Temperament characteristics of street and non-street children in Eldoret, Kenya

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ABSTRACT

Objective: To examine the interaction of temperament and environment and how these impact on the psychological function of street children and non-street children in Eldoret Kenya.

Method: This was a cross-sectional study conducted in Eldoret town. A Revised Dimensions of Temperament Survey (DOTS-R) a 54 item, factor-analytically-developed self-report instrument that measures nine temperament dimensions was used.

Results: The statistical analysis showed that the largest significant level was on the approach/withdrawal dimension (F = 12.38, p<.001) the activity level-sleep (F = 4.20, p<.01) and the task orientation (F = 3.62, p<.01) dimensions were next in rank in terms of significance. The highest mean score on activity level-general (17.88) and the activity level-sleep (9.65) were in the "of" the street children that is consistent with their scavenging lifestyle and sleeping patterns. They have to be vigilant when sleeping on shop verandas, run down buildings, and trash-bins.

Conclusion: These results support earlier research on street children. Counter to public opinion and hostility, the children are resilient, adaptable and flexibile in the face of adversity and remaining well adjusted as individuals.

INTRODUCTION

The study of temperament as a stylistic component of behaviour has been a focal point for developmental psychologists, educators and clinicians investigating individual-social context relations [1] [2] [3]. Models have been formulated which suggest that individual differences in temperament may moderate the quantity and quality of interactions, and may, therefore, influence psychosocial development and behavioural adjustment [4] [5] [6]. According to this conceptualisation, temperament refers to stylistic and dispositional features of behaviour with an emphasis on how people behave rather than on how well they perform on tasks (that is ability levels), or on the underlying motivational dynamics. It has been viewed as the outward manifestation of internal biopsychological events related to arousal, vigilance, and generation of effect, social bonding and motility and was developed in order to balance a psychological "environmentalism run wild (p. 138)" [7] [8] [9]. For example, the temperament dimension approach-withdrawal refers to initial response tendencies to approach or withdraw when encountering new persons or novel situations, and sleep rhythmicity refers to the regularity of the daily sleep-wake cycle. Virtually all people manifest the behavioural responses associated with temperament attributes. On the other hand, we propose that individual differences in the systematic expression of these attributes are significant with regard to interpersonal interactions with significant others such as parents, peers, and teachers in their response to their daily demands of living [10] [8].

While temperament is conceived as a key intrinsic factor in child development, social environmental factors have also been identified with child behavioural outcomes such as social adjustment, mental health and resilience to stress [11] [12] [13] [8]. The reviews of childhood stresses indicate that three factors namely; temperament; family support and external support are the most consistent predictors of child and adolescent adjustment in response to stressful

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life events [14]. Children with a difficult temperament profile (that is biological arrhythmicity, withdrawal from novel stimuli, low adaptability or inflexibility to changes in the environment, high-intensity responses, and negative mood quality) have been reported more likely to have negative social interactions with resultant increased risk for adverse psychosocial development and maladjustment [5] [9]. Similarly, based on longitudinal data, affectionate infant temperament style, elicited positive responses from the primary care givers of children of alcoholics and that such positive parent- infant relations differentiated children of alcoholics, who did not and did develop maladjustment problems in late adolescence[15].

In this article, we will contribute to this research need by assessing the temperament in samples representing four groups of children "on" the street, are those children who spend most of their time in the streets or markets, usually as child workers. A significant feature of these children is that they generally retain strong family links, usually returning to the family home to sleep at night. The "of" the street children are for whatever reason fully participate in street life at an economic and social level. These children although they have a home to go to they do not go home with any degree of regularity or consistence. The "shelter" children are either abandoned or orphans, these children have no home to go to, even if they wished. They are on the streets because of the death of a parents or rejection by their parents and unavailability of appropriate extended family[23]. The "school" children came from disadvantaged neighbourhood school in Eldoret town

METHODS
The study was a cross-sectional design. The study site was Eldoret, a town of 300,000 population in Kenya. One hundred children in each group representing "on" the street children, "of" the street children, abandoned (shelter) children and a control group of primary school children from poor Eldoret neighbourhoods were recruited for the study. However, sub-samples of 204 boys from the cohort of 400 children were conveniently selected and further assessed with psychometric test, Revised Dimensions of Temperament Survey (DOTS-R). The socio-demographic and social network characteristics of the total sample are reported in an-

other publication[23]

Measurement
The difficulty of using standardised psychometric tests in cross-cultural research has been long documented, but the accepted opinion is that they are of some value especially when making group comparisons[16,17,18,24]. We used the Revised Dimensions of Temperament Survey (DOTS-R). A 54-item, factor-analytically developed self-report instrument that measures nine temperament dimensions, for our measure of temperament[2].

Two different translators translated the DOTS-R into Kiswahili then back into English. The accuracy of the translation was compared with the original version. No major differences were found between the original and the translated questionnaire. We then piloted the instrument with some of our school children sample and found no major difficulties in comprehension among the school children sample.

RESULTS

Table 1 presents the DOTS-R dimensions mean scores, standard deviations and significance levels for the Eldoret children's groups. The statistical analysis showed that the largest significant level was on the approach/withdrawal dimension (F =12.384, p <.001). The activity level-sleep (F= 4.196, p < .01) and the task orientation (F=3.616, p<.01) dimensions were next in rank in terms of significance level. The activity level-general dimension (F=3.006, p<.05). was also found to be significant.

The highest mean scores on the activity level-general (17.88) and the activity level-sleep (9.65) were in the "of" the street children that is consistent with there scavenging lifestyle and their sleeping patterns (they have to be vigilant when sleeping on shop verandas, run down buildings, and trash-bins). On the other hand, the shelter children recorded the highest scores on approach/ withdrawal (19.69) and task-orientation (21.86) dimensions. Like the "of" the street children, this temperament stylistic trait seems to have a good fit with their lifestyle and institutional demands. The religiously oriented shelter programs, in their local and international fund-raising activities, actively employ these children. They are encouraged to approach prospective donors and assigned highly supervised tasks of singing, acting and/or proselytising to obtain support for the programs as well as the household chores in the shelter.

Table 1.

DOTS-R dimensions mean scores, standard deviations and significance levels for Eldoret children groups (N = 204).

| DIMENSIONS					GROUPS			
	School		Shelter		On the street		Off the street	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Activity level-General[*]	15.51	4.43	16.49	4.67	17.00	3.71	17.88	3.51
Activity level-Sleep[**]	8.16	2.69	8.39	2.91	9.49	2.76	9.65	2.23
Approach/Withdrawal[***]	15.75	3.52	19.69	3.87	17.67	2.70	17.29	2.94
Flexibility/Rigidity[+]	11.59	3.45	11.35	3.34	12.18	2.35	12.67	2.57
Mood	16.80	3.85	16.73	3.78	17.14	2.10	17.84	3.70
Rhythmicity-Sleep	13.18	4.20	12.51	3.64	13.80	3.22	13.88	3.50
Rhythmicity-Eating	10.22	3.64	11.02	3.28	11.39	2.86	11.33	3.02
Rhythmicity-Daily habits[+]	9.76	2.57	9.86	2.62	10.69	2.53	10.73	2.30
Task Orientation[**]	20.73	4.35	21.86	4.06	19.69	4.25	19.51	3.61

*** p<.001   ** p < .01   * p <.05   + p <.10

Although not significantly different from the other groups, they also reported the highest negative mood quality indicating, perhaps, that they are not so happy in this situation although it provides a good fit with their other traits of approach/avoidance and task-orientation. The trend data also suggest that both "of" and "on" the street children tend to differ from their more socially controlled age-cohorts in the shelters and schools on the dimensions of flexibility/rigidity and rhythmicity-daily habits. The "of" the street children have the same habits of waking up, looking for food, begging, scavenging and sniffing glue each and every day with no variation for weekends as do the control group. The "on" the street children also have the same activities

each day of waking up (at home) and then out in the streets begging, hawking and carrying things for people until well after dark.

Thus, the street based children higher scores on these dimensions supports the interpretation that in order to survive street children have had to develop a more flexible behavioural style and higher degree of regularity in their daily life. These children have to actively minimise the many risks that they are exposed to compared to the shelter and school children that must fit into social controlled programs of planned and organised diversity.
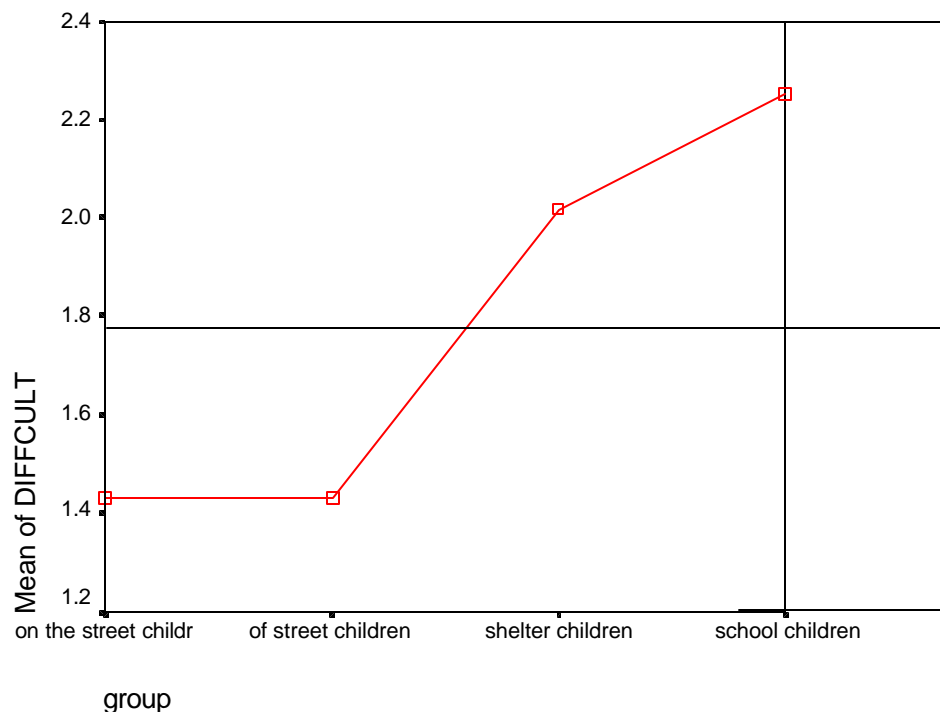
The figure 1 is partitioned at the mean to define the easy and difficult child categories. Interestingly both street children groups (on the street, of the street) have about the same degree of "easiness" while, the shelter children, classified, as difficult children are somewhat less so than the extreme school children. On the face of it, these results seem counterintuitive as street children are publicly recognised as the "problem" group and, therefore, common sense might assume that they have temperaments that are more difficult. However, the goodness of fit criteria in temperament theory needs to be kept in mind. The school children, originating from impoverished economic and therefore difficult backgrounds express a good fit with their difficult temperament styles. As mentioned in the introduction, the issue here is that stressful situations can provide developmental challenges promoting self-growth.

A difficult child temperament style can become a successful coping strategy to meet with the demands of changing difficult circumstances and improving oneself. In traditional Kenyan child-rearing practice, children are often left with their siblings to be cared for by their parents under the watchful eye of the community. With schooling now parents look to the schools to provide care for their children. These children have gradually mastered the school environment and they are coping with their new expectations of competition. The school environment does not demand a spontaneous response to unfamiliar situations, but rather a controlled and predictable reaction to routines.

While moving school children to a new school normally takes them quite some time to adapt, coping with the especially difficult circumstances provides a wholly different set of demands on the street child. In especially difficult circumstances, the expression of an easy temperament seems to represent a "paradoxical" fit with the demands of the environment that cannot easily be judged in the simple terms of goodness or badness of fit. The "of " the street children, by their temperament style, seem to have adapted easily to their environment with the support of their "brothers" in peer groups and gangs to which they owe high degrees of loyalty and conformity.

Also, this form of social support resembles more closely the traditional Kenyan sibling-centred care than the highly adult controlled environment found in the schools and shelters. These children can also easily use drugs, eat whatever they can find, have a capacity to approach anyone to beg or ask for help regardless of their position in society. The "on" the street children present another pattern of the easy child temperament style. These children owe loyalty to their female-headed families, which maintain some modicum of stability in their lives. They go to the street to earn money, which they share with their families. The family keeps some sense of order in their lives without the high degrees of social control that would

conflict with the demands of the street that require quickness in adaptation and response. The family reduces the stress of street life for these "on" the street children in an analogous way to how the peer group and gang does it for the "of" the street children.

DISCUSSION

Our results are not easy to explain by the existing theories of temperament developed for the most part in American white middle class social environments. They especially highlight the need to see the children in context and to apply the concept of temperament "to illustrate and understand the complex environment-person interaction that had previously remained undetected (p. 138)"[7]. Our results clearly support much of the earlier research on street children that counter to public opinion and hostility. We found them to be highly resilient displaying a high degree of adaptability and flexibility in the face of adversity and, because of their special psychological characteristics, remaining remarkably well adjusted as individuals[25 26 27 28]. In fact, our results suggest that the "complex" interaction might not be best modeled as a statistical interaction at all, but rather a circular function feedback process in which individual differences in temperament elicit differential reactions from others that, in turn, create a contextual pathway for child development.

Such an explanation has been offered to revise some of the conceptual weaknesses in the goodness of fit model. In explaining American adolescent psychosocial functioning[2]. Street children's paradoxical easy temperament style may be an expression of a continuous childhood developmental struggle to find a niche in a hostile and dangerous world constituted by especially difficult circumstances. Although not statistically significantly different than the control group, the "of" the street children's relatively higher score on the mood dimension indicates perhaps a conditioned contextual pathway formed by the cumulative reactions of others. Expressions of good mood and friendliness to most people in the street by street children fits well with their dependence on strangers for donations and other favors. However, to maintain this temperament style, as other African studies have documented, requires that they sniff glue and take other drugs to cope with the hunger, cold and hostility[29]. However, such a process-oriented theory

to explain the paradoxical temperament of street children, as has also been suggested by the American adolescent research, can only be tested with longitudinal research. With our study's cross-sectional research design, it is neither possible to conclusively support the theory or to specify the precise causal linkage between temperament and the social environment. A priority for future research in this area as well as others pertaining to street children should be on longitudinal cohort studies[30].

Given this methodological limitation, there nonetheless exists ample support in the literature for our interpretation of the "of" the street children temperament. As a correlate of a process characterized by high energy, vigor and overt motor activity in a routine and constant struggle to get food[27 31 32 33 34 35 28 9 3]. Street based children are among some of the numerous groups of urban homeless and poor, working like adults and being excluded from normal adult organizations of social control[36]. As mentioned above, this daily process is diametrically in contrast with our control group who participate in daily, adult-supervised and organized activities at school or at home.

This process continues and spreads out into the sleeping time characterized by high level of motor activity during sleep (e.g., tossing and turning). Even in sleep, these children are vigilant for their survival on the streets where the school children can rest in their own beds after the demands of the day. In one study on victimization of street children in neighboring countries in East Africa, the authors reported theft, beatings and safety problems as a characteristic feature of their daily lives[37]. They describe how street children must develop a variety of coping strategies to avoid the theft and beatings that they must be constantly vigilant against. Street based children must be able to sustain a balanced approach/withdrawal style in order for them to adapt to their extremely difficult circumstances. For example, their survival process involves the selection of persons or places that are safe to beg from sell or congregate.

Our other results pertaining to the "easy" child and "difficult" child temperament clusters emphasize the fact that children are born with individual differences in terms of their temperament styles. Some children are born in the average range, but others come into the world with extremely positive or extremely negative, socially undesirable temperament traits. The "difficult" children phenomenology is more withdrawing from novelty, less adaptable, and secondarily or as a reaction, with a more negative mood and high emotional intensity. Ultimately, this child is predisposed to externalizing behavioral disorders (such as violence) when the parental/teacher

attitudes to discipline are dysfunctional[38][39]. The school children had a lower score on mood, and approach/withdrawal dimensions, which is consistent with their difficult behavioral style. The "easy" children are reported to be more approach oriented, sociable, less intense, and to have higher levels of positive mood quality.

Our results differ from the benchmark American adolescent study that reported several temperament attributes correlating significantly with family support, suggesting that high levels of familial emotional support are associated with flexibility of biological functioning such as eating and daily habits like bowel movements[10]. However, our results are similar for temperament attributes associated with friends' emotional support. The street based children who rely on friends for material and emotional support are more sensitive to the social environment. They are beginning or about to begin going through the stormy period of puberty and individuation transitions without any family support.

Their "easy" temperamental style may enhance these children's adjustment processes on the streets, but it also places them at risk for adapting quickly to antisocial behaviors from gangs and others on the streets. On the other hand, their temperament may evoke from the environment certain interpersonal or other forces that might not otherwise be noticeable or prominent. For example, the irritable (difficult) child may evoke physical abuse from an overstressed parent with insufficient self-control. Either being victimized or exposed violent acts perpetrated on siblings in early childhood might be a reason for street children having an easy temperament later on in childhood. A contextual pathway has been created based on a coping strategy to avoid beatings and to obtain money and material support on the mercy of the public. Furthermore, children's temperaments shape their responses to the people and things in there daily live; especially those that induce stress[40].

The overt behavioral components of a child's reactions are what the parents or members of the public see. The concept of the "goodness of fit" is useful but it has limitation in the school or streets setting. We must recognize that in the streets as well as in schools there are limits to the application of the goodness-of-fit concept. Some behavioral characteristics and some environmental

properties make a healthy consonance between child and street/school extremely difficult to achieve.

CONCLUSION

Our results provide confidence that the DOTS-R has a high potential for research and clinical assessment in African children in extremely difficult circumstances. The recommended research design for such studies should be longitudinal incorporating multiple case and control groups. Because of the rapidly changing socio-cultural context in Africa, this future research should try to involve a combination of testing procedures with the collection of collateral qualitative data using anthropological techniques.

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