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### **Does age matter? : parental employment status influence on psychological well-being : findings from the national study of Portuguese schoolchildren**

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**DOES AGE MATTER? PARENTAL EMPLOYMENT STATUS  
INFLUENCE ON PSYCHOLOGICAL WELL-BEING:  
FINDINGS FROM THE NATIONAL STUDY OF  
PORTUGUESE SCHOOLCHILDREN**

**A IDADE IMPORTA? ESTATUTO DE EMPREGO PARENTAL  
E A SUA INFLUÊNCIA NO BEM-ESTAR PSICOLÓGICO:  
RESULTADOS DE UM ESTUDO NACIONAL COM  
CRIANÇAS PORTUGUESAS EM IDADE ESCOLAR**

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**Abstract:** Portugal is facing an unprecedented economic recession and the highest unemployment rate ever recorded in the country (18%). Employment is a fundamental component of well-being and the main source of income for most people. When job loss hits home, families struggle with psychosocial stress which may influence the healthy development of adolescents. This paper aims to explore age-related differences of aspects of psychological well-being linked with parental employment status on a sample of 5050 Portuguese adolescents with a mean age of 14 years old ( $SD=1.85$ ). We analysed data from the Portuguese Health Behaviour in School-aged Children study (HBSC/WHO) and performed qui-square tests and linear regression models regarding different parental employment status, controlling for gender and age. Results indicate that parental employment status is associated with psychological well-being of the adolescents and the effects differ with age and parent gender. Having both parents non-employed negatively influences low mood and irritability or bad temper of middle age adolescents (mean age 14). Secondly, having a non-employed father is statistically associated with low mood of younger and middle aged adolescents (mean age 12 and 14), and self-rated irritability or bad temper in all age cohorts (mean ages 12, 14 and 16 years old). Thirdly, having a non-employed mother was associated with low mood and irritability or bad temper in mid-adolescents. In conclusion the link between parental employment status and psychological well-being of adolescents varies with age and parental gender. Mid-age adolescents have higher rates of negative psychological well-being linked with parental non-employment.

**Key-words:** adolescence, mental health, parental employment status, recession.

**Resumo:** Portugal enfrenta uma recessão económica sem precedentes e a maior taxa de desemprego alguma vez registada no país (18%). O emprego é um determinante fundamental do bem-estar e a principal fonte de rendimentos para a maioria das pessoas. Quando a perda de emprego atinge as famílias, o stresse psicossocial daí resultante pode influenciar o desenvolvimento saudável dos jovens. Este trabalho tem como objetivo explorar as diferenças relacionadas com a idade do bem-estar psicológico em relação ao estatuto de emprego dos pais numa amostra de 5050 adolescentes portugueses com idade média de 14 anos ( $DP = 1,85$ ). Foram analisados os dados do estudo português *Health Behaviour in School-aged Children* (HBSC / OMS) e realizaram-se testes de qui-quadrado e modelos de regressão linear tendo em conta os diferentes estatutos de emprego dos pais e controlando género e idade. Os resultados indicam que a situação de emprego dos pais está associada ao bem-estar psicológico dos adolescentes e os efeitos diferem com a idade e o género dos pais. Ter ambos os pais sem emprego influencia negativamente o humor triste e irritado nos adolescentes com idade média de 14 anos. Ter o pai sem emprego está estatisticamente associado ao

humor triste nos adolescentes mais jovens e nos de meia-idade (12 e 14 anos de idade) e à irritabilidade em todas as faixas etárias (12, 14 e 16 anos). Por último, ter a mãe sem emprego foi associado ao humor triste e irritado nos adolescentes de meia-idade (14 anos). Em conclusão, a associação existente entre a situação de emprego dos pais e o bem-estar psicológico dos adolescentes varia com a idade dos adolescentes e o género dos pais. Adolescentes de meia-idade referem frequências mais elevadas de mau-estar psicológico em relação à falta de emprego dos pais.

**Palavras-chave:** adolescência, estatuto de emprego parental, recessão, saúde mental.

## Introduction

Good mental health of a population is an essential factor for countries economic prosperity and social sustainability and can be threatened by economic recessions (Uutela, 2010).

World Health Organization warned that developed countries that have required emergency assistance from the International Monetary Fund, are especially vulnerable (WHO, 2011). This is the case of Portugal where spending restrictions are being imposed during the loan repayment while coping with the imminent impact of one of the highest unemployment rates (18%) in Europe and the highest ever recorded by the national statistics body (INE, 2013).

Health-related quality of life and mental health are expected to worsen as a consequence of the economic recession and unemployment rates (Cooper, 2011; Davalos & French, 2011). In a recent study from the Portuguese Socioeconomic Development Association (SEDES, 2012) almost half of the Portuguese (47%) reported high levels of stress as a result of the current crisis. The situation worsens when unemployment hits home. The same study (SEDES, 2012), reports that 55% of the unemployed respondents have high levels of stress and their families also reported to be highly stressed.

These results are in accordance with contemporary evidence comparing to pre-recession periods. European countries are facing significant increases on the prevalence of psychological distress and poor health of their population (Katikireddi, Niedzwiedz, & Popham, 2012; Vandoros, Hessel, Leone, & Avendano, 2013). The prevalence of depression is rising (Economou, Madianos, Peppou, Patelakis, & Stefanis, 2013; Gili, Roca, Basu, McKee, & Stuckler, 2013; JianLi et al., 2010; Lee et al., 2010) and so are anxiety disorders (Gili, Roca, Basu, McKee, & Stuckler, 2013).

Unemployed people are at higher risk. During the Asian recession, unemployed people were twice as likely to report poor health compared to controls (Kondo, Subramanian, Kawachi, Takeda, & Yamagata, 2008) and had

higher rates of occurrence of depression (Lee, et al., 2010). As well, data from Spain and Iceland shows a significant higher risk of depression and stress among unemployed during the crisis (Gili, et al., 2013; Hauksdottir, McClure, Jonsson, Olafsson, & Valdimarsdottir, 2013).

The negative impacts of unemployment on physical and mental health are well acknowledged (Eriksson, Agerbo, Mortensen, & Westergaard-Nielsen, 2010; McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Warr, 1987).

When a parent loses its job, the negative consequences are likely to affect family as a whole (Dew, Penkower, & Bromet, 1991). Parents play an important role of emotionally guard their offspring from distress. Stressors in parents' lives may disrupt healthy parenting. It has been shown in previous research that unemployment related distress and associated feelings of personal failure can result in loss of parental sensitivity and unsupportive parent-child relationships (Mogens Nygaard Christoffersen, 2000). Moreover, in economical challenging environments such as the situation of parental unemployment, children are likely to share parents' distress leading to an increase of emotional and behavioural problems among children and adolescents (Christoffersen, 1994; Conger, Ge, Elder, Jr. Lorenz, & Simons, 1994; Harland, Reijneveld, Brugman, Verloove-Vanhorick, & Verhulst, 2002; Lundborg, 2002; Solantaus, Leinonen, & Punamaki, 2004; Sund, Larsson, & Wichstrom, 2003).

Younger adolescents can be especially vulnerable to parental unemployment since parent-child interdependence and emotional support is stronger than in older ages (Fuentetaja & Masó, 2007). It is also known that early experiences to acute stress can affect the psychosocial developmental processes of children which in turn can rouse long-term limitations to their human and social capital. This poses several questions on the long-term and, possibly, adulthood health consequences of economic recession and parental unemployment on the youth which is known to be in a critical developmental stage. Growing up under such a challenging environment can pose higher risks to mental ill-health putting young people in a very exposed position.

Nevertheless, healthy young people can make an important contribution to future economic growth of a country. Failing to capitalise their energy, by not caring about their development and health, Portugal can miss a critical opportunity to deal with the financial crisis.

This study aims to research the impact of parental employment status on Portuguese adolescents' psychological well-being indicators.

Data from the Portuguese Health Behaviour in School-aged children (HBSC-WHO) are used to estimate the consequences of parental non-employment on the likelihood of adolescents ranging from 10 to 21 years old (mean age of 14 years old,  $SD=1.85$ ) experiencing negative emotions.

## Method

This is cross-sectional research study (HBSC/WHO). Collected data from the Portuguese Health Behaviour in School-aged Children Survey/WHO was analysed to explore the links between parental employment status and adolescents' low mood, irritability or bad temper.

HBSC/WHO is a school-based, self-report questionnaire to assess school-children and adolescents mental and physical health. The questionnaires were sent to schools and administered in the classroom, according to the international protocol (Roberts et al., 2007).

All participating schools obtained informed parental consent, which were required by the committee of parents from each school. Confidentiality was ensured by anonymous response to the questionnaire and restricted access to questionnaires by HBSC/WHO research team members when computing and analysing data.

### *Participants*

The total sample consisted of 4541 Portuguese adolescents (52.3% girls and 47.7% boys), with a mean age of 14 years old ( $SD=1.85$ ) randomly selected from 139 Portuguese national public schools.

In order to avoid a confounding effect of family composition with the parental employment status, only respondents living with both parents were included.

### *Measures*

Four groups of parental employment status were considered: both parents employed, both parents non-employed; father non-employed (regarding father not having a job and mother being employed); and mother non-employed (regarding mother not having a job and father being employed).

Psychological well-being data was collected from the HBSC/WHO symptom checklist scale (King, Wold, Tudor-Smith, & Harel, 1996). Two indicators of adolescents' psychological well-being (feeling low and feeling irritability or bad temper) were examined in relation to parental employment status. Adolescents were asked how often they had experienced those feelings in the last six months.

### *Data analysis*

The data was entered into the database of the Statistical Package for Social Sciences, version 19.0 for Windows. It was proceeded with descriptive analysis of the sample, Chi-square tests and Multiple Linear Regressions to determine the

relationship and strength of association between adolescents' feeling low and irritability or bad temper and parental employment status controlling for age.

## Results

A percentage of 3.4 of the cases reported to have both parents in a non-employed status (table 1). A higher percentage reported to have the mother or the father in a non-employed status.

**Table 1.** Descriptive data

<b>Parental Employment Status</b>	<b>N</b>	<b>%</b>
Both non-employed	154	3.4
Mother non-employed	877	19.3
Father non-employed	251	5.5
Both employed	3259	71.8
Total	4541	100.0

Using Chi-square tests, we examined the relationship between parental employment status and the psychological aspects adjusting for school grade (as a proxy for age).

We compared both parent employment status (employed and non-employed) and feeling low between three age cohorts. The first was composed of 6<sup>th</sup> grade school students (N=1556, mean age 11.8), the second of 8<sup>th</sup> grade students (N= 1594, mean age 13.8) and the third of 10<sup>th</sup> grade school students (N= 1900, mean age 15.9).

The results for both parental employment status and feeling low (table 2) showed strong statistically significant correlation for the 8<sup>th</sup> graders [ $\chi^2(4) = 22.702, p \leq 0.001$ ].



**Table 2.** Bivariate analysis ( $\chi^2$ ) between Psychological Variables and Parental Employment Status (ES) by School Grade

Grade	Both Parents Employment Status	N	Feeling Low					Total	$\chi^2$	Df
			Rarely or Never	About every month	About every week	More than once a week	About every day			
6 <sup>th</sup> grade	Non-employed	278	43	19	27	22	386	4.519	4	
	%	71.2%	11.1%	4.9%	7.0%	5.7%	100.0%			
6 <sup>th</sup> grade	Employed	738	104	30	60	44	976			
	%	75.6%	10.7%	3.1%	6.1%	4.5%	100.0%			
8 <sup>th</sup> grade	Non-employed	236	71	40	49	31	427	22.702**	4	
	%	55.3%	16.6%	9.4%	11.5%	7.3%	100.0%			
8 <sup>th</sup> grade	Employed	661	182	47	83	50	1023			
	%	64.6%	17.3%	4.6%	8.1%	4.9%	100.0%			
10 <sup>th</sup> grade	Non-employed	230	112	49	46	18	435	1.584	4	
	%	50.5%	24.6%	10.3%	10.1%	4.0%	100.0%			
10 <sup>th</sup> grade	Employed	653	277	145	114	48	1237			
	%	52.3%	22.4%	11.7%	9.2%	3.9%	100.0%			

  

Grade	Both Parents Employment Status	N	Irritability or bad temper					Total	$\chi^2$	Df
			Rarely or Never	About every month	About every week	More than once a week	About every day			
6 <sup>th</sup> grade	Non-employed	252	49	39	36	19	385	5.203	4	
	%	65.5%	12.7%	7.5%	9.4%	4.9%	100.0%			
6 <sup>th</sup> grade	Employed	659	152	54	80	35	930			
	%	67.2%	15.3%	5.5%	8.2%	3.6%	100.0%			
8 <sup>th</sup> grade	Non-employed	204	104	41	56	22	427	15.330**	4	
	%	47.3%	24.4%	9.6%	13.1%	5.2%	100.0%			
8 <sup>th</sup> grade	Employed	583	242	78	86	35	1024			
	%	56.9%	23.6%	7.6%	8.4%	3.4%	100.0%			
10 <sup>th</sup> grade	Non-employed	176	149	59	36	16	436	3.162	4	
	%	38.6%	32.7%	12.9%	12.3%	3.5%	100.0%			
10 <sup>th</sup> grade	Employed	520	375	175	131	36	1237			
	%	42.0%	30.3%	14.1%	10.6%	2.9%	100.0%			

Note. \*\*\*  $p \leq 0.01$ ; \*\*  $p \leq 0.01$ ; \*  $p \leq 0.05$ . Adjusted standardized residuals appear in parentheses below group frequencies

Feeling rarely or never low was present in 64.6% of the sample with both parents employed, while feeling low every week and more than once a week was present in 20.9% of the sample with both non-employed parents.

As for feeling irritability or bad temper and both parental employment status (table 2), results showed again strong statistically significant correlation for the 8<sup>th</sup> graders [ $\chi^2(4) = 15.330, p \leq 0.05$ ].

Rarely or never feeling irritability or bad temper was present in 56.9% of the sample with both parents employed and more than once a week was present in 13.1% of the sample with both non-employed parents.

We performed a multiple linear regression analysis (table 3) and examined



the strength of age, gender and parental employment status as predictors of feeling low and irritability or bad temper. Both psychological variables were standardized and transformed into z-scores.

**Table 3.** Multiple linear regression analysis: Psychological variables and Parental Employment Status

Psychological Variables		B	SE	$\beta$	t	R <sup>2</sup>
<b>Feeling low</b>						
	Gender (male)	.279	.029	.140	9.593***	
	Age	.064	.008	.118	8.032***	.035
	Both Parents Employed	-.098	.032	-.045	-3.049**	
<b>Irritability or Bad temper</b>						
	Gender (male)	.148	.029	.074	5.056***	
	Age	.078	.008	.143	9.721***	.028
	Both Parents Employed	-.104	.033	-.047	-3.207***	
		B	SE	$\beta$	t	R <sup>2</sup>
<b>Feeling low</b>						
6 <sup>th</sup> Grade	Gender (male)	.101	.051	.053	1.966*	0.033
	Both Parents Employed	-.090	.057	-.043	-1.575	
8 <sup>th</sup> Grade	Gender (male)	.401	.053	.196	7.624***	0.049
	Both Parents Employed	-.224	.058	-.099	-3.880***	
10 <sup>th</sup> Grade	Gender (male)	.292	.047	.149	6.171***	0.021
	Both Parents Employed	-.034	.053	-.015	-.642	
<b>Irritability or bad temper</b>						
6 <sup>th</sup> Grade	Gender (male)	-.055	.054	-.028	-1.024	0.001
	Both Parents Employed	-.092	.060	-.042	-1.538	
8 <sup>th</sup> Grade	Gender (male)	.229	.052	.115	4.409***	0.022
	Both Parents Employed	-.217	.057	-.099	-3.801***	
10 <sup>th</sup> Grade	Gender (male)	.212	.047	.108	4.484***	0.011
	Both Parents Employed	-.069	.053	-.031	-1.300	

Note. \*\*\*  $p \leq .001$ ; \*\*  $p \leq .01$ ; \*  $p \leq .05$ . B and SE (standard error): unstandardized coefficients;  $\beta$ : standardized coefficients.

Overall these variables explained 3.5% of feeling low [ $R^2_{adj} = .035$ ;  $F(3) = 56.24$ ,  $p \leq .001$ ] and 2.8% of feeling irritability or bad temper [ $R^2_{adj} = .028$ ;  $F(3) = 44.50$ ,  $p \leq .001$ ].

When performing the same statistical treatment for 6<sup>th</sup> grade, 8<sup>th</sup> grade and 10<sup>th</sup> grade separately (table 3), an adjusted model for 8<sup>th</sup> graders and parental employment was achieved and the variables reliably predicted feeling low [ $R^2_{adj} = .049$ ;  $F(2) = 37.29$ ,  $p < 0.001$ ] and irritability or bad temper [ $R^2_{adj} = .022$ ;  $F(2) = 17.31$ ,  $p < 0.001$ ].

These adolescents tend to report lower frequencies of feeling low ( $\beta = -.099$ ,  $p < 0.001$ ) and irritability and bad temper ( $\beta = -.099$ ,  $p < 0.001$ ) when parents are both employed.

On the contrary, the employment status of both parents shows no significant influence for these psychological aspects for 6<sup>th</sup> graders and 10<sup>th</sup> graders.

### Father's Employment Status

We performed Chi-Square tests to compare data concerning mother and father employment status separately and the three age cohort group.

**Table 4.** Bivariate analysis ( $\chi^2$ ) between Father ES and Psychological Variables by School Grade

Grade	Father Employment Status	Feeling Low					Total	$\chi^2$	Df
		Rarely or Never	About every month	About every week	More than once a week	About every day			
6 <sup>th</sup> grade	Non-employed	N 73 % 61.3% (-3.4)	15 12.6% (.6)	10 8.4% (2.8)	12 10.1% (1.8)	9 7.6% (1.4)	119 100.0%	15.559**	4
	Employed	N 966 % 75.4% (3.4)	137 10.7% (-.6)	43 3.4% (-2.8)	75 5.9% (-1.8)	60 4.7% (-1.4)	1281 100.0%		
8 <sup>th</sup> grade	Non-employed	N 69 % 50.7% (-2.8)	19 14.0% (-1.1)	12 8.8% (1.5)	21 15.4% (2.8)	15 11.0% <sup>***</sup> (2.9)	136 100.0%	21.146***	4
	Employed	N 849 % 63.2% (2.8)	240 17.9% (1.1)	75 5.6% (-1.5)	112 8.3% (-2.8)	68 5.1% (-2.9)	1344 100.0%		
10 <sup>th</sup> grade	Non-employed	N 71 % 47.0% (-1.3)	37 24.5% (.5)	19 12.6% (.5)	16 10.6% (.5)	8 5.3% (.9)	151 100.0%	2.245	4
	Employed	N 836 % 52.7% (1.3)	362 22.8% (-.5)	179 11.3% (-.5)	149 9.4% (-.5)	60 3.8% (-.9)	1586 100.0%		

  

Grade	Father Employment Status	Irritability or Bad Temper					Total	$\chi^2$	Df
		Rarely or Never	About every month	About every week	More than once a week	About every day			
6 <sup>th</sup> grade	Non-employed	N 67 % 56.3% (-2.4)	17 14.3% (-.2)	13 10.9% (2.2)	14 11.8% (1.3)	8 6.7% (1.6)	119 100.0%	10.803*	4
	Employed	N 865 % 67.4% (2.4)	191 14.9% (.2)	74 5.8% (-2.2)	107 8.3% (-1.3)	47 3.7% (-1.6)	1284 100.0%		
8 <sup>th</sup> grade	Non-employed	N 55 % 40.4% (-3.5)	36 26.5% (.8)	9 6.6% (-.7)	25 18.4% (3.5)	11 8.1% (2.6)	136 100.0%	24.384***	4
	Employed	N 752 % 55.9% (3.5)	313 23.3% (-.8)	113 8.4% (.7)	120 8.9% (-3.5)	47 3.5% (-2.6)	1345 100.0%		
10 <sup>th</sup> grade	Non-employed	N 55 % 35.9% (-1.4)	40 26.1% (-1.3)	23 15.0% (.5)	27 17.6% (2.7)	8 5.2% (1.6)	153 100.0%	11.575*	4
	Employed	N 663 % 41.8% (1.4)	495 31.2% (1.3)	217 13.7% (-.5)	165 10.4% (-2.7)	46 2.9% (-1.6)	1586 100.0%		

Note. \*\*\*  $p \leq .001$ ; \*\*  $p \leq .01$ ; \*  $p \leq .05$ . Adjusted standardized residuals appear in parentheses below group frequencies

Father employment status and adolescents' feeling low data (Table 4) shows that this association is significant for 6<sup>th</sup> graders [ $\chi^2(4) = 15.56, p = .004$ ] and 8<sup>th</sup> graders [ $\chi^2(4) = 21.15, p = .000$ ]. Results show no statistical significant differences for 10<sup>th</sup> graders.

Students in 6<sup>th</sup> grade report rarely or never feeling low when father is employed (75.4%) and feeling low about every week when father is not-employed (8.4%). As for 8<sup>th</sup> graders the strongest association was found between rarely or never feeling low when father is employed (63.2%) and feeling low about every day (11.0%) and more than once a week when father is not employed (15.4%).

Irritability or bad temper was statistically significant associated with father employment status in all age groups.

The 6<sup>th</sup> graders show statically significant associations [ $\chi^2(4) = 10.80, p = .029$ ] mainly in rarely or never feeling irritated or bad tempered (67.4%) when father is employed and feeling irritability or bad temper about every week when father is not-employed (10.9%).

The 8<sup>th</sup> graders show the strongest associations [ $\chi^2(4) = 24.38, p = .000$ ]. Rarely or never feeling irritability or bad temper was present in 55.9% of the sample with employed father, while 26.5% of the respondents reported feeling irritability or bad temper more than once a week and about every day when father is not-employed.

The 10<sup>th</sup> grade respondents [ $\chi^2(4) = 11.56, p = .021$ ] show associations only between having father not-employed and feeling irritability or bad temper about every week (17.6%).

#### *Mother's Employment Status*

Mother's employment status and adolescents' feeling low (Table 5) was only significant for 8<sup>th</sup> graders [ $\chi^2(4) = 13.82, p = .008$ ]. The association was found between feeling low about every week (9.0%) when mother is not-employed and feeling rarely or never low when mother is employed (64.0%).

**Table 5.** Bivariate analysis ( $\chi^2$ ) between Mother ES and Psychological Variables by School Grade

Grade	Mother Employment Status	Feeling Low					Total	$\chi^2$	Df
		Rarely or Never	About every month	About every week	More than once a week	About every day			
6 <sup>th</sup> grade	Not-employed	N	246	45	15	21	21	3.665	4
		%	70.7% (-1.5)	12.9% (1.5)	4.3% (.6)	6.0% (-.4)	6.0% (.8)		
6 <sup>th</sup> grade	Employed	N	834	113	40	74	55	13.817**	4
		%	74.7% (1.5)	10.1% (-1.5)	3.6% (-.6)	6.6% (.4)	4.9% (-.8)		
8 <sup>th</sup> grade	Not-employed	N	202	65	33	41	24	3.774	4
		%	55.3% (-3.0)	17.8% (.3)	9.0% (2.7)	11.2% (1.6)	6.6% (1.0)		
8 <sup>th</sup> grade	Employed	N	750	201	60	99	61	13.817**	4
		%	64.0% (3.0)	17.2% (-.3)	5.1% (-2.7)	8.5% (-1.6)	5.2% (-1.0)		
10 <sup>th</sup> grade	Not-employed	N	186	99	40	38	12	3.774	4
		%	49.6% (-.8)	26.4% (1.6)	10.7% (-.6)	10.1% (.4)	3.2% (-1.0)		
10 <sup>th</sup> grade	Employed	N	753	325	171	137	63	13.817**	4
		%	52.0% (.8)	22.4% (-1.6)	11.8% (.6)	9.5% (-.4)	4.3% (1.0)		
Grade	Mother Employment Status	Irritability or Bad temper					Total	$\chi^2$	Df
		Rarely or Never	About every month	About every week	More than once a week	About every day			
6 <sup>th</sup> grade	Not-employed	N	229	40	27	32	20	7.524	4
		%	65.8% (-.4)	11.5% (-1.8)	7.8% (1.4)	9.2% (.5)	5.7% (1.6)		
6 <sup>th</sup> grade	Employed	N	750	172	63	93	42	10.011*	4
		%	67.0% (.4)	15.4% (1.8)	5.6% (-1.4)	8.3% (-.5)	3.8% (-1.6)		
8 <sup>th</sup> grade	Not-employed	N	177	87	40	43	18	4.763	4
		%	48.5% (-2.5)	23.8% (.0)	11.0% (2.1)	11.8% (1.4)	4.9% (1.2)		
8 <sup>th</sup> grade	Employed	N	655	279	88	109	41	10.011*	4
		%	55.9% (2.5)	23.8% (.0)	7.5% (-2.1)	9.3% (-1.4)	3.5% (-1.2)		
10 <sup>th</sup> grade	Not-employed	N	142	134	50	40	9	4.763	4
		%	37.9% (-1.2)	35.7% (2.1)	13.3% (-.4)	10.7% (-.2)	2.4% (-.8)		
10 <sup>th</sup> grade	Employed	N	600	437	205	161	47	4.763	4
		%	41.4% (1.2)	30.1% (-2.1)	14.1% (.4)	11.1% (.2)	3.2% (.8)		

Note. \*\*\*  $p \leq .001$ ; \*\*  $p \leq .01$ ; \*  $p \leq .05$ . Adjusted standardized residuals appear in parentheses below group frequencies

Moreover, irritability or bad temper was only statistically significant associated with mother's employment status among the 8<sup>th</sup> graders [ $\chi^2(4) = 10.01, p = .040$ ]. The associations were found between having the mother employed and rarely or never feeling irritability or bad temper (55.9%) and feeling irritability or bad temper about every week (11%) and having the mother not-employed.

## Discussion

Data showed that the associations between parental employment status and adolescents' mood vary across age groups and with parent gender.

Firstly, strong significant differences between feeling low and irritability or bad temper and parental employment status of both parents were only present among the 8<sup>th</sup> graders.

Secondly, all independent variables (age, gender and parental employment status) were predictors of feeling low and irritability or bad temper. Although the strength of association is relatively weak it was especially relevant for the 8<sup>th</sup> graders.

Thirdly, on one hand having non-employed father was associated with higher frequencies of feeling low among the younger cohort groups (6<sup>th</sup> and 8<sup>th</sup> graders) and had no influence in older respondents of the 10<sup>th</sup> grade. On the other hand, higher rates of irritability or bad temper were associated with having a non-employed father in all age groups.

At last, having non-employed mother had no significant effects on younger and older (6<sup>th</sup> and 10<sup>th</sup> graders) adolescents' psychological well-being indicators. However, 8<sup>th</sup> graders reported frequently feeling low and irritability or bad temper when mother is non-employed and rarely or never when mother is employed.

Overall, age seems to act as a potential moderator between parental employment status and frequencies of psychological symptoms.

Available evidence shows that younger adolescents use more family oriented coping strategies than the older adolescents (Plancherel, Bolognini, & Halfon, 1998), meaning that they may feel more distressed when parents are under the effects of job loss than their older counterparts.

In this study the middle aged group (8<sup>th</sup> graders) is the only group that has reported high frequencies of feeling low and irritability with all parental non-employment status. This evidence places 8<sup>th</sup> graders at a possible higher risk for negative influences of parental unemployment. This may be because mid-adolescents are starting to engage in peer support connections while still in need for family support. Parental disturbance can then create an increment of stress. However, further research is needed to give a better explanation for this difference.

The results of this study suggest that parental employment status may play an important role of protection against low mood and irritability. Our results are similar to those reported by Myklestad and colleagues (2012) who found that parental unemployment and mental health were significantly associated with psychological

distress among adolescents. Other authors also suggested that unemployed parents have to energetically cope with stressors and may be less supportive for their children and for that reason may be causing them distress (Christoffersen, 2000).

Further research upon the quality of the relationship between parent-child and parental employment status is highly recommended.

A clear limitation of the present study is its cross-sectional nature that makes it impossible to establish causality. Moreover, we did not control possible confounding factors such as education, income or duration of non-employment which should be also considered in future research.

In spite of its limitations the fact that it is a national representative study in which parental employment status was not yet analysed in regard to age-related differences in a period of economic recession makes this a unique study to highlight the associations of macro-economic factors to psychological wellbeing of adolescents.

## **Conclusion**

This study provides evidence for the influence of parental employment status in adolescents' psychological well-being and suggests that age is an important mediator variable along with parent gender.

Studies linking parental unemployment and its effects on their children are rare and this study gives additional information on the psychological consequences of parental employment status ranging from early teens to later adolescents.

This evidence is relevant given the high rate of unemployment (18%) in Portugal and can be useful to acknowledge the need to support non-employed parents to better cope with the situation and prevent distress among their younger children.

Adolescence is a decidedly period with regard to development and health influences. Having unemployed parents during this developmental stage can prone young people to negative effects on well-being that may influence further adult health. Because of the present socio-historical period of Portugal, research on the health consequences of adolescents with unemployed parents is urgently needed.

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