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Dysfunctional Beliefs Towards Parenthood and Depressive Symptoms:
A Dyadic Response Surface Analysis (DRSA) Approach

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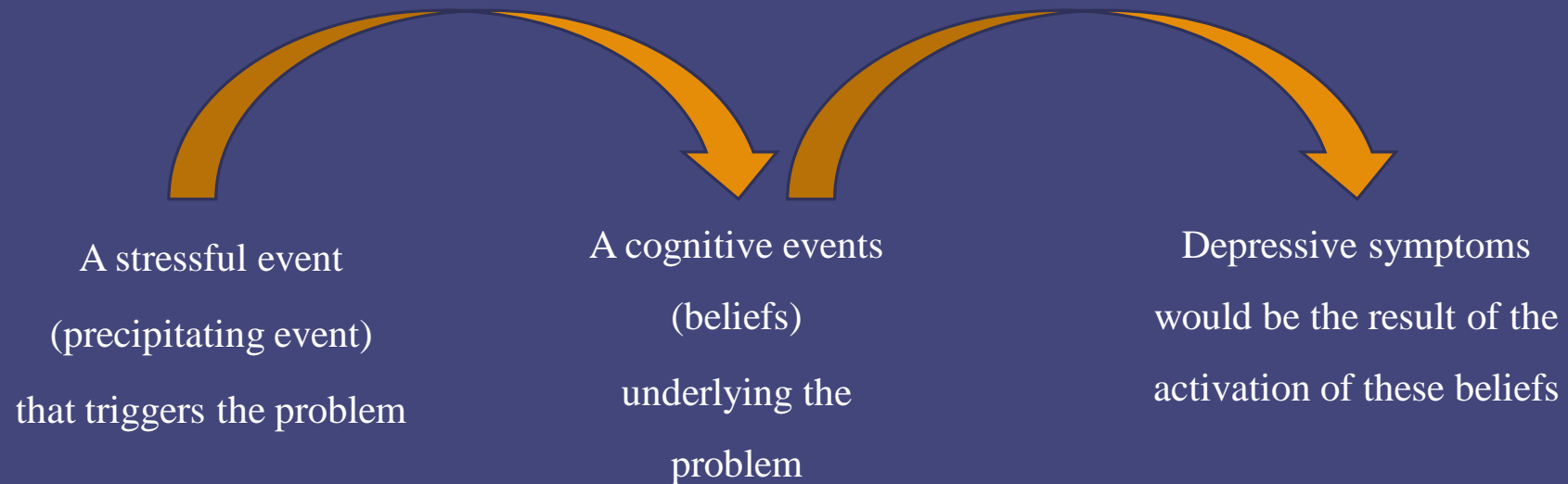
During the pregnancy period, future parents differ substantially in their psychological adjustment, with some parents being more at risk for depression than others (Brunton et al., 2015; Gugliandolo et al., 2021).
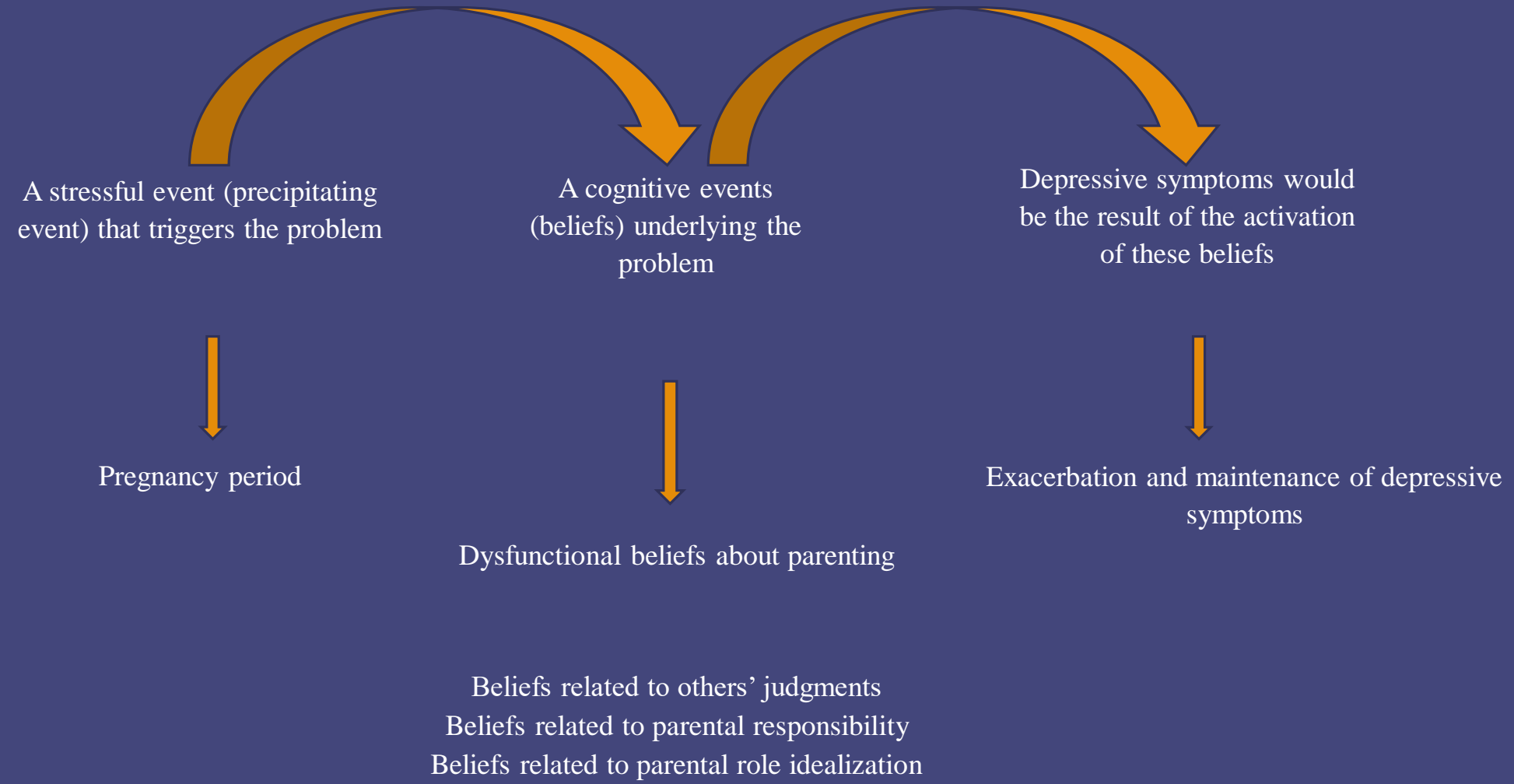
Pregnancy Period

■ Mothers ■ Fathers
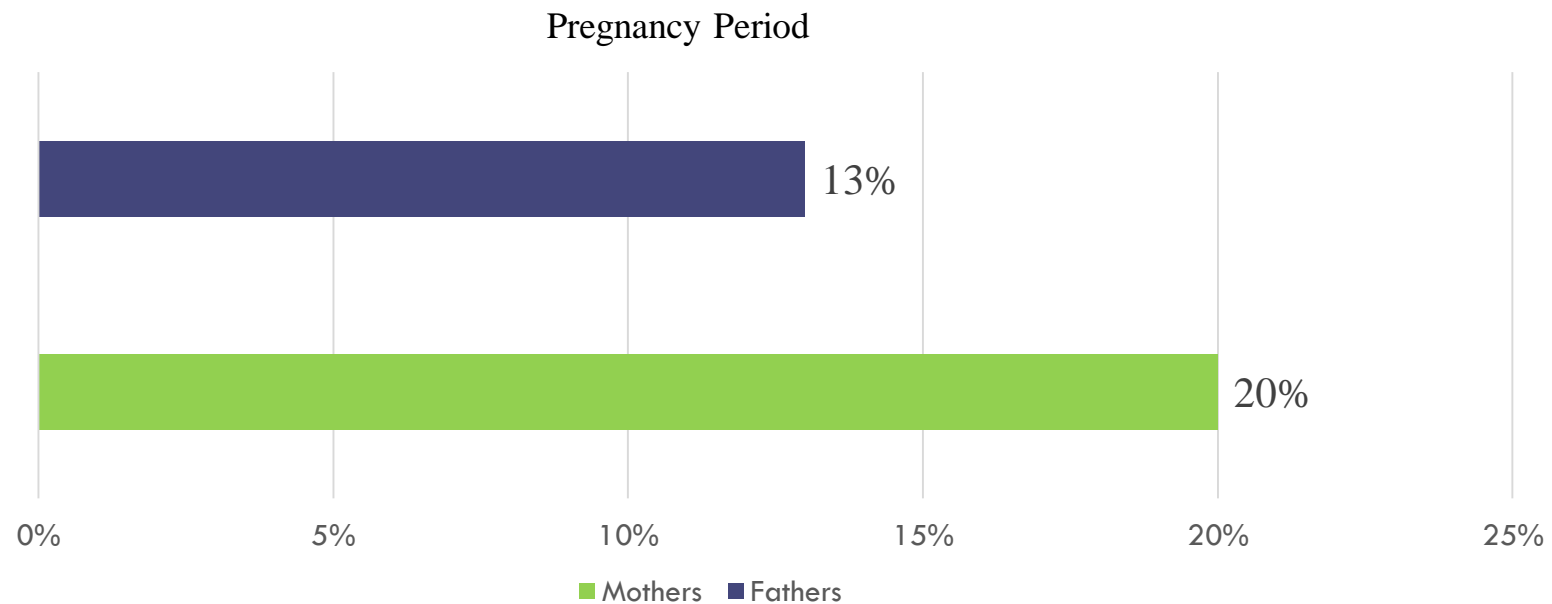
WHAT FACTORS PROTECT PARENTS AGAINST PSYCHOLOGICAL DISTRESS DURING PREGNANCY?

Beck's Cognitive Theory of Depression (Beck, 1987; Beck, 2002) proposes that specific cognitions – beliefs/dysfunctional attitudes– contribute to the development and maintenance of depression.

A stressful event (precipitating event) that triggers the problem

A cognitive events (beliefs) underlying the problem

Depressive symptoms would be the result of the activation of these beliefs

A stressful event (precipitating event) that triggers the problem

A cognitive events (beliefs) underlying the problem

Depressive symptoms would be the result of the activation of these beliefs

Pregnancy period

Dysfunctional beliefs about parenting

Exacerbation and maintenance of depressive symptoms

Beliefs related to others' judgments
Beliefs related to parental responsibility
Beliefs related to parental role idealization

GENERAL OBJECTIVE

As past research on the transition to parenthood typically drew upon single-informant data (mother), the present contribution aimed to focus on the adjustement of partners during pregnancy and examine whether congruence and incongruence in specific beliefs toward parenthood' versus mothers' and fathers' reports was predictive of parents' depressive symptoms

SPECIFIC OBJECTIVE

The present study sought to investigate to what extent the degree of (dis)similarity in specific beliefs about parenting (*i.e., others' judgments*, *parental responsibility*, *parental role idealization*) between partners may be associated with their levels of depression.

METHOD

Participants and Measures

170 couples of expecting mothers (age: M = 32.18, SD = 4.89) and fathers (age: M = 34.86, SD = 5.61), engaged in a stable relationship, filled out:

Attitudes Toward Motherhood/Fatherhood Scale
(**AtoM-F**; Sockol et al., 2014; 12 items)

- **Beliefs related to others' judgments** (e.g., If I make a mistake, people will think I am a bad mother/father)

- **Beliefs related to maternal/paternal responsibility** (e.g., I am the only person who can keep my baby safe)

- **Beliefs related to maternal/paternal role idealization** (e.g., It is wrong to feel disappointed by motherhood/fatherhood)

Center for Epidemiologic Studies Depression Scale
(**CES-D**; Radloff, 1991; 20 items; e.g., I thought my life had been a failure)

Cronbach's alpha	Mother	Father
Beliefs related to others' judgments	.83	.79
Beliefs related to parental responsibility	.71	.74
Beliefs related to parental role idealization	.66	.70
Depressive Symptoms	.80	.86

Plan of Analysis
Dyadic Response Surface Analysis
(DRSA; Barranti et al. 2017; Schönbrodt et al. 2018)

DRSA is a statistical approach to assess the factors:

→ actor

→ partner

→ congruence/incongruence between actor and partner

This process makes it possible to combine the:

Actor-Partner Interdepence Model (APIM)

+

Response Surface Analysis (RSA)

in order to test the (dis)similarity between two predictors and two outcomes within a dyad.

The APIM takes into two types of effects:
- the actor effects
- the partner effects

RSA is an approach that tests for (mis)match effects.

The DRSA produces 4 coefficients to answer the following four questions:

- ❖ coefficient **a1** shows whether matches at high values have different outcomes than matches at low values;

- ❖ coefficient **a2** indicates whether matches at extreme values have different outcomes than matches at less extreme values;

- ❖ coefficient **a3** indicates whether one mismatch (Actor > Partner) is better or worse than the other (Actor < Partner);

- ❖ coefficient **a4** indicates whether matches are better or worse than mismatches.
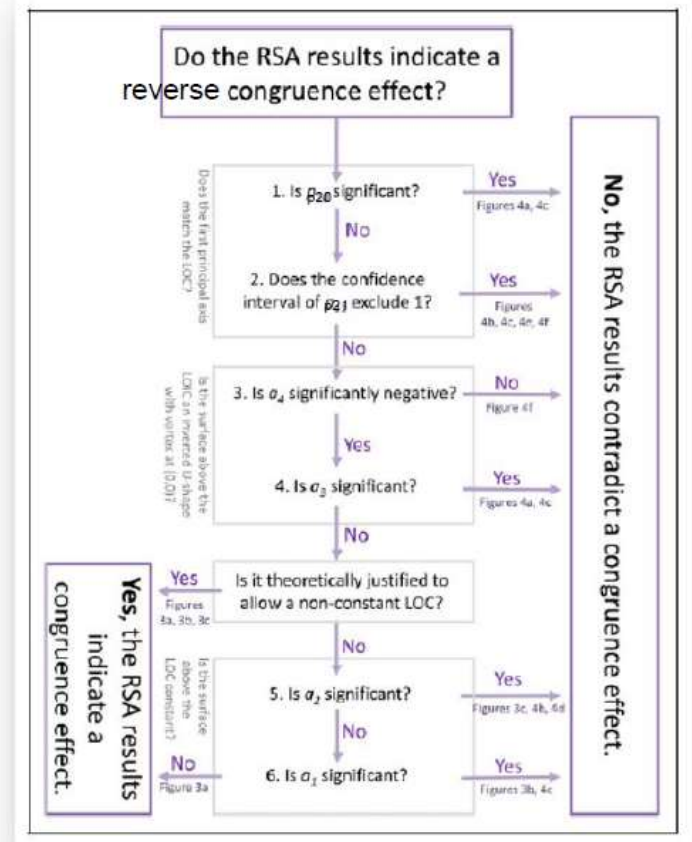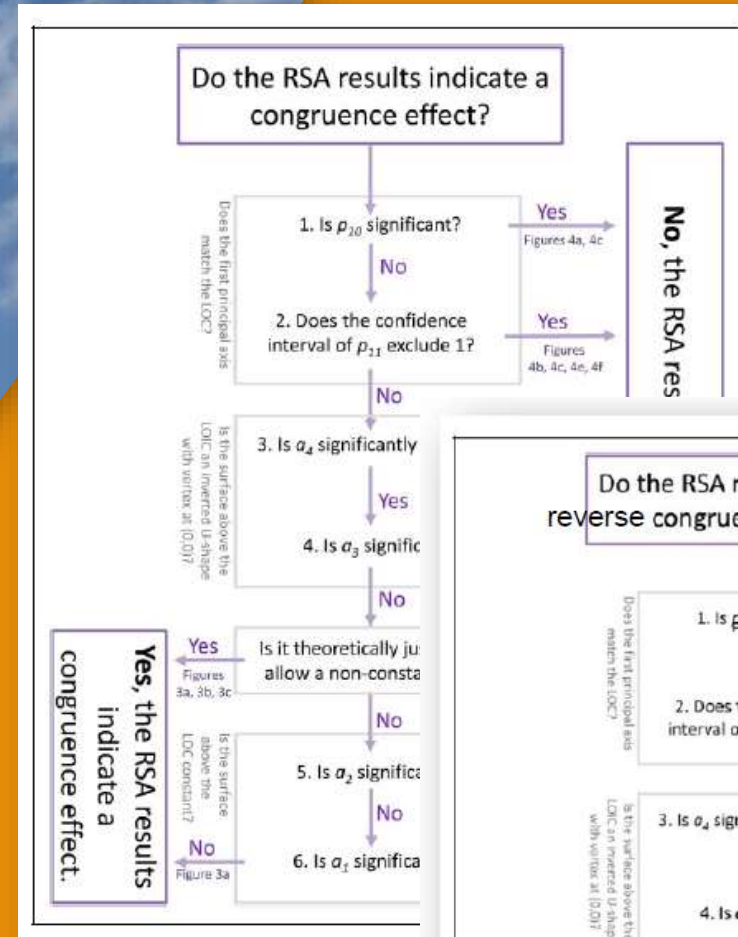
Results: Dyadic Response Surface Analysis (DRSA)

Table 5- Coefficients of the regression analysis

Table 6- parameters of Dyadic Response Surface Analysis

Regression	b	p	95%CI		β
			CI. Low	CI.Upp	
Maternal Beliefs related to others' judgments → Maternal Depressive Symptoms	.13	.00	.05	.22	.34
Paternal Beliefs related to others' judgments → Maternal Depressive Symptoms	.03	.58	-.07	.13	.07

Regression	b	p	95%CI		β
			CI. Low	CI.Upp	
Maternal Beliefs related to others' judgments → Paternal Depressive Symptoms	-.06	.20	-.17	.03	-.14
Paternal Beliefs related to others' judgments → Paternal Depressive Symptoms	.17	.01	.05	.30	.34

Predominant actor effect

Parameter	b	p	95%CI		β
			CI.Low	CI.Upp	
a1female	.16	.02	.03	.29	.42
a2female	-.02	.72	-.09	.08	-.01
a3female	.11	.12	-.04	.23	.28
a4female	.06	.46	-.11	.19	.21

Parameter	b	p	95%CI		β
			CI.Low	CI.Upp	
a1male	.10	.19	-.05	.26	.20
a2male	.05	.28	-.05	.14	.16
a3male	-.23	.01	-.42	-.07	-.49
a4male	-.03	.76	-.20	.14	-.05

Results: Dyadic Response Surface Analysis (DRSA)

Table 7- Coefficients of the regression analysis

Table 8- Parameters of Dyadic Response Surface Analysis

Regression	b	p	95%CI		β
			CI.Low	CI.Upp	
Beliefs related to Maternal Responsibility → Maternal Depressive Symptoms	.11	.00	.05	.16	.31
Beliefs related to Paternal responsibility → Maternal Depressive Symptoms	.00	.98	-.05	.06	.00

Regression	b	p	95%CI		β
			CI.Low	CI.Upp	
Beliefs related to Maternal Responsibility → Paternal Depressive Symptoms	.03	.46	-.05	.10	.07
Beliefs related to Paternal responsibility → Paternal Depressive Symptoms	.09	.01	.03	.15	.24

Actor effect

Parameter	b	p	95%CI		β
			CI.Low	CI.Upp	
a1female	.11	.00	.05	.17	.31
a2female	.04	.10	-.01	.08	.15
a3female	.11	.03	.01	.20	.31
a4female	-.08	.15	-.19	.02	-.30

Parameter	b	p	95%CI		β
			CI.Low	CI.Upp	
a1male	.11	.00	.04	.19	.30
a2male	.02	.65	-.04	.10	.00
a3male	-.06	.32	-.18	.05	-.17
a4male	-.11	.05	-.23	-.01	-.44

Congruence effect

Results: Dyadic Response Surface Analysis (DRSA)

Table 9- Coefficients of the regression analysis

Regression	b	p	95%CI		β
			CI. Low	CI.Upp	
Beliefs related to Maternal Role Idealization → Maternal Depressive Symptoms	.05	.15	-.02	.11.	.14
Beliefs related to Paternal Role Idealization → Maternal Depressive Symptoms	-.00	.96	-.05	.05	-.01

Regression	b	p	95%CI		β
			CI. Low	CI.Upp	
Beliefs related to Maternal Role Idealization → Paternal Depressive Symptoms	.05	.24	-.03	.13	.13
Beliefs related to Paternal Role Idealization → Paternal Depressive Symptoms	.02	.70	-.06	.09	.04

Table 10- Parameters of Dyadic Response Surface Analysis

Parameter	b	p	95%CI		β
			CI.Low	CI.Upp	
a1female	.04	.14	-.01	.11	.14
a2female	.01	.59	-.03	.07	.04
a3female	.05	.34	-.05	.14	.15
a4female	-.02	.72	-.10	.07	-.09
Parameter	**b**	*p*	95%CI		β
			CI.Low	CI.Upp	
a1male	.06	.07	.00	.14	.17
a2male	.02	.50	-.03	.08	.06
a3male	.03	.63	-.11	.17	.09
a4male	.02	.75	-.08	.20	.07

CONCLUSION

SPECIFIC
OBJECTIVE

→ The present study sought to investigate to what extent the degree of (dis)similarity in specific beliefs about parenting (i.e., others' judgments, parental responsibility, parental role idealization) between partners may be associated with their levels of depression.
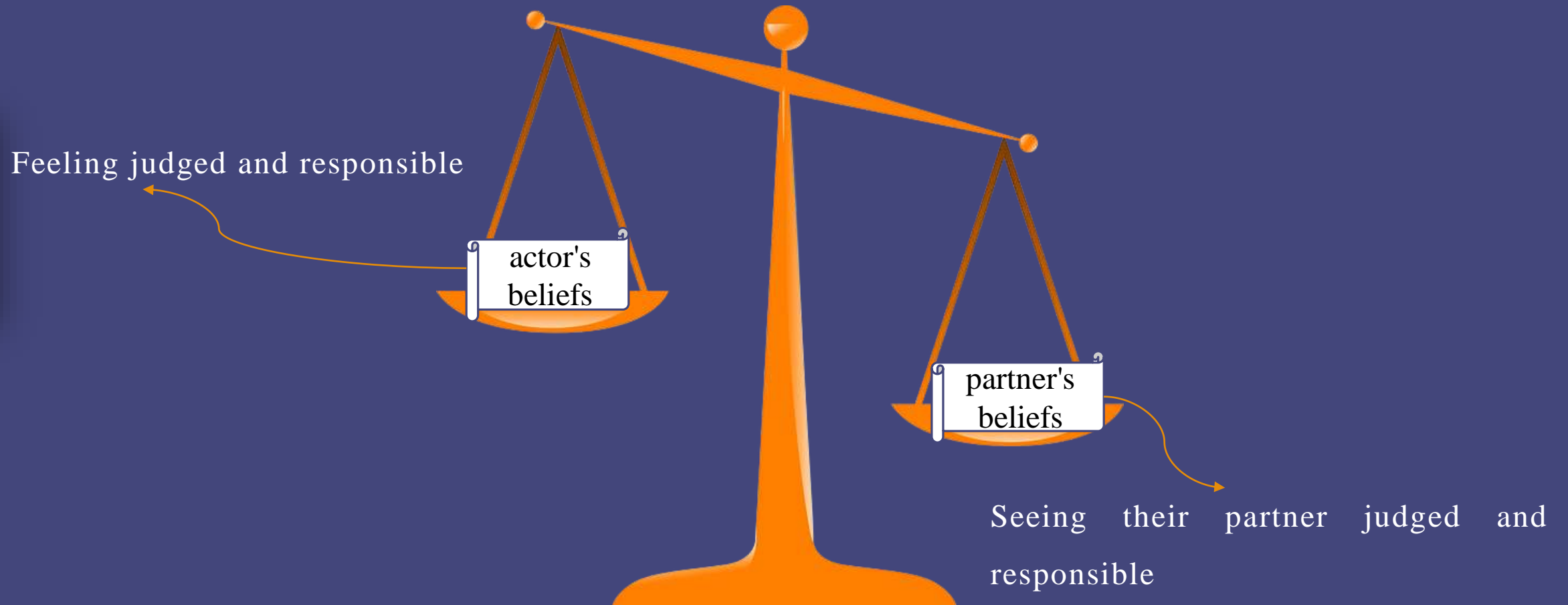
RESULT →

Predominant actor effect

For each partners, It is mainly the personal level of beliefs that is associated with depressive symptoms

CONCLUSION

RESULT ➡ **<u>Congruence effect</u>**

The congruence between Beliefs related to maternal and paternal responsibility is associated with paternal depressive symptoms.

Having to feel like a resource and support for mothers at all costs, especially when they aspire to high performance standards, can increase psychological distress in fathers

LIMITATION

1. First, the cross-sectional design of the study compromises the establishment of causal relationships among the study variables, although the relationships between these variables tested in the analyses were theoretically and empirically grounded. Future longitudinal research is necessary to establish whether these maladaptive beliefs precede the development of symptoms.

2. Second, our sample is composed of mostly highly educated and highly levels of perceived support, may compromise the representativeness of our results.

3. Third, data collection relied exclusively on self-report questionnaires to measure psychopathological symptoms and some of the associations obtained may be inflated due to reporter bias. It is important to combine self-reports with multi-informant measurements of depression and stress (including partner reports and clinical interviews).

4. Fourth, our samples is a non clinical samples. The investigation of the mechanisms highlighted in the present study should be replicated in a large clinical sample.
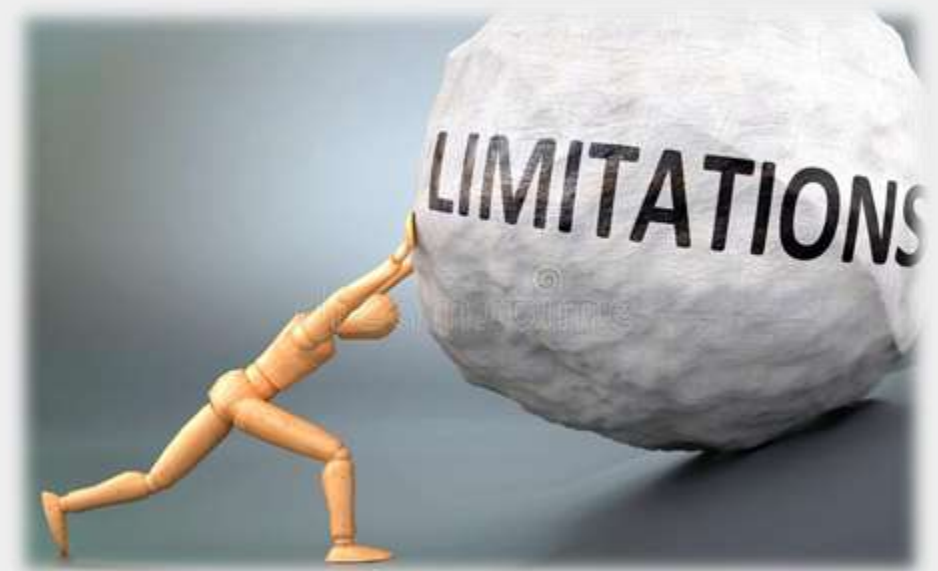
IMPLICATION

This study makes it possible to extend the sample not only to mothers, as this is more thoroughly covered in the literature, but also to include fathers, whose role in the transition to parenthood has increasingly been seen as marginal.

This study may yield new insights into the underlying mechanisms of depression experienced during pregnancy and the transition to parenthood, thus indicating the role of specific dysfunctional beliefs on expectant parents.

This study provides important keys for preventive and treatment approaches of prenatal mental health problems.

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