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Normative Minor Childhood Stress and Risk of Later Adult Psychopathology in Saudi Arabia

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Authors contributions

This work was carried out in collaboration with MEH, AMA and BW. MEH designed the study and the protocol. AMA and BW conducted the literature search. AMA collected the data. BW performed the statistical analysis. MEH wrote the first draft of the manuscript and approved the final manuscript.

Original Research Article

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ABSTRACT

Chronic minor childhood stress in the form of corporal punishment is normative in Saudi Arabia but has not been predicted by recalled frequency of childhood corporal punishment in the United States. Two hundred and thirty-two men (who for cultural reasons are predominantly substance addictions) were surveyed measuring: demographic variables, frequency of punishment as a child, depression and borderline personality disorder. Beating frequency and punishment control were related to parents' education. 92 men (36%) had major depression. Those never beaten, those experiencing infrequent beating, and those experiencing frequent beating were significantly more likely to have major depression, controlling for demographic variables. Those experiencing more frequent beating were more likely to have major depression compared to those never beaten, but only when punishment control was not significantly related to outcome. Those who had infrequent corporal punishment. These results provide evidence that corporal punishment is normative in Saudi Arabia.

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frequent minor stressors in childhoodada tas idiprlesigba

Keywords: Physical punishment, child stress, borderline personality disorder

1. NORMATIVE MINOR CHILDHOOD STRESS AND RISK OF LATE PSYCHOPATHOLOGY IN SAUDI ARABIA

The United Nations recommends a ban on all forms of corporal punishment. More than 30 countries have legislated to make it illegal [1,2,3]. The school and the recommendation for a ban is based on a substantial body of literature associating childhood corporal punishment with later psychopathology [4,5]. There is a large body of data showing that child abuse and major life stressors with psychiatric illness are associated only one study has shown an association between corporal punishment in childhood and adult depression [6]. The last study was carried out using general population data from the United States, a country where federal law prohibits corporal punishment in the home and in schools but where there is a significant opposition to corporal punishment, including the American Academy of Pediatrics [7].

The possibility that corporal punishment plays a predisposing or precipitating role in the development of psychopathology has implications for underlying processes. The relationship between major stress and depression in adulthood is well established. The kindling model suggests that a major stressor can sensitize for later development of depression such that after a subsequent stressor can precipitate depression (stress sensitization model) after the initial event, depression can develop in the absence of a subsequent stressor (stress auto-catalysis). Although several theories predict that both major and chronic minor stressors can act to kindle depression, research has focused on major stressors because minor stressors are problematic. If repetitive minor stressors within the context of parenting style, predisposes to depression then less noxious but still troublesome life events are important psychological consequences. By contrast, if corporal punishment does predispose to later depression then it is likely that major stressors are involved in the kindling process.

1.1 Associations between Corporal Punishment and Adult Psychopathology

Some authors suggest that there is no causal relationship between corporal punishment and childhood behavioral problems. These statistical relationships have two reasons for questioning a causal link, both of which apply to the statistical relationship between corporal punishment and psychopathology in the United States [6].

First, the causal direction between corporal punishment and behavioral problems is reversed: naughty children might elicit more beatings and corporal punishment is associated with worse behavioral outcomes [9]. The conclusion that children who are naturally behaved elicit more punishment, irrespective of the direction of punishment, however, other studies lead to the opposite conclusion: The ch

at an early age predicted physical and verbal punishment that naturally aggressive children do not elicit more corporal punishment.

Second, the correlation between corporal punishment and poor behavior is often not found in European or European American samples but is often not found in Latin American or African American samples. In fact, a study of African American children with spanking is considered to be the true cause of behavior. Although the correlation between corporal punishment and bad behavior is reported in some studies even when behavior is moderate, some believe that there is insufficient evidence for corporal punishment [14,9].

Because of these criticisms, it is possible that the statistical association between punishment and adult depression is not because minor stress (in the punishment) predisposes to depression, but is a confound with other aspects of parenting or via an extension of the argument, that naughty children are more likely to become depressed. A study by Afifi and colleagues of socioeconomic status but such statistical control can be criticized as being incomplete. A study conducted in a country where punishment was unrelated to socioeconomic status would therefore provide another piece of evidence of a link between corporal punishment and psychopathology, if a link exists.

Inconsistent punishment, either corporal or verbal, leads to perceived lack of control in children. There is an established relationship between corporal punishment and depression [17,18]. Underlying biological mechanisms have been identified [19] as well as a relationship between uncontrollability and borderline personality. Perceived lack of control increases the stress caused by so aversive corporal punishment should interact with the controllability of punishment. Uncontrollable corporal punishments generating the worst outcomes.

This paper tests whether the frequency and controllability of corporal punishment in childhood predicts adult depression, and whether there is a statistical relationship between these two variables.

In Western countries the frequency of corporal punishment is inversely related to wealth and not to poverty. This inverse relationship between wealth and corporal punishment is not found in Arab countries where beating with the hand is considered a desirable practice [22]. A Western expression describes this attitude: spank the rod and spare the child. We carried out our study in Saudi Arabia and measured perceived frequency of punishment in childhood and controllability of punishment in the United States population data used by Afifi [6]. A major finding in Saudi Arabia, our sample was taken from adults undergoing treatment for addiction. People with addictions are at greater risk of pathology in Western countries but there is a reason why these individuals are of particular interest in Saudi Arabia. Saudi Arabia is a country where alcohol, recreational drugs, and gambling are all banned by the government. In the Quran, the Quran provides unambiguous prohibitions. For example, the third reference in the Quran states as: Satan only wants to create animosity and hatred between you through intoxicants and gambling and the remembrance of Allah and prayer. So will you not desist? Children

memorize the Quran starting at home and preschool and continuing through Quran in each year of primary, intermediate and secondary school. This becomes ritualized by Saudi citizens as a guide to living a good life. Memorizing the whole of the Quran by heart. Thus, if a person is ashamed of shame but also of deep guilt because Saudi addicts may believe doing is fundamentally bad. Due to heightened guilt, Saudi addicts should be developing depression [26]

We measured two adult outcomes that are known to be associated with depression and borderline personality disorder and determine whether they are also associated with corporal punishment and lack of punishment control.

2. METHODS

2.1 Participants

Men with substance addictions are referred to Al-Amal Complex for Mental Health in Dammam, Saudi Arabia, which has for 150 patients with substance addictions. Men are admitted only after psychiatric indicating an urgent need for treatment. The length of stay varies but 30 days. Patients at the addiction facility were invited to take part. There are criteria.

2.2 Assessments

2.2.1 Depression

The Patient Health Questionnaire-9 (PHQ-9) is a self-report measure of the severity of depression, with reliability and validity. It has a sensitivity of 88% and specificity of 95% (Kroenke et al., 2010).

2.2.2 Borderline personality disorder

Fifteen items from the structured clinical interview for DSM-IV Axis I Personality Disorder (SCID-IV) were used to screen patients for possible borderline personality disorder. When used to screen patients, items from the SCID-IV are in a binary (yes/no) format and followed up in a clinical interview for definitive diagnosis; our dataset includes the total number of items endorsed for borderline symptomatology.

Beating frequency was assessed with the question: "Between the age of 6 and 18, how often were you beaten by your parents?" and with 8 response options varying between least once every day (see Table 1). The Arabic word for beating implies a stick or hand tapping punishment is not excessive. Beating is the common corporal punishment in Saudi Arabia. Punishment control was assessed with the question: "Patients were asked to reflect on their worst punishment between 6 and 18 and asked: 'What things could you do to control the severity of punishment?' A 7-point response scale where 1 = unable to control and 7 = able to control."

punishment control question did not specify the type of punishment so corporal and other forms of punishment.

The following demographic details were also assessed: age, smoking status, education, marital status, and the education of the mother and father presented in Arabic (available back translation) was used for both the PHQ-9 questions and the SCID-D items to ensure consistency.

Table 1. Bivariate correlations of key study variables (N = 259)

	BDP Score	PHQ-9	Beating frequency	Punishment control
1. BPD score				
2. Depression-9P	.56***			
3. Beating frequency	.22***	.15**		
4. Punishment control	-.06	.05	-.05	
5. Age	-.15**	-.14*	.01	.06
6. Smoker	-.07	-.09	-.11	.07
7. Patient's education	.08	-.03	-.01	-.02
8. Father's education	.13*	.13*	.05	-.04
9. Mother's education	.13*	.09	.03	-.04

*p < .05, **p < .01, ***p < .001

3. PROCEDURE

Patients were approached individually on the addiction ward by one of the researchers over a 3-month period, and invited to participate on a confidential and anonymous basis. Patients provided written informed consent. Ethical approval was obtained from the Human ethics committee and the ethics committee of the Mental health center.

4. STATISTICAL ANALYSES

Beating frequency was divided into three categories: never beaten, or beaten once only in life), infrequent beating (beaten once or twice per year) (beaten once per month or more frequently). Percentages of patients were divided into two categories: low (4) and high (5) based on the finding that the mean for all respondents was 3.9. Depression and BPD scores (PHQ-9) were regressed on the frequency of beating, reported in the regression of frequency and control, in two separate models (for depression status regression). Demographic control variables (age, smoking status, education of the patient's mother and father) were included in the models.

5. RESULTS

Two hundred and fifty nine men completed the assessments. Mean age was 38.2; range 19 to 58), 57% had received education to secondary school level but 15% had received only elementary or less. Educational status of parents was lower, with 30% of fathers and 42% of mothers receiving no education. Fathers and 16% of mother receiving education to secondary school level.

three % were single, 35% and 10% were divorced; one individual was widowed. At a PH-Q threshold of [20] 2 patients (36%) met the criteria for major depression.

Table 1 displays bivariate correlations between the measures taken. No demographic variables predicted the two measures of psychopathology, no variable was statistically associated with beating frequency or with the punishment. Perceived control of punishment and beating frequency were significantly correlated. These results are consistent with the normality of beating in Saudi Arabia, as well as the relationship of punishment control, to socio-cultural factors.

Table 2 shows the proportion of patients with major depression and borderline personality disorder (BPD) symptoms, as a function of beating frequency and punishment control. Logistic regression revealed no significant main effects of beating frequency or punishment control as well as a significant interaction between the two variables for BPD symptoms and a significant main effect of beating frequency and an interaction between beating frequency and punishment control (see Table 3).

Table 2. Model estimated percentage of patients with major depression and borderline personality disorder (BPD) symptoms, by beating frequency and perceived control of punishment and demographic variables

Beating frequency	Punishment control	N		Major depression		BPD symptoms	
		N ¹	N ²	Proportion	SE	Mean	SE
No beating	Low	62	14	.23	.05	7.16	0.41
	High	85	31	.36	.05	8.25	0.41
Infrequent beating	Low	19	11	.58	.11	10.16	0.87
	High	36	17	.47	.08	9.53	0.63
Frequent beating	Low	30	15	.50	.09	11.10	0.69
	High	28	4	.14	.07	7.36	0.71

¹ Number of people at this level of beating frequency and punishment control.

² Number of people at this level of beating frequency and punishment control with depression.

Table 3. Main effects of and interactions between beating frequency and punishment control, predicting borderline personality disorder (BPD) status and depression

	BPD stat (0/1)		Depression (PH-Q)	
	χ ² (df)	p	F (df)	p
Beating Frequency	9.02 (2)	.011	7.35 (2, 25)	.001
Punishment control	2.74 (1)	.098	4.26 (1, 25)	.040
Interaction	11.04 (2)	.004	8.42 (2, 25)	.001

We examined to what extent these significant effects were due to differences between no beating, infrequent beating or frequent beating. Irrespective of perceived control of punishment, infrequent beating (F(1,253)=8.2, p<.01) was associated with more depression than no beating (F(1,253)=0.001, p=.973). For BPD symptoms both infrequent (F(1,253)=11.78, p<.001) and frequent (F(1,253)= 6.68, p=.010) produced worse outcomes than no beating.

When there was no beating or infrequent beating, perceived punishment had a significant effect on outcome (respectively, for depression $F(1,172)=4.53, p=.033$ and for BPD symptoms $F(1,172)=10.07, p=.002$). When beating was frequent, those perceiving that their punishment was uncontrollable had significantly higher depression (36% respectively, for depression $F(1,172)=3.74, p=.06$; for BPD symptoms $F(1,172)=3.74, p=.06$).

To further investigate the extent of means in Table 2, we compared those who reported frequent beating but experienced high levels of punishment control with those who experienced no beating (irrespective of level of control). There was no difference for depression ($F(1,172)=0.07, p=.79$) or for BPD score ($F(1,172)=0.28, p=.60$), despite being beaten frequently, those perceiving high levels of control had significantly better outcomes compared with those who were never beaten.

6. DISCUSSION

This study examined the risk of psychopathology in a group of people who, for various reasons, were prone to depression because of their addictions. The results showed that there was a statistical relationship between beating and perceived control, and another aspect of parenting: the extent to which children perceived their punishment to be in control of their punishment. Overall, the results confirm that perceived control and stress is a predictor of major depression, even when the minor stressors are consistent with the conclusion that authoritarian parenting when normative appears to have far less serious and adverse effects than authoritarian parenting. In contrast to corporal punishment and uncontrollability act as kindling for later depression, in a high-risk background.

The two measures of punishment style, namely, frequency of beating and perceived control, were uncorrelated, showing these to be independent facets of parenting in this population. Adults who reported never being beaten had less depression than those who reported they were beaten infrequently. For these two groups (no beating and infrequent beating) the perceived control of punishment did not affect depression. However, for those experiencing frequent beating, the perceived control had a highly significant effect on psychopathology: those with high perceived control had less depression and BPD symptoms than those with low perceived control. The high perceived control effect of high punishment for those frequently beaten was clinically important for those reporting frequent beating with high perceived control, their psychopathology was similar to those who were never beaten. By contrast, those who reported frequent beating with low perceived control had levels of psychopathology similar to those who were infrequently beaten.

Our data show that even infrequent exposure to psychopathology. There are several possible reasons for this finding, but it may be that infrequent exposure to no beating is associated with other aspects of parenting that also affect the outcome.

There are limitations to our study: We did not have objective measures of beating or punishment controllability, and inaccuracies may arise from recall bias. A concern that current negative affect may increase recollections of past experiences, either as a regulatory strategy to explain current affect, or

sympathy, or because negative events are more salient during periods of addition, it is possible that the perceptual processing of these positive events in this population is different from that of the general population. Our observed interaction may be due to the way different types of people respond to beating. We measured only major symptoms and the results may differ for less severe forms of psychopathology of wellbeing, or for other behaviors such as aggression. We assessed only males and there is some evidence that childhood experiences have a greater impact on females rather than males [30]. Further, research with a Chinese population demonstrates that corporal punishment predicts aggression in boys, whereas psychological predicts aggression in girls [32]. Depression may have many causes other than corporal punishment.

Finally, this study provides a link between three strands of research. The first strand shows that early childhood trauma predisposes to adult somatic disease due to changes in inflammatory mediators [33]. The second strand shows that corporal punishment is associated with problems in children [4, 5]. The third strand shows that stress in adults produces long term increases in depression [35, 7]. Because depression is associated with inflammatory mediators [36] as well as HPA dysregulation [37] it is possible that all three phenomena (early life stress, corporal punishment and depression) involve a similar mechanism of biological change, epigenetic changes, that then make the development of depression and as well as other psychiatric pathology more likely [38].

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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