



Universidade do Minho
Escola de Psicologia

Luis Filipe Lopes Pinheiro

Father's parenting self-efficacy during the transition to parenthood

outubro de 2014



Universidade do Minho

Escola de Psicologia

Luis Filipe Lopes Pinheiro

Father's parenting self-efficacy during the transition to parenthood

Dissertação de Mestrado
Mestrado Integrado em Psicologia

Trabalho realizado sob a orientação da
Professora Doutora Bárbara Figueiredo

outubro de 2014

DECLARAÇÃO

Nome: Luis Filipe Lopes Pinheiro

Endereço electrónico: a54794@alunos.uminho.pt

Número do Cartão de Cidadão: 13745020

Título dissertação: Father's parenting self-efficacy during the transition to parenthood

Orientadora: Professora Doutora Bárbara Figueiredo

Ano de conclusão: 2014

Designação do Mestrado: Mestrado Integrado em Psicologia

É AUTORIZADA A REPRODUÇÃO INTEGRAL DESTA DISSERTAÇÃO APENAS PARA EFEITOS DE INVESTIGAÇÃO, MEDIANTE DECLARAÇÃO ESCRITA DO INTERESSADO, QUE A TAL SE COMPROMETE;

Universidade do Minho, 17/10/2014

Assinatura: _____

Index

Background	7
Method	10
Participants	10
Procedure	11
Measures	12
Data Analytic Strategy	13
Results	14
Discussion	19
References	21

Index for tables

Table 1. Sociodemographic characteristics of the sample.....	12
Table 2. Parenting Self-efficacy developmental path from 1st trimester to childbirth	15
Graphic 1. Parenting Self-efficacy developmental path from 1st trimester to childbirth	15
Table 3. Effects of individual (depression and anxiety) and social (partner`s relationship quality) variables at the 1st trimester on parenting self-efficacy	16
Graphic 2. Effects of anxiety at the 1st trimester on parenting self-efficacy	17
Table 4. Differences in parenting self-efficacy according fathers` (a) depression, (b) anxiety and (c) partner`s relationship quality at the 1st trimester of pregnancy	18
Table 5. Fathers` depression anxiety symptomatology, partner quality as a predictor of parenting self-efficacy .	19

Agradecimentos

Em primeiro lugar quero agradecer à minha orientadora, Professora Doutora Bárbara Figueiredo por toda a atenção e dedicação que me ajudaram bastante nestes primeiros passos no mundo da investigação. A professora é e será sempre um grande exemplo para mim, enquanto psicóloga, investigadora, professora e acima de tudo enquanto pessoa.

A todos os elementos do Family: Studies & Intervention research group por estarem sempre disponíveis durante este processo, destacando a Cláudia Dias pela motivação constante e a Catarina Canário pelo incansável apoio prestado.

Ao Tiago Pinto por ser um irmão para mim, pelos cinco anos que passamos juntos, e por este último ano de trabalho intensivo. Na esperança de muitos mais anos de trabalho em conjunto e amizade virem.

À Margarida Monteiro e à Rita Soares por terem estado sempre lá, nos melhores e piores momentos.

À Rita Nunes, Rita Ferreira, Margarida Carvalho e Joana Freitas por terem sido o meu abrigo durante todo este ano esperando que muitos mais venham.

À Mélanie Gonçalves, Rafael Araújo, Carlos Pires, Rui Coelho, Ana Silva, Filipa Gonçalves, Vânia Silva e Carla Santos por fazerem parte da família que levo para a vida.

À Celina Rodrigues e à Daniela Valente por me terem acompanhado em todo este processo.

E por último, um agradecimento muito especial aos meus pais e ao meu irmão que demonstraram sempre um apoio incondicional em todas as etapas da minha vida e sem eles nada disto seria possível.

Mestrado Integrado em Psicologia da Universidade do Minho
Área de Especialização de Psicologia clínica e da Saúde
Autoeficácia parental em pais-homens na transição para a Parentalidade

Luís Pinheiro
Bárbara Figueiredo

Resumo

Tanto quanto sabemos este é o primeiro estudo a examinar desenvolvimento da autoeficácia parental, no primeiro, terceiro trimestre de gravidez e no parto numa amostra constituída por pais primíparos (80 homens). Baseado na teoria social cognitiva do Bandura, a sintomatologia ansiosa depressiva e a qualidade do relacionamento com o parceiro são fatores chave para o desenvolvimento da autoeficácia parental, este estudo analisou as interações entre estas variáveis durante a transição para a parentalidade. A autoeficácia parental aumentou a partir do primeiro trimestre da gravidez até ao parto. A ansiedade parece ter um efeito marginal no desenvolvimento da autoeficácia parental. Pais deprimidos no primeiro trimestre apresentam níveis mais baixos de autoeficácia parental em relação aos pais não deprimidos. Em ultimo, altos níveis de sintomatologia depressiva no primeiro trimestre de gravidez predizem baixos níveis de autoeficácia parental na altura do parto. A qualidade do relacionamento com o parceiro não demonstra nenhuma interação com o desenvolvimento da autoeficácia parental desde o primeiro trimestre de gravidez até ao parto, nem com a autoeficácia parental em si durante este período. Estes achados têm implicações importantes para o desenvolvimento de novos programas de intervenção que irão ajudar os pais a atingirem uma transição para a Parentalidade mais adaptativa.

Keywords: Transição para a Parentalidade; autoeficácia parental; pais

Mestrado Integrado em Psicologia da Universidade do Minho
Área de Especialização de Psicologia clínica e da Saúde
Father's parenting self-efficacy during the transition to parenthood

Luís Pinheiro
Bárbara Figueiredo

Abstract

As much as we know this is the first study to examine the parenting self-efficacy developmental path on the first trimester, third trimester of pregnancy and childbirth on a samples composed by primiparous fathers (80 men fathers). Based on the Bandura social cognitive theory, anxiety and depressive symptomatology and the quality of the relationship with the partner are key factors on the development of parenting self-efficacy, this study examined the interactions between these variables during the transition to parenthood. The parenting self-efficacy increased from the first trimester of pregnancy to childbirth. First trimester anxiety seems to have a marginal effect on the developmental path of the parenting self-efficacy. Depressive fathers on the first trimester shown lower levels of parenting self-efficacy compering to non-depressive fathers. Finally, high levels of depression symptomatology on first trimester predict lower levels of parenting self-efficacy on childbirth. The quality of the relationship with partner don't seems to have any interaction with the developmental path of parenting self-efficacy from the first trimester to childbirth, nether with the self-efficacy itself during this period. Findings have important implications for the development of new interventional programs that will help father's to have a more adaptive transition to parenthood.

Keywords: transition to parenthood; parenting self-efficacy; fathers

Background

The transition to parenthood is presented as a period that spans the conceptualization of getting pregnant, the pregnancy and the early period of parenting itself. On a biological perspective the transition to parenthood is conceptualized from the moment of the fecundation to the birth moment, in contrast psychologically and socioculturally there are no prerequisites that the transition to parenthood be confined to this period (Cowan & Cowan, 2000).

A developmental transition consists in a long-term process that results in an internal and external behavior reorganization. It requires a modification about how the individual understands and feels about the self and the world and a reorganization of the individual's level of personal competence, relationships with others and role alterations. Like other transitions, the transition to parenthood can be normative or nonnormative. By a normative transition it is understood all that is expected and experienced by the vast majority of individuals and nonnormative by contrast refers to a transition that involved an unpredictable set of events. A normative transition involves solving a set of developmental tasks in order to achieve adequate parenting (Cowan & Hetherington, 1991).

Havighurst (1948) was the first author to use and popularize the term developmental tasks, by which he describes the tasks that arise at or near a certain time in the life of an individual. If a person succeeds it will lead them to happiness and success with later tasks, on the other hand failure will lead them to unhappiness at the individual level, and later difficulties facing new tasks.

The construction of a paternal identity is one of the main tasks in the transition to parenthood (Cowan, 1991; Cowan & Cowan, 2000). This task should be performed during pregnancy, in order to establish an appropriate parenting behavior towards the infant. Thus, a proper and concrete definition of this role minimizes the difficulties that can arise from the requirements of the infant's needs (Colman & Colman, 1994). Fathers start to develop their perception of their efficacy as fathers at least from the beginning of pregnancy (Cowan & Cowan, 2000). Several studies have shown that parenting self-efficacy has an important contribution to the competence of the fathers and consequently to the cognitive development of children (Jones & Prinz, 2005; Teti & Gelfand, 1991; Williams, Joy, Travis, Gotowiec, Blum-Steele, & Aiken, 1987).

Self-efficacy consists of the individual judgments about one's ability to perform a future action. Self-efficacy is not considered a stable personality trait; instead, it is an emergent process that can be modified (Bandura, 1989). Parenting self-efficacy is a derivation of self-efficacy.

Montigny and Lacharité (2005) defined parenting self-efficacy as beliefs that fathers have about their capacities to respond to a set of tasks related to parenting an infant.

The concept of self-efficacy was introduced by Bandura (1989), he illustrated what allow an individual to construct self-efficacy and identified four sources of information, the enactive mastery experiences, the vicarious experiences, verbal persuasion and psychological and affective states.

For the enactive mastery experiences he means the source of the information that regard to their capabilities and limits, in spite of, good experience reinforce the beliefs in one's personal efficacy, the failure will undermine it, if that occurs before the person developed a strong sense of efficacy (Gross, Conrad, Fogg, & Wothke, 1994; Froman & Owen, 1990).

The vicarious experience is presented to the individual as a benchmark to judge their ability to dominate a given situation. These situations, through comparing with the other behaviors, allow the transmission of competence. So, parent-training programmes interventions have been found to influence parents' perceptions of efficacy (Kendall, Bloomfield, Appleton, & Kitaoka, 2013; Sanders & Woolley, 2005; Sofronoff, & Farbotko, 2002).

Verbal persuasion can endure strong self-efficacy beliefs, Bandura (1997) shown that individuals who felt with high levels of supporting from their significant and partner tend to maintain and involve their beliefs about efficacy (Jones, & Prinz, 2005; Coleman, Karraker, 1998; Reece & Harkless 1998;).

At least, the alteration in psychological states can decreased the individual perception of self-efficacy (Kuhn & Carter, 2006; Jones & Prinz, 2005; Coleman & Karraker, 2000).

Some studies support bandura conceptual model on the domain of parenthood (Murdok, 2013; Wernand, Kunseler, Oosterman, Beekman, & Schuengel, 2014; Feeley & Grier, 2009).

Parents who feel more efficacious in their capabilities to execute parenting tasks tend to be more successful in the parenting role and fathers who reveal more competence in parenting tasks will perceived themselves as more capable (Brage, Hudson, Elek, & Fleck, 2001).

Reece and Harless (1998) shown that fathers parenting self-efficacy tend to increase during the transition to parenthood on a sample composed by 85 couples, but as much as we know there aren't others studies that analyzed parenting self-efficacy during the transition to parenthood in men.

Postnatal depression and anxiety was associated with lowers levels of parenting self-efficacy (Haslam, Pakenham, & Smith, 2006; O'Neil, Wilson, Shaw, & Dishion, 2009; Teti & Gelfand, 1991). Depressive or anxious mood states experience lower control over intrusive cognitions, witch lead them to have negative judgments about their ability to respond to the

parenthood needs. The available data on parenting self-efficacy during pregnancy are low and show inconsistent results. Porter and Hsu (2003) shown that depression and anxiety was negatively correlate with parenting self-efficacy on the last trimester of pregnancy using a 60 first time mothers. Zayas, Jankowski and McKee (2005) also found that depression symptoms during pregnancy were associated with low levels of parenting self-efficacy in a sample of two urban minority composed by 182 pregnant women. Wernand, Kunseler, Oosterman, Beekman, and Schuengel (2014) shown that higher levels of depressive symptoms as well as state anxiety symptoms were related to lower levels of parenting self-efficacy during the transition to parenthood on a sample composed by 533 first-time mother. However, Leerkes and Burney (2007) didn't find any association on a sample composed by 134 pregnant women.

The support of the partner seems to have an effect of parenting self-efficacy. Individuals who felt with high levels of supporting from their significant and partner tend to maintain and involve their beliefs about efficacy (Bandura, 1989). High levels of quality of martial relationship and social support tend to endure the parenting self-efficacy during the postpartum period (Jones, & Prinz, 2005; Coleman, Karraker, 1998; Sevigny & Loutzenhiser, 2010). In spite of no study were found that analyses the effect of partner support on parenting-self efficacy during the transition to parenthood (e.g., Belsky & Rovine, 1990; Cowan & Cowan, 1992; Doss, Rhoades, Stanley, & Markman, 2009).

As much as we now, few studies had tested the bandura social cognitive theory during the transition to parenthood. This is one of the innovative aspect of this study. Several study shown the importance of psychological states (e.g. Figueiredo, & Conde, 2011; Figueiredo, Conde, Pacheco, & Costa, 2009 Boyce, Condon, Barton, & Corkindale, 2007) and the quality of relation with partner (e.g. Belsky & Rovine, 1990; Cowan & Cowan, 2000; Doss, Rhoades, Stanley, & Markman, 2009) as important variables during this period. Based on the bandura theory, this same variables have an important role on the development the parenting self-efficacy. In this way, this study tried to analyze the relation between the psychological states (anxiety and depression symptomatology) and social or verbal support (quality of the relation with partner) on parenting self-efficacy from the first trimester of pregnancy to childbirth.

This study presents an innovative aspect that is related to the fact that the sample is composed only by men, evaluated during the transition to parenthood, which helps to realize the developmental path of the parenting self-efficacy from the first trimester of pregnancy to the childbirth.

The first aim of the present study is to analyze the fathers' parenting self-efficacy development path during the transition to parenthood (first trimester, third trimester,

Childbirth). The second aim is to explore the effects of individual (depression and anxiety) and social (partner's relationship quality predictors of parenting self-efficacy development path during this period in fathers. Third aim is to study differences in parenting self-efficacy according to fathers' depression anxiety and partner's relationship quality at the first trimester of pregnancy. The last aim of this study is to study fathers' depression anxiety symptomatology and partner's relationship quality as predictor of the parenting self-efficacy on childbirth. As we expected that the process of development of parenting self-efficacy during the transition to parenthood is similar on mothers and father we hypothesize (1) that are changes in the parenting self-efficacy development path from the first trimester to childbirth (2) depressive, anxiety symptomatology and partner negative and positive relationship in the first trimester have an effect on the development of parenting self-efficacy in the transition to parenthood (3) there are significant differences in parenting self-efficacy according to fathers' (a) depression, (b) anxiety and (c) partner's relationship quality at the first trimester of pregnancy (4) that depression anxious symptomatology and partner's relationship quality at first trimester of pregnancy are predictor of parenting self-efficacy on childbirth.

Method

Participants

The sample of 80 primiparous fathers recruited at the first trimester of pregnancy in two Health Services (one public and one private) in Portugal. From the eighty participants, 51.25% (N= 41) completed all three assessments and was considered in study analysis. Participation in the study involved the following criteria for inclusion (a) know how to read and write in Portuguese, (b) resident in Portugal more than 10 years, (c) primiparous father, (d) single gestation and (e) pregnancies without gestational problems.

The great majority of the participants were Portuguese (97.5%), Caucasian (88.8%) and Catholic (88.8%). More than half of the participants were aged between 30 and 39 years old (mean= 31.26; SD= 4.14), were employed in manual (qualified or not qualified) jobs, for more than 6 years (50.8%); were married or cohabiting (91.2%), and living with the partner without any other family members in the household (76.2%) (see Table 1).

Procedure

This research was conducted in accordance with the Helsinki Declaration and received previous approval from the University of Minho Ethical Commission. Participants were randomly recruited, between October 2013 and April 2014, after the first ultrasound (between 8 and 14 weeks). This recruitment occurred in two distinct ways: (a) presently, recruited by researchers in the obstetrics outpatient service waiting room and; (b) indirectly, recruited through the partner's phone contact, also collected by researchers in the same outpatient service waiting room.

The aims and the procedures of the study were explained, 90% of those fathers contacted agreed to participate and 80% signed an online informed consent form. The present study was a prospective design with three online assessments: (1) 1st trimester of pregnancy (between 8 and 14 weeks of gestation), (2) 3rd trimester of pregnancy (between 28 and 32 weeks of gestation), and (3) childbirth (between 2-and 0 days postpartum).

All the three assessments times were performed online: (1) the first assessment time was performed after the first ultrasound, through the following measures - (a) the Socio-demographic Questionnaire (SDQ; Figueiredo, Teixeira, Count, Pinto, & Sarmiento, 2009); (b) Karitane parenting confidence scale (KPCS; Črnčec, Barnett & Matthey, 2008); (c) the State Anxiety Inventory (STAI- S; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983); (d) the Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987); and (e) the Relationship Questionnaire (RQ; Figueiredo et al., 2008.); (2) the second assessment time was performed in the end of the second trimester of pregnancy (28 to 32 weeks of gestation) with the following measures – (a) the KPCS; (b) the STAI-S; (c) EPDS; and (d) the RQ; (3) finally, the third assessment time was performed on child-birth (between 2-and 0 days postpartum) , with the following measures – (a) SDQ (short version); (b) the KPCS; (c) the STAI-S; (d) EPDS; and (e) the RQ.

Table 1

Sociodemographic characteristics of the sample.

		N= 80
Characteristic		%
Age (years)	20-29	31.3
	30-39	66.2
	≥ 40	2.5
Socio-economic level	High	27.5
	Medium high	11.3
	Medium	23.8
	Medium low	16.3
	Low	5
Professional status	Employed	87.5
	Unemployed	10
	Household or student	2.5
Education (in years)	< 9	8.8
	[9-12]	55
	> 12	36.2
Matrimonial status	Married	67.5
	Cohabitation	23.7
	Single	8.8
Household	Partner	76.2
	Partner and partner's children	2.5
	Partner and family	12.5
	Family (only)	8.8

Measures

Relationship Questionnaire. The Relationship Questionnaire (RQ; Figueiredo et al., 2008) is comprised of 12 items on a 4-point Likert scale. The questionnaire was designed to assess both positive and negative aspects of the partner relationship: (1) positive dimensions, as assessed by the positive relationship subscale, include a sense of support and care, as well as affection, closeness and joint interests and activities; and (2) negative dimensions, as assessed by the negative relationship subscale, include anxiety, irritability and criticisms that have been associated with undesirable outcomes. A higher score on the positive relationship subscale

means that these positive relationship aspects are more present, as well as having a higher score in the negative relationship subscale means that these negative relationship aspects are more present in the partner relationship. Also, higher the RQ total score better the partner relationship, as assessed by the participant. The questionnaire showed a good internal consistency (with a Cronbach's $\alpha = 0.79$ for the total scale; 0.90 for the positive subscale; and 0.72 for the negative subscale) and test-retest reliability ($r = 0.74$ for the total scale).

State Anxiety Inventory. State Anxiety Inventory (STAI-S) consists of a twenty item self-report scale for measuring the temporary condition of "state anxiety" (anxiety in a specific situation) (STAI-S; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Several studies have been using this instrument during pregnancy with men (e.g., Figueiredo & Conde, 2011; Figueiredo et al., 2008). The Portuguese version of STAI – S has shown good internal consistence - Trait and State Cronbach's $\alpha = .88$ (Biaggio, Natalicio, & Spielberger, 1976). Recently, Tendais, Costa, Conde and Figueiredo (2014) found excellent internal consistency for STAI-S in pregnancy and postpartum (Cronbach's $\alpha = .92$, respectively) and advise different optimal cut-offs for pregnancy (STAI-S = 40).

Edinburgh Postnatal Depression Scale. The Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987) is a self-report questionnaire composed of 10 items scored on a 4 point Likert scale (0–3), designed to assess postpartum depression. This scale addresses the intensity of depressive symptoms within the previous seven days and has been used in several studies with men during pregnancy (e.g., Figueiredo & Conde, 2011; Parfitt & Ayers, 2014; Teixeira, Figueiredo, Conde, Pacheco, & Costa, 2009). EPDS Portuguese version showed good internal consistency for pregnancy and postpartum (Cronbach's $\alpha = .82$ and $.88$) and the optimal cut-off score was 9 for pregnancy (Tendais et al., 2014).

Karitane parenting confidence scale. The Karitane parenting confidence scale (KPCS; Črnčec, Barnett & Matthey, 2008), is a self-report questionnaire composed by 15 items scores on a 4 point Likert scale (0-3) design to assess to parenting Self-efficacy. Karitane Portuguese version show a good internal consistency along the transition to parenthood (Cronbach's $\alpha = .853$)

Sociodemographic Questionnaire. This questionnaire (SDQ) is an adaptation for fathers of the questionnaire proposed by Figueiredo, Teixeira, Conde, Pinto and Sarmiento (2009), comprising 72-open questions concerning (a) the social and demographic situation and (b) the fathers' medical and psychological health conditions. The questions refers to (a) the fathers' social and demographic conditions (age, birth, ethnicity, religion, employment status, education level, etc.) as well as (b) to marital relationship and household (marital status, household

composition, etc.), (c) social and emotional support (confidants, contacts with partner and family), (d) partner's current pregnancy (parity, pregnancy planning, pregnancy type, health status, consumption of substances, etc.), (e) partner's gynecologic and obstetric history (number of pregnancies, abortions, fertility treatment, etc.), (f) father's medical and psychological history (prior psychiatric hospitalizations, treatments and appointments (specialized or not) or physical problems, etc.) and (g) father's developmental history (parental figures, children in the family, parents separation or divorce in childhood, etc.).

Data Analytic Strategy

ANOVA general linear model repeated measures were used in order to study the developmental path of the parenting self-efficacy from the early pregnancy (1st trimester) to childbirth. To analyze the effects of individual (depression and anxiety) and social (partner's relationship quality) dimensions on parenting self-efficacy path in fathers an ANOVA general linear model repeated measures were realized. To realize this analyses we used the Relationship quality, Anxiety and depression cut-offs to create two groups for each variable. Independent T-Testes were used to study the differences in parenting self-efficacy according to fathers' (a) depression, (b) anxiety and (c) partner's relationship quality at the 1st trimester of pregnancy

To study fathers' depression anxiety symptomatology and (c) partner's relationship quality at the first trimester of pregnancy as predictors of parent self-efficacy at childbirth we used a multiple linear regression (stepwise method).

Results

(1) Fathers' parenting self-efficacy development path during the transition to parenthood (first trimester, third trimester, Childbirth). Repeated measures ANOVA revealed significant changes in the perception of parenting self-efficacy from pregnancy and childbirth [$F(2,80)= 27,39$, $p <.001$]. (see Table 2)

Table 2.

Parenting Self-efficacy developmental path from 1st trimester to childbirth

Variable	1 st trimester		3 rd trimester		Childbirth		F	Df
	M	SD	M	SD	M	SD		
Parenting self-efficacy	34.68	4.40	37.56	4.57	39.29	4.49	27,39**	2.80

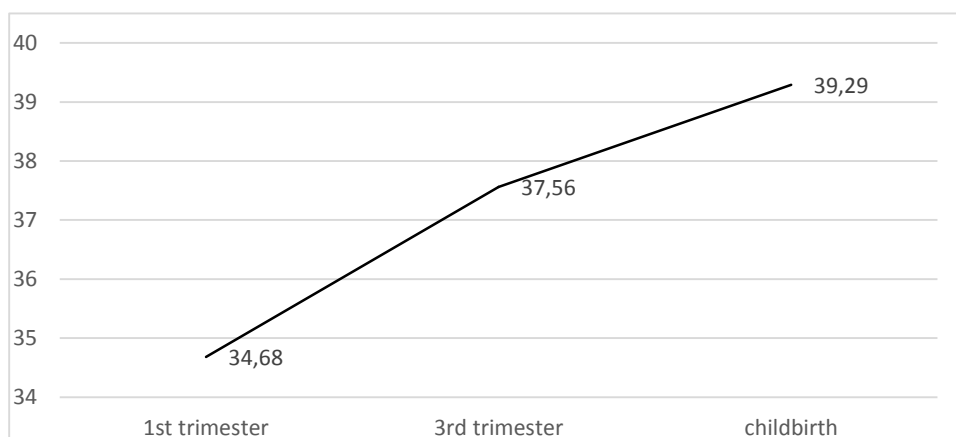
Notes. M = Mean; SD = State Deviation

** p < .001

Pairwise comparisons shown a significant increase in parenting self-efficacy values between (a) the 1st trimester and the 3th trimester (p < .05) (b) between the 3rd trimester and childbirth (p < .05) and (c) between the 1st trimester and childbirth (p < .05). (see Graphic 1)

Graphic 1.

Parenting Self-efficacy developmental path from 1st trimester to childbirth



(2) Effect of individual (depression and anxiety) and social partner's relationship quality predictors of parenting self-efficacy development path during this period in fathers.

Repeated measures ANOVA revealed a marginal effect of first trimester anxiety [F(2,78)= 2.83, p =.065] on parenting self-efficacy since early pregnancy to childbirth. Pairwise comparisons revealed significant changes between first trimester and childbirth (p < .05) although no significant changes were found between (a) first trimester and third trimester (p > .05) (b) third trimester and childbirth (p > .05) (See graphic 2).

No main effect were found of Depression [$F(2,78)= .308, p =.73$] from the first trimester, on parenting self-efficacy since early pregnancy to childbirth. No main effect of first trimester partner relationship quality, both negative (NPR) [$F(2,78)= .85, p =0.43$] and positive scales (PPR) [$F(2,78)= .826, p =.44$] were found on parenting self-efficacy during the first trimester of pregnancy to childbirth (see Table 3).

Table 3.

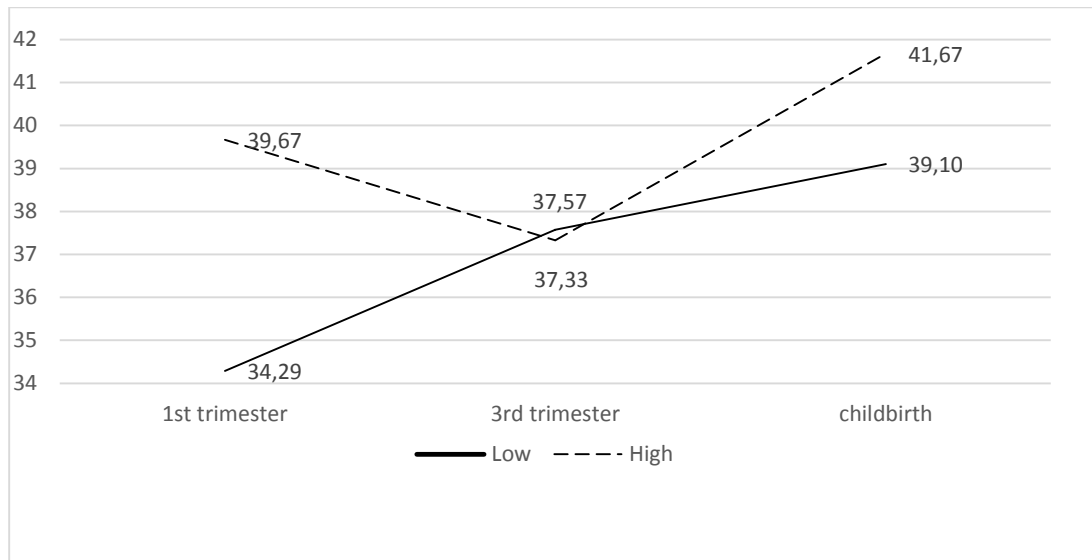
Effects of individual (depression and anxiety) and social (partner`s relationship quality) variables at the 1st trimester on parenting self-efficacy

Variables	Groups	Parenting self-efficacy						<i>F</i>	<i>df</i>
		1 st trimester		3 rd trimester		Childbirth			
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
EPDS	Depressed	30.80	4.08	34.80	5.44	36.60	6.22	.308	2,78
	Non Depressed	35.22	4.22	37.94	4.38	39.66	4.17		
STAI	Anxious	34.29	4.31	37.57	4.67	39.10	4.55	2.83	2,78
	Non anxious	39.67	2.08	37.33	3.78	41.67	3.21		
NPR	High	34.44	4.22	37.56	3.99	38.64	4.92	.85	2,78
	Low	35.06	4.80	37.56	5.50	40.31	3.62		
PPR	High	34.74	4.65	37.3	4.70	39.17	4.38	.82	2,78
	Low	34.33	2.80	39.1	2.85	40.00	5.47		

Notes. *M* = Mean; *SD* = State Deviation.

Graphic 2.

Effects of anxiety at the 1st trimester on parenting developmental path



(3) Differences in parenting self-efficacy according to fathers’ depression anxiety and partner negative and positive relationship

Independent T-tests shown significant differences on parenting self-efficacy by depressive and non-depressive fathers during the first trimester [T (39) =2.20, p =.034] although no differences were found on the third trimester [T (39) =1.46, p =.152] and childbirth [T (39) =2.20, p =.155]. Depressive fathers tend to have lower levels of parenting self-efficacy on the first trimester of pregnancy.

No differences were found between anxious and non-anxious fathers on parenting Self-efficacy on 1st Trimester [T (39) =2.12, p >.140] 3rd Trimester [T (39) =-.088, p =.93] or Childbirth [T (39) =.950, p =.36]. Results didn’t show any differences among fathers who reported high levels of negative partner relationship (NPR) quality and fathers who reported low levels on 1st Trimester [T (39) =.44, p =.67] 3rd Trimester [T (39) =.00, p =.99] or Childbirth [T (39) =1.16, p=.250]. High levels of positive partner relationship (PPR) quality don’t show significant differences between low levels of positive partner relationship on 1st Trimester [T (39) =-.21, p =.836] 3rd Trimester [T (39) =.93, p >.358] or Childbirth [T (39) =.413, p =.682]. (see Table 4).

Table 4.

Differences in parenting self-efficacy according fathers' (a) depression, (b) anxiety and (c) partner's relationship quality at the 1st trimester of pregnancy

Variables	Groups	Parenting self-efficacy					
		1 st trimester		3 rd trimester		Childbirth	
		<i>T</i>	<i>df</i>	<i>T</i>	<i>df</i>	<i>T</i>	<i>df</i>
Depression	Depressed	2.20*	39	1.46	39	1.45	39
	vs						
Anxiety	Anxious	1.42	39	.088	39	.950	39
	vs						
NPR	High	.437	39	.00	39	.95	39
	vs						
PPR	High	-.21	39	.93	39	.42	39
	vs						

Notes. M = Mean; SD = State Deviation.

*p < .05

(4) Fathers depression anxiety symptomatology and partner negative and positive relationship of first trimester as predictor of parenting self-efficacy on childbirth

Depression scores at first trimester were assessed as predictor of parenting self-efficacy at childbirth. (see Table 5). The regression model emerged model emerged as statistically significant ($F(1, 39) = 5.94, p = .02$) explaining 64.5% (adjusted $R^2 = .41$). Depression scores at first trimester was the only predictor of parenting self-efficacy on childbirth. This result indicate that fathers with higher level of depression symptomatology on first trimester of pregnancy will have lower levels of parenting self-efficacy on childbirth.

Table 5.

Fathers' depression anxiety symptomatology, partner quality as a predictor of parenting self-efficacy

	R^2 (<i>adj R</i> ²)	<i>F</i>	<i>Df</i>	<i>B</i>	<i>t</i>
Model					
Depression	.363 (.13)	5.94	1,39	-.36	-.244**
Anxiety	.363 (.13)	5.94	1,39	-.03	-.19
NPR	.363 (.13)	5.94	1,39	-.07	-.42
PPR	.363 (.13)	5.94	1,39	-.01	-.08

Notes. *adj R*² = adjusted R².

***p* < .05

Discussion

This study is the first to provide empirical evidence about parenting self-efficacy since the first trimester to childbirth on fathers. Parenting self-efficacy in fathers tend to increase during the transition to parenthood. This result is congruent with a previous study (Wernand, Kunseler, Oosterman, Beekman, & Schuengel, 2014; Reece & Harlesss ,1998) and may testify the similar process of development of parenting self-efficacy on fathers and mothers during the transition to parenthood.

This study is the first to analyze the effect of (a) depression symptoms, (b) anxious symptoms (c) partner's relationship quality on parenting self-efficacy during the transition to parenthood

No main effect of the first trimester depressive symptoms on parenting self-efficacy were found. In spite of there aren't studies that focus on the parenting self-efficacy in the transition to parenthood in men, a study didn't show that depression symptomatology have an effect on the parenting self-efficacy on mothers during the transition to parenthood (Wernand, Kunseler, Oosterman, Beekman, & Schuengel, 2014) on other hand some studies found effect of the depression symptomatology on parenting self-efficacy during the postpartum period (Barnett & Parker, 1985; Haslam et al., 2006; O'Neil et al., 2009; Teti & Gelfand, 1991).

Results shown a marginal effect of the first trimester anxious symptomatology on parenting self-efficacy from the first trimester of pregnancy to childbirth. This result is congruent with other study that shown that anxiety symptomatology have an effect on parenting

self-efficacy during the transition to parenthood (Wernand, Kunseler, Oosterman, Beekman, & Schuengel, 2014).

A more salient role of anxiety in the development of parenting self-efficacy from the first trimester of pregnancy to childbirth may be related to the specific feature of this condition. Expected fathers face a substantial psychological and social changes which can lead them to an increase of the uncertainty about the future, emotional arousal, and anxieties about future responsibilities rather than feeling of sadness or hopelessness (Delmore-ko, Pancer, Hunsberger, & Pratt, 2000). Although there is evidence that show that cognitive process in anxiety and depression are similar, each condition is characterized with more specific cognitions (Mineka, Watson, & Clarks, 1994; MacLeod, Tata, Kentish, & Jacobsen; Stöbe, 2000).

In depression, cognitive processes are more likely to be related with memory bias for negative experience and lack of positive expectation (Mineka, Watson, & Clarks, 1998). On other hand, in anxiety, the cognitions tend to be more related to future-oriented and characterize by attention bias for anxiety provoking information and greater negative expectation in context of a highly valued outcome (Stöber, 2000)

From this point view, it is reasonable to assume that during the transition to parenthood, the influence of anxiety on parenting self-efficacy have a major role. Both positive and negative first trimester aspects of the partner relationship didn't show any effect on the parenting self-efficacy in the transition to parenthood, this result is incongruent with bandura theory that emphasize the role of quality of the relationship with the partner as determinant variable on the formation and development of the parenting self-efficacy (Jones, & Prinz, 2005; Coleman, Karraker, 1998; Reece & Harkless 1998; Teti & Gelfand 1991).

Despite of depression Symptomatology not having a main effect on development of the parenting self-efficacy since the first trimester of pregnancy to childbirth, fathers who are more depressive tend to report lower levels of parenting self-efficacy than non-depressive fathers during the first trimester of pregnancy. Depression symptomatology from the first trimester was a predictor of parenting self-efficacy on childbirth moment. This result can testify that the interaction between depression and parenting self-efficacy is not related with the transition to the parenthood itself, but with the individual characteristics of the fathers on the first trimester of pregnancy.

In this study we verify that individual variables (psychological states) proposed by bandura model have an interaction with the parenting self-efficacy from the first trimester to childbirth. The social support variable (quality of partner relationship) don't seems to have any interaction with parenting self-efficacy during this period.

This study seems to highlight the development path of parenting self-efficacy during the transition to parenthood on fathers. This fact can be the focus of clinic and health psychologists in order to improve the transition to parenthood intervention programs. The importance of controlling the anxiety symptoms during the transition to parenthood have a great role. Controlling this symptomatology will make fathers develop higher levels of parenting self-efficacy and consequently will be more skilled on all parenthood demands.

Several aspect of this study can be pointed out. First one is related with the longitudinal design used to study the parenting self-efficacy during the transition to parenthood, this design is innovated compared with the available data. The second one is related to the fact that is study only composed only by fathers.

A few methodological limitation can be enhance in this study. The first one is relayed to fact that the voluntary nature of the participation on this investigation, in some way, could led us to bias of selection, in other words the fathers who accept to join in our study may be in fact the those who feel more involved and pleased with pregnancy experience itself. The other limitation is related to the fact that we only used only self-reported measured that may have contributed to high prevalence of anxiety rates, as the cut-off measures only indicate the possibility of the presence of a disorder.

References

- Bandura, A. (1989). Regulation of cognitive processes through perceived self-efficacy. *Developmental Psychology*, 25, 725-739. doi: 10.1037/0003-066X.44.9.1175
- Bandura, A. (1997). *Self-efficacy: The exercise of control*, New York: Freeman.
- Belsky, J., & Rovine, M. (1990). Patterns of marital change across the transition to parenthood: Pregnancy to three years postpartum. *Journal of Marriage and the Family*, 5-19. doi: 10.2307/352914
- Biaggio, B., Natalício, L., Spielberg, C.D. (1977). Desenvolvimento da forma experimental em português do inventário de ansiedade traço - estado (IDATE). *Arquivos Brasileiros de Psicologia Aplicada*, 29, 31 - 42.

- Boyce, P., Condon, J., Barton, J., Corkindale, C. (2007) First-Time Fathers' Study: psychological distress in expectant fathers during pregnancy. *Aust N Z J Psychiatry* 41, 718–725.
- Clark, L. , Watson, D., & Mineka, S. (1994). Temperament, personality, and the mood and anxiety disorders. *Journal of abnormal psychology*, 103, 103. doi: 10.1037/0021-843X.103.1.103
- Coleman, P., & Karraker, K. (2003). Maternal self-efficacy beliefs, competence in parenting, and toddlers' behavior and developmental status. *Infant Mental Health Journal*, 24, 126-148. Doi: 10.1002/imhj.10048
- Cowan, P. (1991). Individual and family life transitions: A proposal for a new definition. In P. A. Cowan & M. Hetherington (Eds.), *Family Transitions* (pp. 3-26). Hillsdale, NJ: Erlbaum Association.
- Cowan, C., & Cowan, P. (2000). *When partners become parents: The big life change for couples*. Mahwah, NJ: Lawrence Earlbaum.
- Cox, J., Holden, J. & Sagovsky, R. (1987) Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 150, 782-786. doi: 10.1192/bjp.150.6.782
- Črnčec, R., Barnett, B., & Matthey, S. (2008). Development of an instrument to assess perceived self-efficacy in the parents of infants. *Research in nursing & health*, 31, 442-453. doi: 10.1002/nur.20271
- Delmore-Ko, P., Pancer, S., Hunsberger, B., & Pratt, M. (2000). Becoming a parent: the relation between prenatal expectations and postnatal experience. *Journal of Family Psychology*, 14, 625. doi: 10.1037/0893-3200.14.4.625
- Feeley, N., & Grier, P. (2009). The perceived parenting self-efficacy of first-time fathers caring for very-low-birth-weight infants. *Issues in comprehensive pediatric nursing*, 32, 180-199. doi: 10.3109/01460860903281366
- Figueiredo, B., & Conde, A. (2011). Anxiety and depression in women and men from early pregnancy to 3-months postpartum. *Archives of women's mental health*, 14, 247-255. doi: 10.1016/j.jad.2011.02.007
- Figueiredo B, Field T, Diego M, Hernandez-Reif M, Deeds O, Ascencio A. (2008) Partner relationships during the transition to parenthood. *Journal of Reproductive and Infant Psychology*, 2, 99–107. doi: 10.1080/00207450601042144
- Froman, R., & Owen, S. (1990). Mothers' and nurses' perceptions of infant care skills. *Research in nursing & health*, 13, 247-253. Doi: 10.1002/nur.4770130407

- Gross, D., Conrad, B., Fogg, L., & Wothke, W. (1994). A longitudinal model of maternal self-efficacy, depression, and difficult temperament during toddlerhood. *Research in Nursing & Health, 17*, 207–215. doi: 10.1002/nur.4770170308
- Hudson, D., Elek, M., & Fleck, M. (2001). First-time mothers and fathers transition to parenthood: Infant Care Self-Efficacy, Parenting Satisfaction, and Infant Sex. *Issues in comprehensive pediatric nursing, 24*, 31-43. doi:10.1080/014608601300035580
- Haslam, D. , Pakenham, K., & Smith, A. (2006). Social support and postpartum depressive symptomatology: The mediating role of maternal self-efficacy. *Infant Mental Health Journal, 27*, 276-291. doi: 10.1002/imhj.20092
- Havighurst, R. (1948). Developmental tasks and education.
- Hudson, B., Elek, S., & Fleck, M. (2001). First-time mothers' and fathers' transition to parenthood: Infant care selfefficacy, parenting satisfaction, and infant sex. *Comprehensive Pediatric Nursing, 24*, 31–43. doi: 10.1080/014608601300035580
- Jones, T., & Prinz, R. (2005). Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical psychology review, 25*, 341-363. doi: 10.1016/j.cpr.2004.12.004
- Kendall, S., Bloomfield, L., Appleton, J., & Kitaoka, K. (2013). Efficacy of a group-based parenting program on stress and self-efficacy among Japanese mothers: A quasi-experimental study. *Nursing & health sciences, 15*, 454-460. doi: 10.1111/nhs.12054
- Kuhn, J. C., & Carter, A. S. (2006). Maternal self-efficacy and associated parenting cognitions among mothers of children with autism. *American Journal of Orthopsychiatry, 76*, 564-575. doi: 10.1037/0002-9432.76.4.564
- MacLeod, A., Tata, P., Kentish, J., & Jacobsen, H. (1997). Retrospective and prospective cognitions in anxiety and depression. *Cognition & Emotion, 11*, 467-479. doi: 10.1080/026999397379881
- Murdock, K. W. (2013). An examination of parental self-efficacy among mothers and fathers. *Psychology of men & masculinity, 14*, 314. doi: 10.1037/a0027009
- O'Neil, J., Wilson, M., Shaw, D., & Dishion, T. J. (2009). The relationship between parental efficacy and depressive symptoms in a diverse sample of low income mothers. *Journal of child and family studies, 18*,643-652. doi: 10.1007/s10826-009-9265-y
- Parfitt, Y., Ayers, S., Pike, A., Jessop, D., & Ford, E. (2014). A prospective study of the parent–baby bond in men and women 15 months after birth. *Journal of Reproductive and Infant Psychology, 1-16*. doi: 10.1080/02646838.2014.956301

- Porter, C., & Hsu, H. (2003). First-time mothers' perceptions of efficacy during the transition to motherhood: Links to infant temperament. *Journal of Family Psychology, 17*, 54–64. doi: 10.1037/0893-3200.17.1.54
- Reece, S., & Harkless, G. (1998). Self-efficacy, stress, and parental adaptations: Applications to the care of childbearing families. *Journal of Family Nursing, 4*, 198–215. doi: 10.1177/107484079800400206
- Sanders, M., & Woolley, M. (2005). The relationship between maternal self-efficacy and parenting practices: implications for parent training. *Child: care, health and development, 31*, 65-73. doi: 10.1111/j.1365-2214.2005.00487.x
- Sevigny, P., & Loutzenhiser, L. (2010). Predictors of parenting self-efficacy in mothers and fathers of toddlers. *Child: care, health and development, 36*, 179-189. doi: 10.1111/j.1365-2214.2009.00980.x
- Sofronoff, K., & Farbotko, M. (2002). The effectiveness of parent management training to increase self-efficacy in parents of children with Asperger syndrome, *Autism, 6*, 271-286. doi: 10.1177/1362361302006003005
- Spielberger, C., Gorsuch, R., Lushene, R., Vagg, P., & Jacobs, G.(1983). *Manual for the State-Trait Anxiety Inventory. STAI (Form Y)*. Palo Alto: Consulting Psychologists Press Inc.
- Stöber, J. (2000). Prospective cognitions in anxiety and depression: Replication and methodological extension. *Cognition & Emotion, 14*, 725-729.
- Teixeira, C., Figueiredo, B., Conde, A., Pacheco, A., & Costa, R. (2009). Anxiety and depression during pregnancy in women and men. *Journal of affective disorders, 119*, 142-148. doi: 10.1016/j.jad.2009.03.005
- Tendais, I., Costa, R., Conde, A., & Figueiredo, B. (2014). Screening for depression and anxiety disorders from pregnancy to postpartum with the EPDS and STAI. *The Spanish Journal of Psychology, 17*, E7. doi:10.1017/sjp.2014.7
- Teti, D., & Gelfand, D. (1991). Behavioral competence among mothers of infants in the first year: The meditational role of maternal self-efficacy. *Child Development, 62*, 918–929. doi:
- Wernand, J., Kunseler, F., Oosterman, M., Beekman, A., & Schuengel, C. (2014). Prenatal Changes in parenting self-eficacy: Linkages with Anxiety and Depressive symptoms in primiparous women. *Infant Mental Health Journal, 35*, 42-50. doi: 10.1002/imhj.21425
- Williams, T., Joy, L., Travis, L., Gotowiec, A., Blum-Steele, M., & Aiken (1987). Transition to motherhood: A longitudinal study. *Infant Mental Health Journal, 8*, 251-265. doi: 10.1002/1097-0355(198723)8:3<251::AID-IMHJ2280080308>3.0.CO;2-U

Zayas, L., Jankowski, K., & McKee, M. (2005). Parenting competency across pregnancy and postpartum among urban minority women. *Journal of Adult Development, 12*, 53-62. doi: 10.1007/s10804-005-1285-2