J Child Fam Stud (2010) 19:36–41
DOI 10.1007/s10826-009-9340-4

ORIGINAL PAPER

Parenting, Mental Health and Culture: A Fifth Cross-Cultural Research on Parenting and Psychological Adjustment of Children

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Published online: 2 December 2009

Abstract We examined psychological disorders across cultures and their associations with parental factors (control, inconsistency, and rejection). A questionnaire assessing psychological disorders was administered to male and female adolescents in nine countries. The results showed that psychological disorders differ across cultures. Parental factors are associated with each other and have a great deal of shared variance. The associations between psychological disorders and all parental factors were examined together in one regression and significant associations were found with maternal control, paternal temporal inconsistency, maternal situational inconsistency, paternal rejection and maternal rejection. Parental rejection appears to be a robust and influential factor influencing adolescents' psychological disorders. The total variance of psychological disorders explained by all the parenting factors was low. The results revealed the flaws of reductionism in research and highlight the importance of studying associations of psychological disorders with various parental factors simultaneously and in conjunction with other familial, social and genetic factors.

Keywords Mental health · Adolescents · Parental control · Connectedness · Inconsistency · Culture

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Introduction

The mental health of children and adolescents is associated with genetic and environmental factors (Beauchaine and Hinshow 2008; Beidel and Turner 2005; Wilmshurts 2005). Among the environmental factors are relationships with parents, siblings, peers, teachers, and many other familial, school, social, and cultural factors. Within this context the parents are assumed to play a central role through their parenting styles and patterns and through their role in exposing their children to, or protecting them from, other environmental factors. The literature on parenting has focused on two parental factors that have a negative impact on children's psychological adjustment: control (or authoritarianism) (Baumrind 1966, 1991) and rejection (Rohner 1991). Recently, Dwairy (2007; Dwairy et al. 2006) pointed to the role of inconsistency in parenting.

An integrative approach is crucial because parenting factors are associated with each other. For instance, rejection and control are assumed to be dependent and overlapping factors. Because of the multiple associations between parenting factors, one can assume that the shared variance between one parenting factor (e.g., control) and children's psychological disorders overlaps with the shared

variance between other parenting factors (e.g., rejection) and psychological disorders. Therefore, when the shared variance of all three factors is assessed, the division of the shared variance between the parental factors together and psychological disorders can be expected to differ from that found when one parental factor was assessed at a time. When more associated factors, such as culture, are added, the shared variance between the parental factors and psychological disorders will change according to the association between the culture and the additional factors.

We hypothesized that parental factors are associated with each other and that the level of psychological disorders differs across cultures and across the adolescents' sex. Because of the shared variance between parental factors, the integrated associations between these factors and adolescents' psychological disorders will differ from the associations found when each parental factor was studied separately. When the cultural factor is added, all the associations will change because culture is assumed to have significant associations with all the parenting factors and with psychological disorders.

Method

Participants and Instruments

The participants were 2,884 Arab, Indian, French, Polish, and Argentinean adolescents. The adolescents were administered *The Psychological State Scale (PSS)*. This scale was developed in Arabic by Hamuda and Imam (1996) to assess 27 psychological states among adolescents and adults in Egypt. Five items pertaining to each state were designed in each of which the subject is asked to endorse or reject (2 = always true and 0 = not true) a specific statement. The scores on each scale are summed. A high score indicates a high level of psychological disorder. A factor analysis and split-half reliability conducted on the scale, when applied to normal and clinical Arab groups in Egypt, indicated good internal-structural validity of the scale. Comparison between the two groups revealed significant differences between the normal and clinical participants in all of the above subscales (Hamuda and Imam 1996).

I this study we were interested in a scale that assesses general mental health rather than making a differential diagnosis, we chose to use only three psychological states with five items each (15 items), covering three psychological disorders: *Generalized anxiety disorder* (I feel fear and anxiety for no apparent reason; I feel anxious when I go to sleep; I wake up after a short sleep, and can't fall asleep again; I feel that my extremities are generally cold; and I feel anxious while I do things and afraid of what will happen next), *depression* (I feel sad most of the time; I do not enjoy life; I prefer to be alone away from people; I feel distressed for no reason; and I feel that I am about to cry), and *conduct disorder* (I do things contrary to other people's opinion; I like to do things that hurt others; using violence makes others respect me; I like to do things that bother others; and I always disobey orders).

To allow a wider range of responses, subjects in the present research were asked to rate their level of endorsement of each item on a five-point scale (ranging from 5 = always true to 1 = not true at all). A principal factor analysis was conducted on the 15 items of PSS with a varimax rotation and a .20 loading criterion. Two factors where revealed. The first explained 26.6% of the variance and was loaded by all the 10 items of anxiety and depression. All the five items of conduct disorder were loaded on the second factor that explained 18.5% of the variance. Four items were loaded in the two factors (Table 1). The Cronbach's coefficient alpha of PSS was calculated in our present sample and was .86, indicating good internal consistency of the scale. In order to validate the *PSS* across cultures a factor analysis with a varimax rotation, *a priori* two factors solution, and a .20 loading criterion was done separately on the western and eastern samples. The two factors explained 42.33% of the variance in the west and 43.97% in the east and all items were loaded accordingly. The Cronbach's coefficient alpha in the west and east were .85 and .87, respectively, indicating a good internal validity of the scale.

Based on the above calculations, three scores were derived from this scale: emotional disorders (the mean of anxiety and depression scores), conduct disorders, and general psychological disorders (the mean of all the items), ranging between 1 and 5, with a low score indicating better mental health.

Results

Inter-Correlations Between Parental Factors

To test the shared variance between parental factors we calculated the correlation coefficients between these factors. Almost all the parental factors have significant correlation coefficients with almost all the other factors (see Table 2). Especially high correlation coefficients were found between paternal and maternal control ($r = .60$), paternal and maternal temporal inconsistency ($r = .71$), paternal and maternal situational inconsistency ($r = .54$), paternal-maternal inconsistency and each of paternal and maternal situational inconsistency ($r = .41$ and $r = .36$, respectively), and paternal and maternal rejection ($r = .67$).

Table 1 Principal component analysis of psychological states scale (PSS)

Disorder	Item	Factor #1	Factor #2
Anxiety	I feel anxious at evenings	**.62**	
Depression	I feel sad most of the times	**.73**	
Conduct	Frequently, I behave aggressively toward others		**.74**
Anxiety	I suffer from insomnia (difficulty falling asleep) at night	**.53**	
Depression	I do not feel joy in my life	**.57**	.29
Conduct	Frequently, I express my rage in a way that hurt others		**.72**
Anxiety	I become stressed easily	**.54**	.32
Depression	I feel tired most of the time	**.59**	.25
Conduct	Frequently, they tell me that I am nervous and aggressive	.23	**.70**
Anxiety	I feel tense while I am doing a task and feel anxious from what will come after	**.54**	
Depression	I tend to loneliness away from people	**.48**	.22
Conduct	Frequently I behave carelessly against the rules and instructions		**.61**
Anxiety	I feel fear and anxiety with no clear reason	**.66**	
Depression	Frequently, I have tendency to cry	**.65**	
Conduct	Usually, I behave in nervousness and without care	.29	**.63**
Eigenvalue		**3.73**	**2.77**

Bold values indicate loadings to the factors

Table 2 Correlation coefficients between parental factors

	Fcntrl	Mcntrl	Ftmp	Mtmp	Fsitu	Msitu	FMinc	Frej	Mreg
Fcntrl									
Mcntrl	.60**								
Ftmp	.30**	.19**							
Mtmp	.20**	.21**	.72**						
Fsitu	−.09**	−.05*	−.08**	−.07**					
Msitu	−.09**	−.11**	−.05*	−.05*	.54**				
Fminc	−.12**	−.08**	n.s	n.s	.41**	.36**			
Frej	.14**	n.s	.18**	.16**	−.05*	n.s	.15**		
Mreg	.08**	n.s	.18**	.19**	n.s	n.s	.15**	.67**	

* Correlation is significant at the .01 level

** Correlation is significant at the .0001 level

Psychological Disorders Across Cultures, Adolescents' Sex, and Socio-Economic Status

The level of psychological disorders differed across countries $[F(8,2880) = 32.68,\ p < .0001,\ \eta^2 = .085]$. Bedouin and then the Algerian adolescents reported the highest psychological disorders, whereas the Jordanian adolescents reported the lowest psychological disorder scores (see Fig. 1). The distribution of emotional disorders (anxiety and depression) across countries was similar to that of conduct disorders.

Female adolescents had higher mean score in emotional disorders (Anxiety and depression) than male adolescents $[F(1,2880) = 113.08,\ p < .0001,\ \eta^2 = .039]$. No significant difference between the two genders was found in behavioral disorders.

No significant correlation coefficients were found between adolescents' psychological disorders and parents' years of education. A low negative but significant coefficient was found between adolescents' psychological disorders and the family economic level ($r = -.05$, $p < .02$).

Parental Factors and Psychological Disorders across Cultures

To assess the association between parental factors and adolescents' psychological disorders, a linear multiple regression was conducted on the sample of each country, the western and eastern samples, and the whole sample. As to the whole sample, the regression explained 14.7% of the variance and the standardized coefficients (β) between psychological disorders and maternal control, paternal

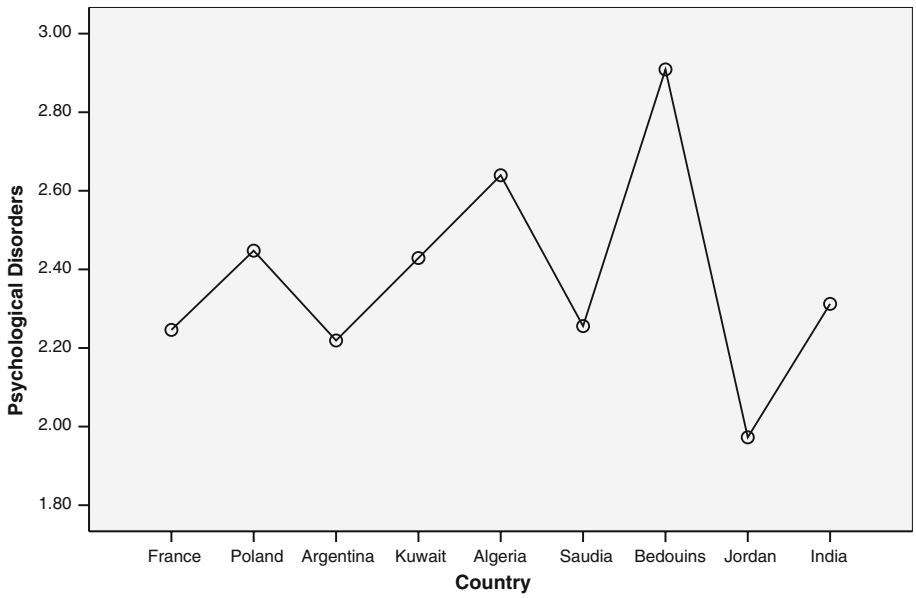

Fig. 1 Psychological disorders mean scores of each country

Table 3 Standardized coefficients (β) between psychological disorders and parenting factors (F = Father, M = Mother) when tested together in one regression analysis and when tested separately (bottom line)

Country	R^2	Control		Temporal inc.		Situational inc.		F-M inc.	Rejection	
Parent		F	M	F	M	F	M	F-M	F	M
β when parenting factors tested together										
France	.257	.19*	n.s	n.s	n.s	n.s	.22**	n.s	.46***	n.s
Poland	.217	n.s	n.s	n.s	n.s	n.s	n.s	.24**	.38***	n.s
Argentina	.211	n.s	n.s	n.s	n.s	.15*	n.s	n.s	.22**	.21**
Kuwait	.196	−.14*	n.s	n.s	n.s	n.s	n.s	n.s	.18**	.28***
Algeria	.176	n.s	n.s	n.s	.25**	n.s	n.s	n.s	.25**	n.s
Saudi Ar.	.072	n.s	n.s	n.s	n.s	n.s	n.s	n.s	n.s	.14**
Bedouins	.641	n.s	n.s	n.s	n.s	n.s	n.s	n.s	.45***	.28**
Jordan	.302	.16*	n.s	n.s	.28***	−.21**	n.s	.37***	.33***	n.s
India	.268	n.s	n.s	n.s	n.s	n.s	n.s	n.s	.23*	.31***
West	.204	.14**	n.s	.13*	n.s	n.s	n.s	.14**	.34***	n.s
East	.151	n.s	.07*	.08*	.07*	n.s	.06*	n.s	.17***	.20***
All	.147	n.s	.05*	.08**	n.s	n.s	.05*	n.s	.23***	.13***
β when parenting factors tested separately										
All		.10***	n.s	.12***	.06*	n.s	n.s	.08***	.21***	.13***

Significant at * $p < .05$, ** Significant at $p < .01$, and *** Significant at $p < .001$

temporal inconsistency, maternal situational inconsistency, paternal rejection, and maternal rejection were significant (.05, .08, .05, .23, and .13, respectively). Table 3 indicates that the association between parental factors and psychological disorders varied across countries. The explained variance of psychological disorders by parental factors among Bedouins was noticeably high ($R^2 = .64$). Table 2 enables a clear comparison between the associations found in this integrative analysis and those found in the reductionist analyses, reported in the previous articles.

Discussion

In this integrative study, we found that parental factors are associated with each other and overlap. These associations indicate that the effect of each parental factor on children's psychological disorders includes an invisible effect of other associated factors. Culture is an important factor associated with parenting styles and patterns. Indeed, our results show that adolescents' psychological disorders vary across cultures. Adolescents' sex is another associated factor that was

found influencing the adolescents' psychological disorders, with higher psychological disorders among female than among male adolescents. This finding is consistent with many other findings showing that more girls than boys suffer from emotional problems (Weiss and Last 2001).

When the associations between adolescents' psychological disorders and parental factors were tested together in one regression analysis, we found that maternal control, paternal temporal inconsistency, paternal situational inconsistency, paternal rejection and maternal rejection have significant associations with psychological disorders. These associations differed across cultures, both between countries and between western and eastern cultures. When these associations were tested separately in the western and eastern countries, it became clear that paternal behavior is more significant in the west and maternal behavior is more significant in the east. This finding may be associated with the role differences between eastern mothers and fathers: Eastern mothers typically have more responsibility within the household, for child rearing, disciplining, and the children's education. Therefore when a child misbehaves, the mother is exposed to accusations by the family and by the father, whose role it is to ensure the family's physical and economic needs (Dwairy 1997, 1998, 2006a, b). As for the central role of the father in the west, despite stricter control by the mother than by the father, it remains an issue without a clear explanation. One possible explanation is that western fathers, who are typically less controlling, become more involved and controlling when the adolescent displays psychological problems, which increases the association between the father's behavior and the adolescent's problems. Alternative explanations are possible and this issue should be studied in greater depth. Our results indicate how the associations between parental factors and psychological disorders vary across countries. Interestingly, paternal control in Kuwait, a very collective/authoritarian country, has a significant negative association with psychological disorders, indicating that paternal control not only has no negative impact on adolescents' mental health; it has a significant positive impact.

Parental rejection was the only parental factor that was robust across most of the countries and cultures. This indicates that parental rejection is an almost universal factor that is associated with psychological disorders. These results provide support to the claim made by that parental rejection is a universal factor, influencing the psychological adjustment of children across culture, race, and ethnicity (Khaleque 2007; Rohner and Khaleque 2005). However, the explained variance of psychological disorders by rejection found in this study was less than that found in other studies (e.g., Khaleque 2007; Kim et al. 2006).

Finding an association between parental factors and children's psychological disorders does not indicate a causal unidirectional relationship. Children's psychological adjustment may be influenced by parental control, rejection, or inconsistency, and parents may become more controlling, rejecting, and inconsistent in the wake of the behavioral and emotional problems of their children. It is also possible that other factors, such as social, economic, and genetic factors may influence the parental factors and the psychological adjustment of the children.

In line with the results of recent meta-analysis studies, showing minimal influence of parenting on children's anxiety (McLeod et al. 2007), depression (McLeod et al. 2007), and externalizing problems (Rothbaum, and Weisz 1994), our study shows that the variance of psychological disorders explained by parental factors taken together is minor. Of course, these findings do not reflect the real influence of parents on their children, because the parents have a crucial influence on other familial, school, and social factors that are associated with children's mental health. It is reasonable to assume that parental influence on children's psychological disorders has been reduced in an era in which the children are exposed to a wider circle of social and worldwide influences, over which the parents have limited control. In close-knit families the parents have greater influence. Indeed, among Bedouins who still live in such families and are not greatly exposed to worldwide influences, the parental factors, mainly rejection, explained 64.1% of the children's psychological disorders.

In line with our hypothesis, the associations between each parenting factor, when tested simultaneously in one regression analysis with adolescents' psychological disorders, were substantially different from the associations found for each parental factor with psychological disorders, as was reported in the previous articles. Five out of the nine parental factors tested simultaneously in one regression analysis show completely different associations: When tested in this way, the association of psychological disorders and paternal control became insignificant (instead of $\beta = .10$), maternal control became significant with $\beta = .05$, maternal temporal inconsistency became insignificant (instead of $\beta = .06$), paternal temporal inconsistency became significant with $\beta = .06$, and paternal-maternal inconsistency became insignificant (instead of $\beta = .08$). These differences between the integrative analysis and the reductionist analysis occurred owing to the shared variance between parenting factors.

This integrative study was intended to examine the association between parental factors and children's mental health. The uniqueness of this research lies in its inclusion of all of the important parental factors, and in having been conducted in nine western and eastern countries with different levels of family connectedness, while taking into consideration the parents' and adolescents' sex. All the parental factors tested, adolescent-family connectedness

and psychological disorders were found to differ across cultures and gender. The associations between parental factors and psychological disorders differed across cultures. Parental factors explain a small part of the variance of adolescents' psychological disorders. The most influential parenting factors were maternal control, paternal temporal inconsistency, maternal situational inconsistency, paternal rejection and maternal rejection, all found significant. These differences should not undermine some universal associations exist such as the negative effect of parental rejection on children.

Our findings reveal the flaws of reductionism in the study of the association between a few factors only, disregarding other associated factors, and highlight the importance of systemic research, which studies how the system works, and how many associated factors interact with each other. To attain an in-depth understanding of children's psychological mental health, we recommend that future studies focus simultaneously on as many associated factors as possible (genetic, parental, familial, school, peer, social, and cultural factors).

Acknowledgments We thank Huda Nijm (Jordan) and Lana Shhadi (Arabs in Israel) for their help in administering the questionnaires and encoding the data of their countries.

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