

Home Chaos: Predictor of Behavioral and Peer Problems Among Young Children

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The present research was conducted to find out home chaos as a predictor of behavioral and peers problems among young children. Sample consisted of 80 children (40 girls and 40 boys), with an age range of 3 to 7 years ($M = 5.32$, $SD = 1.26$). It was hypothesized that children from families reporting high chaos would show high levels of behavioral and peer problems. Confusion, Hubbub, and Order Scale-Urdu (Shamama-tus-Sabah & Gilani, 2006) and Strengths and Difficulty Questionnaire (Goodman, 2001) were administered to measure home chaos, behavioral and peer problems and prosocial behavior respectively. Correlation and Hierarchical multiple Regression was run to analyze the data. Home chaos was found to be positively correlated with children's behavioral and peer problems. Moreover it was also found to be a significant predictor of behavioral and peer problems and prosocial behavior among young children. Implications and limitations and suggestion for future research have been discussed.

Keywords. Home chaos, strengths and difficulty questionnaire, behavioral and peer problems, young children

Human development is a lifelong process. It includes both biological and social aspects. Biological as well as social adaptation is necessary for individuals to meet the demands of their environment.

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Such adaptations are important because we must coexist in the same environment with many others. From biological inheritance to environmental experiences, there are multiple factors that play important role in child development. As seen in studies of Bandura (1986), Erikson (1968), Lewin (1935), Piaget (1952), and Vygotsky (1962) environment and inheritance both play an active role in child development.

The bioecological model by Bronfenbrenner (1990) is an evolving theoretical system for the scientific study of human development over time. According to the model if one needs to understand human development it is important to consider the entire ecological environment. Development occurs through reciprocal interactions between children, persons, objects and symbols in their immediate environment. Such interactions could be effective or non-effective depending on their regularity (Bronfenbrenner & Evan, 2000).

The interactions in immediate environment of children such as between mother and a child are called proximal processes. These interactions act as engines of development. The strength of the proximal processes depends on exposure which refers to the extent of duration, frequency, interruptions, timings and intensity of the contact between the child and people, objects and symbols in his/her immediate environment. To be effective proximal processes need stable and consistent environments. If they are not effective they may lead to either competence or dysfunction. Competence refers to the demonstrated or acquired learning and further development of knowledge, skills, or ability which helps an individual to direct his/her own behavior in different situations. Dysfunction is the persistent manifestations of problems in maintaining control and integration of behavior across different situations and aspects of development (Bronfenbrenner & Evan, 2000). Environments characterized by instability, unpredictability, and inconsistencies in activities, routines, and relationships specifically in family affects exposure and ultimately results in disruptive developmental outcomes, e.g. many stepparent families exhibit lack of consistency in their parenting behavior and roles. Such conditions reduce the power of proximal processes to produce effective psychological functioning and may lead to behavioral problems among children (Hetherington & Clingempeel, 1992; Zimiles & Lee, 1991).

Environmental chaos is one aspect of child's physical microenvironment. It refers to contexts such as home, school or daycare characterized by crowding, high noise levels, unpredictability and absence of temporal and physical structure. It could disrupt proximal processes by affecting their exposure and strength (Evans &

Wachs, 2010). Chaotic homes tend to lack schedules, such as mealtimes and bedtimes. They are characterized by high physical and social stimulation, disorganization and are also associated with weak and dysfunctional proximal processes for example less responsive parenting with young children (Matheny, Wachs, Ludwig, & Phillips, 1995). Such chaotic environments in turn produce psychological distress and adverse socioemotional outcomes in children (Chatterjee, Gillman, & Wong, 2015).

Home Chaos and Developmental Outcomes in Children

Studies show well established findings from minority and non-minority samples indicating chaos as positively associated with family and parental income, parental stress, their emotional disturbances and parenting difficulties. It is also related to less effective discipline, lack of sensitivity and responsiveness towards children. Chaos has also been associated with children's behavior problems; including impulsivity, conduct problems, and delinquency, poor cognitive performance, poor self-regulatory capabilities, and poor language abilities. Children from chaotic families also score higher on behavioral problems and learned helplessness as compared to their counterparts (Dumas, Nissley, Nordstrom, Smith, Prinz, & Levine, 2005; Evans, Gonnella, Marcynszn, Gentile & Salpekar, 2005; Smith, Prinz, Dumas, & Laughlin, 2001; Supplee, Unikel, & Shaw, 2007)

Similarly, chaos is also linked with children's temperament. Results of various studies indicate that children with behavioral problems and difficult temperaments show more sensitivity to environmental chaos as compared to children with easy temperaments (Matheny & Phillips, 2001; Wachs, 2010). In addition children from chaotic homes show high levels of externalizing and internalizing problems as noisy and crowded homes limit the children's ability to regulate emotions and behavior. Due to lack of routines children get more opportunities to act out (Shamama-tus-Sabah, Gilani, Wach, 2011; Jafee, Hanscombe, Haworth, Davis, & Plomin, 2012). Latest findings indicate significant predictive association between parents' attachment avoidance and anxiety with poorer health of their children in chaotic homes as compared to their counterparts. In addition in chaotic homes parents' attachment anxiety also leads to more hospitalization among children (Klempfuss, Wallis, & Quas, 2018).

Males and females also express different kind of reactions when encounter chaos in their environment. Findings show males as more sensitive to chaotic environments in their infancy and preschool years as compared to females. However, these gender differences decline with age (Wachs, 2010).

Number of studies based on western samples highlights the importance of household chaos as an aspect of children's microenvironment. In Pakistan, though, the evidence is in the same direction (home chaos is positively associated with behavioral problems among children) however more studies are required to study the impact of chaos on various developmental aspects of children. In earlier study we did not find any association between home chaos and children's cognitive ability though all western studied report positive relationship between the two. Such cultural differences provide new hypothesis to explore the direct and indirect impact of chaotic environment on children's development (Shamama-tus-Sabah et al., 2011; Shamama-tus-Sabah & Gilani, 2008). The objective of the present study was to extend the scope of our previous findings by exploring the relationship of home chaos on children's peer relations and their prosocial behavior.

Method

Sample

Convenient sample of 80 preschool children including girls ($n = 40$) and boys ($n = 40$) and their mothers took part in the present research. The children were selected from different Schools of Rawalpindi and Islamabad. Children's age range 3-7 years. The sample was collected according to the pre-established criteria; all intact families, cases of divorce or separation were excluded; only those families were included who had number of children from 1-7 and could read and understand Urdu Language. The parents' age ranged from 23-50 years with education ranged from 8th to 16th or equivalent. The average age of the children was 5.32 years ($SD = 1.26$) at the time of testing. Those class teachers of the children were selected who were teaching them for the last one year. The income of the families ranged from Rs. 10,000-85,000 per month. The demographic information was also recorded.

Instruments

Confusion, Hubbub, and Order Scale (CHAOS). The scale was developed by Matheny et al. (1995) is used to measure household chaos. The scale is given to mothers. It is 15-items forced choice scale and has true false format with some reversed scored items i.e. "Your family can usually find things when they need them." "Your family is usually able to stay on top of things". Scoring is done by assigning 1

to “*true*” and 0 to “*false*” statements. A single score is derived by summing the responses for the 15 items. A higher score represents high chaos and vice a versa. High reliability and validity have been reported for the original scale (Matheny et al., 1995). Validity has been reported in terms of correlation with the observed measures of home disorganization and parenting (Matheny et al., 1995). In the present study translated version of CHAOS (Shamama-tus-Sabah & Gillani, 2008) was used. Reliability of translated version was reported as .77 where as Cronbach’s alpha for the present sample is .84.

Strength and Difficulty Questionnaire-SDQ (Goodman, 2001). SDQ was used to assess the behavioral problems of children. It is a brief questionnaire assesses 25 attributes including both positive and negative. The 25 items are divided in 5 scales. Each scale has 5 items each. Subscales include conduct problems, hyperactivity, emotional symptoms, peer problems, and prosocial behavior. A total difficulty score is generated except prosocial scale. There are three versions of SDQ including the self, parent and teacher report. Teacher rated form was used in English Parent rated form was used in Urdu translation. The range of total score is from 0 to 40. Low score is from 0-13 and shows the normal behavior. The range of high score is from 17-40 and it shows elevated difficulties among children. Reported reliability of the scale is satisfactory (Goodman, 2001). Examples of items are “Considerate of other people’s feelings”, “Restless, overactive, cannot stay still for long”. For the present research, alpha coefficient for parent rating scales was .56 (mother reported scale) and .55 (father reported scale); for teacher rating scales alpha coefficient was .61.

Procedure

The school administration was contacted to get permission for the research. The acceptance letters and demographic forms were given to children to be filled by their parents. After receiving acceptance letters the sample of 80 children was selected (140 questionnaires were sent but half of them were returned). SDQ-teacher form was given to the class teachers. Teachers were requested to provide accurate ratings of child’s behavioral problems. Mothers were approached at their homes. They were briefed about the rationale of the research. Instructions were given to them. They were given the demographic sheet, CHAOS scale and SDQ respectively to provide information. Fathers were also contacted to get the SDQ filled. It took one hour with each parent and teacher. After collecting data results were computed.

Results

Alpha reliability and items total correlations were computed to find out internal consistency of the scales. Along with descriptive analysis hierarchical multiple regression analysis was done to assess chaos as a significant predictor of behavioral, peer, and prosocial problems among young children over and above gender.

Reliability Analysis

Alpha reliability of the chaos scale-Urdu version was found to be .85 that is highly satisfactory. SDQ both parent and teacher's rating forms were also found to be reliable. The reliabilities for the subscales of SDQ-Parent form range from .30 to .66 and for SDQ-Teacher form it is from .40 to .60. These reliabilities are in moderate range. Fathers ($n = 30$) were also requested to rate their children on SDQ. Inter rater reliability between fathers and mothers ($r = .56^{**}$, $p < .01$) and between mothers and teachers ($r = .60^{**}$, $p < .01$) were also calculated and found to be high. Interscale correlations between CHAOS and subscales of both Parent and teachers rating scales were calculated (see Table 1).

Table 1

Interscale Correlations between CHAOS and Subscales of Parent and Teacher Rating Scales of SDQ (N = 40)

	1	2	3	4	5
		Parent's Rating on SDQ			
1 CHAOS	-	.34 ^{**}	.28 [*]	-.10	-.29 ^{**}
2 Conduct		-	.19 ^{**}	-.34 ^{**}	-.35 ^{**}
3 Emotional			-	.18	.13
4 Peer				-	.25 [*]
5 Prosocial Beh.					-
		Teacher's Rating on SDQ			
2 Conduct	-	.38 ^{**}	.16	.33 ^{**}	-.29 [*]
3 Emotional		-	.31 ^{**}	.46 ^{**}	-.24 [*]
4 Peer			-	.34 ^{**}	-.15
5 Prosocial Beh.				-	.22

Note. Beh = Behavior.

* $p < .05$. ** $p < .01$.

Correlations between home chaos, conduct, emotional, peer problems and prosocial behavior of children are in expected direction. Results show significant positive association between home chaos, conduct and emotional problems on SDQ parent and between home chaos and conduct and peer problems on SDQ teacher form. In

addition home chaos is negatively correlated with prosocial behavior on both rating forms.

Table 2

Regression Analysis Predicting Mothers' Reported Conduct, Emotional, and Prosocial Behavior (N = 80)

Variable	Model I			Model II		
	B	SEB	β	B	SEB	B
Conduct Problems						
Gender	.72	.41	-.19	-.55	.39	-.15
CHAOS				.15	.05	.32**
R ²		.04			.14**	
ΔR^2		3.08			8.54**	
Emotional Problems						
Gender	-.15	.56	-.03	.06	.55	.01
CHAOS				.18	.07	.28*
R ²		.00			.08*	
ΔR^2		.07			6.46*	
Prosocial Behavior						
Gender	.75	.40	.21	.60	.39	.17
CHAOS				-.12	.05	-.27*
R ²		.04			.11*	
ΔR^2		3.43			6.04*	

* $p < .05$. ** $p < .01$.

Hierarchical Multiple Regression was done to find out home chaos as significant predictor of behavioral and social problems among children over and above gender. Forced entry method was used. We run separate regressions for SDQ parent rating and teacher rating subscales. Bonferoni adjusted criteria was used to evaluate the significance of 6 separate regressions. P value of .008 or less was required for overall significance of each regression. Each regression had two steps. At first gender of the child and in second step CHAOS scores were entered. The CHAOS scores were entered last to find out its unique contribution in predicting children's behavioral and social problems including peer and prosocial behavior. The same entry procedure of predictors was applied throughout the analysis. The assumptions of independent error in regression were met as Durbin-Watson = 1.64, with no multicollinearity (VIF values are less than 10).

On parent rating scale results has shown home chaos as a significant predictor of conduct problems, emotional problems and prosocial behavior among young children. However the hierarchical multiple regression for peer problems (PRS) was not significant.

On teacher rating scale home chaos was a significant predictor of conduct problems, peer problems and prosocial behavior of young children. The hierarchical multiple regression for emotional problems (teacher rating scale) was not significant (see Tables 2 and 3) showing only significant results). On teachers rating scale gender was found significant predictor of prosocial behavior indicating girls being high on prosocial behavior as compared to boys.

Table 3

Regression Analysis Predicting Teacher Reported Conduct, Peer Problems and Prosocial Behavior (N = 80)

Variable	Model I			Model II		
	B	SEB	β	B	SEB	B
Conduct Problems						
Gender	-.68	.46	-.18	-.45	.43	-.12
CHAOS				.17	.05	.36**
R^2		.03			.16**	
ΔR^2		2.20			10.30**	
Peer Problems						
Gender	-.79	.43	-.22	-.62	.42	-.17
CHAOS				.14	.05	.30*
R^2		.05			.14*	
ΔR^2		3.37			6.84*	
Prosocial Behavior						
Gender	1.24	.39	.36**	1.11	.39	.32**
CHAOS				-.10	.05	-.24*
R^2		.13**			.43*	
ΔR^2		10.05**			4.47*	

* $p < .05$. ** $p < .01$.

Discussion

The present study highlighted the importance of stable and predictive environments for children's development by assessing the relationship between home chaos and children's behavioral and peer problems and prosocial behavior. Results indicate that home chaos significantly predicts behavioral, prosocial and peer problem in both home and school setting. In western cultures home chaos is considered as important aspect of children's physical microenvironment. It is linked with parental discipline, responsiveness, parental attachment and positive reactions. Parents in chaotic homes are not responsive, fail to show positive reactions to their children's emotions and show attachment anxiety which in turn leads to less effective emotional regulation and effortful control among children. Such children spend

more time in screen watching, exhibit externalizing problems and face more hospitalizations (Emond et al., 2018; Klemfuss, Wallin, & Quas, 2018; Smith, Prinz, Dumas, & Laughlin, 2001). Latest findings across low and middle income countries (LMICs) including China, Colombia, Jordan, Kenya, the Philippines, and Thailand supports the previous pathways; in chaotic homes harsh parenting along with dangerous neighborhood increase the risk of behavioral adjustment among adolescents (Deater-Deckard et al., 2019). Chaotic conditions not only affect academic performance but leads to less developed social skills among children (Bradley, Caldwell, & Rock, 1988; Morrison & Cooney, 2001). Research has shown strong associations between highest CHAOS score with increased odds of risky health behaviors, with depression and school engagement as potential mediators (Chatterjee et al., 2015)

Present study findings are in line with these results. Children living in chaotic homes showed more externalizing, internalizing, and emotional problems along with poor prosocial and peer relations. On parent ratings we found home chaos as a significant predictor of conduct problems, emotional problems and prosocial behavior among young children. On teachers rating results showed home chaos a significant predictor of conduct, peer and prosocial problems among children. As discussed home chaos may affect children's behavioral adjustment and emotional regulation through multiple pathways either directly or indirectly. Children in chaotic homes get less attention and positive reactions from parents, receive harsh parenting, spent more time on screen watching, and experience less structured and unpredictable environments which increases the risk of behavioral problems. Earlier evidence from Pakistan has shown chaotic homes as leading to externalizing, internalizing problems, poor social skills and poor academic performance during middle childhood (Shamama-tus-Sabah et al., 2011; Shamama-tus-Sabah & Gilani, 2008). Parents living in chaotic homes are less responsive and miss the opportunity to sit together and teach social skills to their children (Wach & Desai, 1993). Similarly chaos may also affect children's ability to regulate their attention and arousal. Long term exposure to chaotic environments limits their exposure to important and useful aspects of socialization in turn depressing their cognitive and socioemotional development (Evans & Wachs, 2010). Moreover high levels of family chaos may reduce parents' ability to respond positively to their children's emotions and therefore affecting their effortful control and emotional management (Valiente, Lemery-Chalfant, & Reiser, 2017).

In present study we included two more important aspects of children's adjustment; peer relations and prosocial behavior which

were not studied in earlier project. Parents from chaotic homes did not report peer problems, however on TRS children were reported as having peer problems in school. Such results suggest the possible lack of discipline, structure and supervision from parents in chaotic homes required for the optimal growth of children which results in more time spent with peers as compared to school where social skills and prosocial behavior is more needed to maintain better peer relations. Results also indicated gender as a significant predictor of prosocial behavior, girls being high on prosocial behavior as compared to boys on teacher rating scale.

Conclusion, Implications, and Limitations

The present study not only supports the earlier literature explaining chaos and its associations with behavioral problems among children but also extends our knowledge by exploring the adverse effects of chaotic environments on peer relations and prosocial behavior of children. Results support ecological model by Bronfenbrenner (1979) that explains the importance of microsystem (home and school settings) and the interconnection of various systems for the optimal development of children. The study highlights the importance of home environment which may either make parenting effective or turns into risk factor for children or adolescents. Predictability, structure, organization, discipline, parents' supervision, responsiveness are all vital aspects of children's microenvironment. Research shows that children living in poverty and experience chaos at home benefit more in day cares where they get full time care and opportunities to develop their cognitive, social and emotional skills (Berry et al., 2015). This study has implications not only for parents but for educationists and other institutions providing services for children to maintain organized and structured routines and environments. For family counselors it is important to make parents aware of their role and environment they are providing to their children. Though the present study due to the part of an academic activity was done with small sample however it has opened various practical hypotheses for future research.

Children's growth and development depends on interaction of various aspects of parenting, multiple systems around including schools and daycares, socio-cultural values, religious beliefs, and economic and political policies. One study couldn't answer all the questions and must be goal directed. Therefore it is suggested for future research to further explore the effects of home chaos on other developmental trajectories of children.

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