.60)	6.66(1.72)

Note. Standard deviations are displayed in parentheses. All variables were measured on a scale ranged from 1 (lowest score) to 9 (highest score). SP1=social pressure; SP2=fear of not having children; SAT=Relationship satisfaction; DES=Parental desire; TIME=desired time-lapse before having children ('perfect time'); FAMvsPAR=Family-career conflict.

of relationship satisfaction (- 1SD), there was no association between participants' parental desire and experimental conditions [b = - 0.18, SE = 0.31, t = -0.59, p = .555, (95% C.I. = -0.78; 0.42). To further illuminate our findings, we fully decomposed the two-way interaction between relationship satisfaction and mortality salience conditions, and added a test of the two simple effects between the low vs. high quality of the relationship groups within the high vs. low mortality salience conditions, respectively. Results showed that the effect of relationship satisfaction on participants desire for parenting was positive, and statistically significant [b = 0.31, SE = 0.13, t = 2.37, p = 0.018, (95% C.I. = 0.05; 0.57)], in the high mortality salience condition. Again, when considering the theory-driven nature of this *a-priori* directional comparison – i.e., a comparison amounting to the expected difference between the low vs. high quality of the relationship groups within the high mortality salience condition – the *a-priori* directional *t-test* maintained, of course, statistical significance, t = 2.37, p = 0.009 (*one-tailed*, directional test). By contrast, the effect of relationship satisfaction on participants desire for parenting was, as expected, non-significant [b = -0.04, SE = 0.14, t = -0.35, p = 0.724, (95% C.I. = - 0.32; 0.22)] in the control (i.e., low mortality salience) condition. Finally, as to the covariates 'perceived social pressure for having children' [b = -0.17, SE = 0.05, t = -3.46, p < 0.001, (95% C.I. = -0.26; -0.07)], and 'fear of *not* having children' [b = 0.65, SE = 0.04, t = 71.11, p < 0.001, (95% C.I. = 0.58; 0.73)] we used to estimate the model, they turned out to be both significantly associated with the strength of participants' parental desire – with social pressure lessening, and fear of *not* having children increasing, respectively, the intensity of parental desire. The covariance analysis, of course, statistically controlled for the effects of such variables in our conditions.

'Perfect time' for having children. Analyses revealed neither an effect of the manipulation (p = .650), nor an effect of relationship satisfaction on participants' estimated 'perfect time' for having children (p = .603). As hypothesized, we found a significant effect of the interaction between the manipulation and the relationship satisfaction on 'perfect time' for having children [b = -0.67, SE = 0.29, t = -2.33, p = 0.020, (95% C.I. = -1.24; -0.10)]. Specifically, and again as predicted, at high levels of relationship satisfaction (+ 1SD), 'perfect time' for having children was significantly and negatively predicted by the experimental condition [b = -0.90, SE = 0.46, t = -1.95, p = 0.045, (95% C.I. = -1.81; 0)]. More specifically, when considering, again, the theory-driven nature of this *a-priori* directional comparison – i.e., a comparison amounting exactly to the expected difference between the low vs. high mortality salience groups within the high quality of relationship condition – the *a-priori* directional *t-test* maintained, full statistical significance, t = -1.95, p = 0.020 (*one-tailed*, directional test). As shown in Figure 2, when the quality of the relationship was high, mortality salience lessened participants' estimated 'perfect time' lapse before having children. By contrast, at low levels of relationship satisfaction (- 1SD), there was no association between 'perfect time' for having children and the experimental conditions [b = 0.60, SE = 0.45, t = 1.33, p = 0.183, (95% C.I. = -0.28; 1.50)]. Again, we fully-decomposed the two-way interaction between relationship satisfaction and mortality salience conditions, and added a test of the two simple effects between the low vs. high quality of the relationship groups within the high vs. low mortality salience conditions, respectively. More in detail, results showed that the expected effect of relationship satisfaction on perfect time lapse before having children was negative and near to significance [b = - 0.38, SE = 0.19, t = -

Fig. 1. The interaction between experimental conditions (low vs. high mortality salience) and relationship satisfaction on strength of participants' parental desire. The higher the scores, the stronger the desire for offspring.

1.95, p = 0.052, (95% C.I. = - 0.77; 0.003)] in the mortality salience condition. But, again, when considering the theory-driven nature of this *a-priori* directional comparison – i.e., a comparison amounting to the expected difference between the low vs. high quality of the relationship groups within the high mortality salience condition – the *a-priori* directional *t-test* clearly attained full statistical significance, t = - 1.95, p = 0.026 (*one-tailed*, directional test). By contrast, the effect of relationship satisfaction on the ideal time lapse before having children was, as expected, non-significant [b = 0.28, SE = 0.20, t = 1.35, p = 0.175, (95% C.I. = - 0.12; 0.69)] in the control condition. With respect to the two covariates considered also in this model, perceived social pressure for having children was not significantly associated to 'perfect time' for having children (p = .808). By contrast, fear for *not* having children [b = -0.36, SE = 0.06, t = -6.33, p < 0.001, (95% C.I. = -0.47; -0.25)] was negatively associated with 'perfect time' for having children, so that such a specific fear significantly lessened the ideal time-lapse for having children. Again, the covariance analysis, of course, statistically controlled for the effects of such variables in our conditions.

Family-career conflict. Analyses revealed neither an effect of manipulation (p = .401) nor an effect of relationship satisfaction on participants' family-career conflict (p = .517). However, we found that the effect of the interaction between the manipulation and relationship satisfaction on family-career conflict approached significance [b = -0.34, SE = 0.18, t = -1.84, p = 0.066, (95% C.I. = -0.70; 0.02)] in a pattern of results entirely congruent with our hypothesis. As shown in Figure 3, at high levels of relationship satisfaction (+ 1SD), experimental conditions appeared related to family-career conflict [b = -0.56, SE = 0.29, t = -1.88, p = 0.061, (95% C.I. = -1.14; 0.03)], though this relation only approached statistical significance. Importantly, however, when considering the theory-driven nature of this *a-priori* directional comparison – i.e., a comparison amounting exactly to the expected difference between the low vs. high mortality salience groups within the high quality of relationship condition – the *a-priori* directional *t-test* reached conventional levels of statistical significance, t = -1.88, p = 0.031 (*one-tailed*, directional test). In other words, when the quality of the relationship was high, mortality salience lessened participants' desire to univocally pursue a professional career and increased participants' desire for building a family. By contrast, and again as predicted, at low levels of relationship satisfaction (- 1SD), there was no association between family-career conflict and experimental conditions [b = 0.20, SE = 0.29, t = 0.71, p = 0. .477, (95% C.I. = -0.36; 0.78)]. This latter result is not surprising because, in line with TMT, mortality salience is *not* expected to affect career-oriented intentions in such a low-quality condition, as the pursuing of career goals would hardly secure symbolic transcendence to threatened people in this condition and, thereby, would also hardly defend individuals against existential anxiety. To further illuminate our findings, we fully decomposed, again, the two-way interaction between relationship satisfaction and mortality salience conditions, and added a test of the two simple effects between the low vs. high quality of the relationship groups within the high vs. low mortality salience conditions, respectively. Results showed that the effect of relationship satisfaction on family-career-conflict was negative and non-significant [b = - 0.22, SE = 0.12, t = - 1.70, p = 0.089, (95% C.I. = - 0.46; 0.03)] in the high mortality salience condition. However, again, when considering the theory-driven nature of this latter *a-priori* directional comparison – i.e., a comparison amounting exactly to the expected difference between the low vs. high relationship quality groups within the high mortality salience condition –

Fig. 2. The interaction between experimental conditions (low vs. high mortality salience) and relationship satisfaction on participants' desired time-lapse (i.e., estimated 'perfect time') for having children. The higher the scores, the longer the subjective ideal time interval before having children.

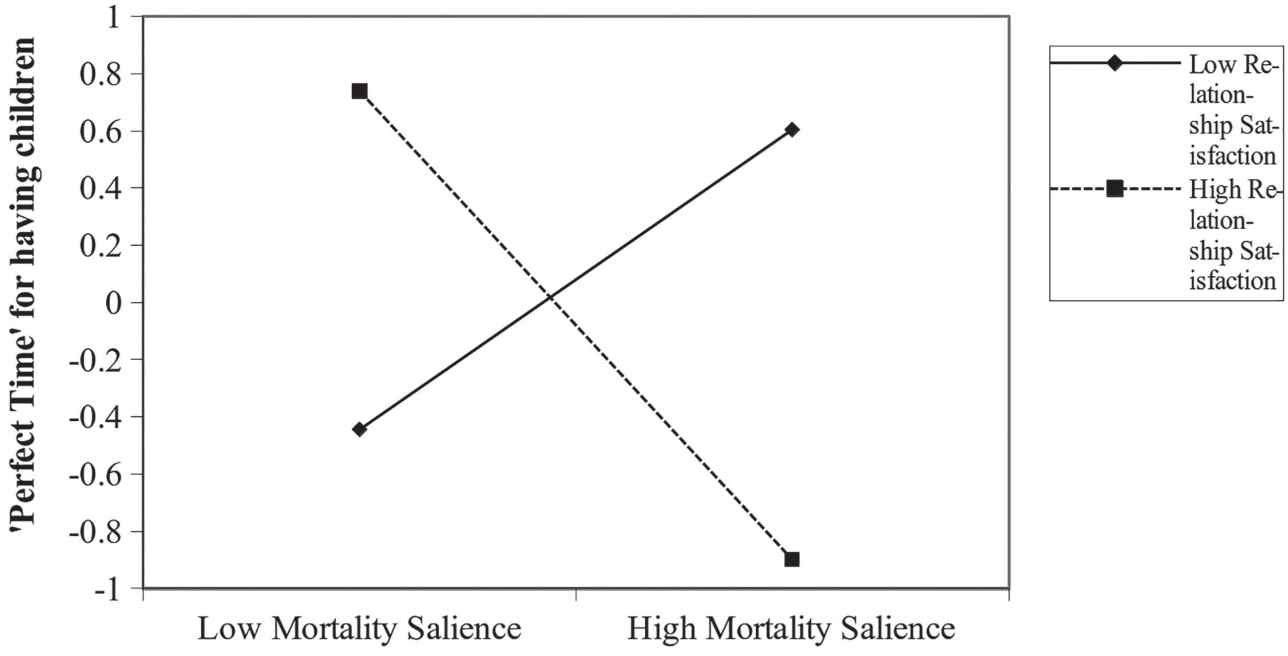
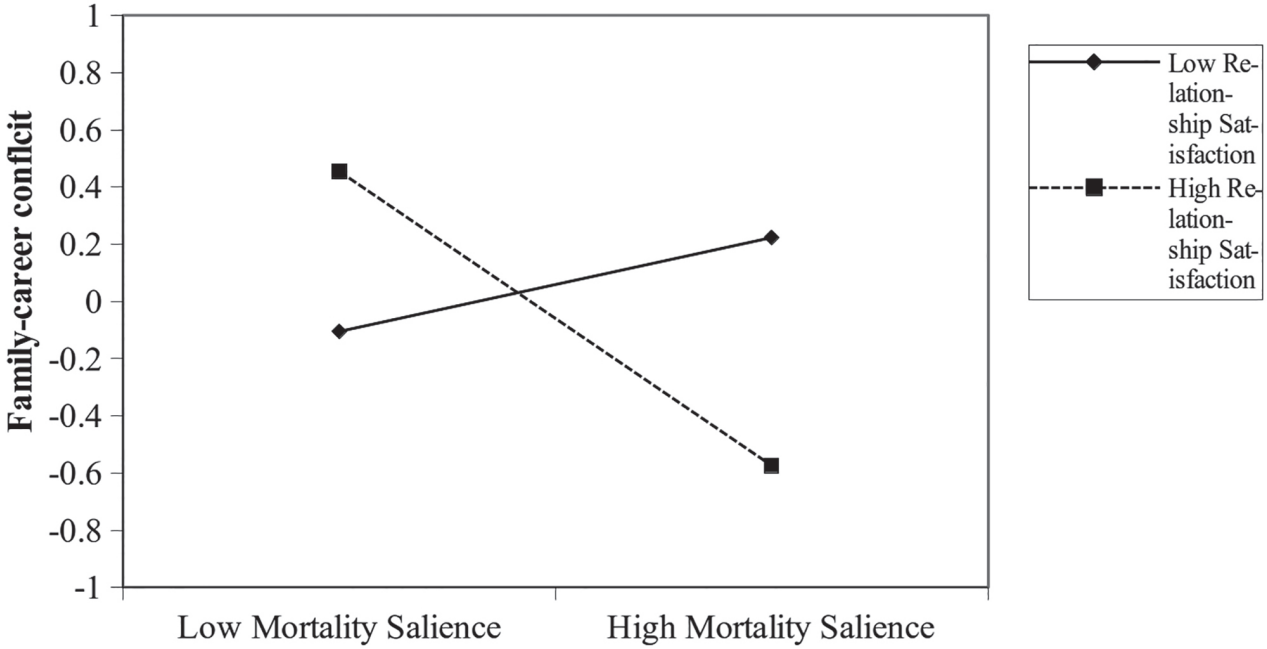


Fig. 3. The interaction between experimental conditions (low vs. high mortality salience) and relationship satisfaction on participants' preference for building a professional career vs. building a family (i.e., the family-career conflict). The higher the scores, the stronger the intention to prioritize career over family, and vice versa.



the *a-priori* directional *t-test* attained full statistical significance, t = -1.70, p = 0.045 (*one-tailed*, directional test). By contrast, the effect of relationship satisfaction on family-career-conflict was, as expected, non-significant [b = 0.12, SE = 0.13, t = 0.98, p = 0.359, (95% C.I. = - 0.14; 0.38)] in the control condition. Lastly, the two covariates 'perceived social pressure' toward having children [b = 0.20, SE = 0.45, t = 4.45, p < 0.001, (95% C.I. = 0.11; 0.29)], and 'fear of not having children' [b = -0.24, SE = 0.04, t = -6.62, p < 0.001, (95% C.I. = -0.31; -0.17)] used to estimate the model were both negatively associated with the degree of family-career conflict, whereby the higher the felt pressures/fears, the more participants tended to lean towards the 'family' extreme of the conflict. Also in this case, the covariance analysis statistically controlled for the effects of such variables in our experimental conditions.

Discussion

The present research intended to analyze the role of specific terror management defenses concerning romantic relationships and parenthood. Drawing on terror management theory (Greenberg et al., 1986; for reviews: Arrowood & Cox, 2020; Pyszczynski, Solomon, & Greenberg, 2015), we hypothesized that, when involved in high-quality relationships and reminded of their own mortality, people would have increased their desire for offspring, and lowered the strength of career-oriented intentions. By contrast, if living in low-quality romantic relationships, participants' desire for parenting, as opposed to pursuing specific career-oriented intentions, would have remained largely unaffected by reminders of mortality (mortality salience vs. dental pain). Results consistently confirmed the hypotheses. Separate moderation analyses showed that when the quality of the romantic relationship was perceived as high, mortality salience increased participants' parental desire, decreased the time-lapse of the 'perfect time' for having children, and, simultaneously, decreased people's desire to pursue a professional career over building a family. By contrast, when the quality of the relationship was perceived as low, we found no association between mortality salience manipulation and any of our three parenthood variables.

Considering the above findings, some comments and observations are in order. In most daily-life conditions (see, for instance, our control group condition), romantic relationships typically satisfy people's interpersonal and belonging needs. Being able to rely on the supposed safety of one's own high-quality romantic relationship, people can dedicate themselves to their self-actualization—for instance, by fitting social standards of 'professional success'. As with Maslow 's famous needs pyramid (Maslow, 1943), once people have satisfied their most basic needs, they may move to higher-order needs, and become more "evolutionarily selfish". But when casually reminded of their own mortality (cf. our mortality salience condition), people seriously need a source of symbolic immortality to be able to cope with existential fears. This would, in turn, bring individuals to rely on 'parenthood defenses' (i.e., a heightened desire for children; shortened desired time-lapse before having children; less consideration for professional over family ambitions) to manage their existential terror. But this can happen only when the quality of their romantic relationship is high, i.e. when their own romantic relationship can reassure them as a safe base in which they can ground a family—and, thereby, also resist existential terror. This not being the case—i.e., when living in a low-quality relationship—having

children could be considered too complex, and even add more hesitation to uncertainties already raised by mortality salience.

These results offer two additional insights. First, in both conditions (mortality salience vs. dental pain), romantic relationships might act as a *support system* for romantic partners. When people are reminded of their own mortality, the romantic relationship turns into a support system *for building a family*, thus promoting the immediate satisfaction of the *existential* needs tied to parenting through the promise of long-term symbolic/biological immortality. In a similar vein, when people are confronted with a threat of different nature (i.e., not with an *existential* threat), the romantic relationship seems to act correspondingly, i.e. still as a support system, this time by providing individuals with enough wellness and security *to pursue their professional goals* and self-realization, in the absence of overarching existential needs. Second, from a terror management perspective, parenthood (i.e., having children) and romantic relationship (i.e., preserving and harnessing the quality of the relationship) defenses do not need to be in conflict; rather they should be strictly interconnected and nourish each other.

Finally, the operational definitions of the dependent measures used in this study significantly add to those used in previous studies. So far, mortality salience effects have been measured by tapping into the perception of relationship commitment, the importance attached to parenthood, the vividness of parenthood imagery, the differential use of the worldview defenses, and the accessibility of death-related thoughts (e.g., Hoppe et al., 2018; Yaakobi et al., 2014). In the present study, we considered intentions towards more concrete life goals and life planning, which permit to overcome most of the above-mentioned automatic reactions. In so doing, we secured the secondary, however theoretically relevant aim of instigating and then combining apparently opposite defenses in the same research design.

Limits and Future Directions

Some limitations of the present study must be highlighted. First, the online procedure used in this research to manipulate death-related anxiety might have not been an optimal solution, as participants were, by definition, not in a controlled and equivalent/comparable environment. As a consequence, people could have well been distracted while answering the manipulation questions and/or the dependent variables. This, though instantiating a very conservative test of our hypotheses, might have in turn reduced the intended effects of the experimental manipulation. Indeed, analyses did not show the expected main effect of mortality salience—an effect found in previous research. Consonant to this, Sætrevik & Sjåstad (2022) also failed to replicate seminal mortality salience effects by implementing both online and offline experimental procedures (but see also Chatard et al. , 2020; and Chen et al., 2022, for diverging positions on failures to replicate TMT's findings). Moreover, despite our two interaction effects showed a significance level of $p = .06$, each statistical trend—and the general pattern of results obtained with our 3 dependent variables—was congruent with our initial hypotheses, as were all of the theory-driven *a priori* directional comparisons (see the analytic strategy in the Methods section, above).

Also, in our study the quality of romantic relationships was perceived as very high ($M = 7.86$; $SD = 1.13$), which might have biased somewhat our results. Again, a 'too high' overall perceived quality attached to romantic relationships in this study could have secured, again, an unintended highly conservative test of our hypotheses. Nevertheless, two different explanations can be offered in this respect. On the one hand, there might have been a social desirability effect; on the other hand, maybe participants excluded themselves from the sample if they considered their relationship not sufficiently satisfying or stable. In both cases, our sample would suffer from social desirability and self-selection bias. However, even in such adverse conditions, the experimental manipulation proved effective—in combination with the (generally high) quality of the romantic relationships—in producing the anticipated results.

Further, in this study, we did not include a measure of relationship duration—i.e., a measure that could have affected the association between fertility intentions and relationship quality. Probably, however, such information has been implicitly gathered while measuring of relationship stability, i.e., by information collected through one of the five items used to measure relationship satisfaction. Generally speaking, however, we should also consider that, since we explored two pivotal scopes in humans' life in our research (i.e., parenting and the pursuing of professional career), a very high number of possible intervening factors, and motivations, could have been profitably taken into account as well. As an example, *self-esteem* could have reasonably also played a role in motivating – or demotivating – people to pursue their career-oriented intentions, rather than acting merely as a 'buffer' against existential anxiety. A separate assessment of self-esteem, in this respect, would have been both desirable and informative.

In addition, with respect to parenting desire, one could reasonably hypothesize that people might furthermore aspire to build a family also in relation to *traditional beliefs* about the desirability of building a family in their own culture, or subcultures. A further important aspect that we could have profitably considered in this respect is represented by *stereotypical perceptions* of men and women. If men are seen as comparatively more 'agentic', and women as comparatively more 'relation-oriented' (Fiske et al., 2007; Hentschel et al., 2019), one could argue that males would generally be more disposed than women to give comparatively more weight to professional goals *vs.* their own family, and that the opposite would be true for women. Also, it could be that women, compared to men, were more (or less) satisfied with the relationship – a variable that would theoretically affect, on its own, the outcomes considered in this research. Control analyses run on gender differences in our study (see Footnote 1), however, seemed to exclude such (reasonable) possibility in this specific instance.

Yet, in line with the above reasoning, future research is encouraged to consider possible empirical intervening factors such as gender, stereotypical perceptions, differential motivations, etc.. Also, controlling for gender and gender-related differences in outcome variables, such as those used in our study, would be important in any case, since the issue of

offspring might be of particular relevance for work-family duties conciliation, especially in samples of emerging adults. Not least, however, we would at the same time like to note that, in our study, randomization – which we used to assign participants to either the experimental or the control group – should have guaranteed the comparability of all (experimental) conditions, thereby making (a weighty) use of covariates not strictly essential, nor desirable, from a methodological point of view.

Finally, our study recruited only people from Western cultures, where the overwhelming value of 'individualism' (vs. collectivism) might have somehow accentuated, in general, the observed tendency to prioritize individualistic professional careers over building a family (cf. Triandis & Gelfand, 2012). On the other hand, however, when mortality salience and the high quality of the romantic relationship combined, our experimental manipulation proved effective in producing a visible accentuation of family-oriented preferences over career choices, even in such an individualistic (i.e., career-favoring) Western environment. Again, an unintended limit of our research turned it into a more conservative test of our hypotheses.

Given the above limitations, future research could profit from (a) testing participants in more controlled (vs. *online*) conditions; (b) measuring relationship's duration directly instead of relying on relationship satisfaction as a proxy for relationship duration; and eventually also profit from (c) including participants from non-Western cultures (e.g., from Eastern-Asia) in which 'individualism' and related practices (e.g., strong career orientations) are not the main value.

Well beyond the above limitations, however, the present research has also practical implications. One of them applies, for instance, to terminal illness, where mortality salience is unfortunately glaringly present. In this respect, research data on terror management and close relationships hold the promise to ameliorate the development of new intervention lines such as, for instance, the *Life Tape Project* (LTP; e.g., Rosenbaum et al., 2006), a project heavily focused on close relationships in critical, death-related circumstances. Not least, broadly speaking, all of the above terror management considerations could be also used to direct social policies towards humanization and confer meaning to patients' lives—especially in such critical, apparently intractable conditions.

The *Life Tape Project* is just one example of the potential outreach of this research. It could in fact also have important implications for addressing the challenges of balancing work and family responsibilities, which can create conflict when the expectations of these two domains clash (Frone et al., 1992). We propose that, within a romantic relationship, pursuing a professional career can be seen as an individual goal, while building a family should be viewed as a shared goal between both partners. Our research suggests that relationship satisfaction is critical in responding to feelings of vulnerability by working towards a common objective, thereby avoiding consequences that could damage both the couple's members (Contu et al., 2023a; Contu et al., 2023b). When a couple pursues a shared goal, partners can pool their resources (Aron et al., 2003), which can free up energy to work towards individual goals, such as achieving professional success. In this way, it may be possible to align the energy devoted to family life with that devoted to individual pursuits, such as career advancement, thereby reconciling these two important aspects of life.

Note

[1] We re-run the three moderation analyses, while also including 'gender' as an additional dichotomous covariate. Results consistently showed that gender did not predict neither participants' parental desire (p = .18), nor the ideal time for having children (p = .07), nor participants' preferences for building a professional career over a family (p = .36).

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