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COLLABORATIVE RESEARCH SUPPORT PROGRAM
OF NUTRITION AND FUNCTION

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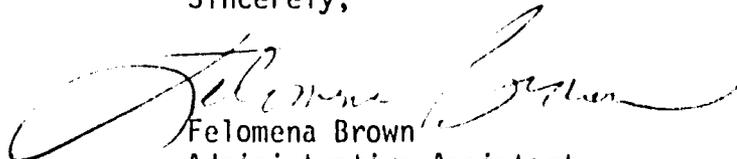
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RE: Grant No. DAN-1309-G-SS-1070-00

Dear Coordinator:

Submitted herewith is one copy of the trip report by Dr. Theodore Wachs in accordance with Article IV, Reporting Requirements of the subject grant.

Sincerely,


Felomena Brown
Administrative Assistant

Enclosure

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9/21/83

Field Report: Egyptian Trip
Theodore D. Wachs, Senior Scientist Egyptian CRSP
Dates of Travel: 1/4/83 - 1/24/83

The goals of this trip to Egypt were as follows: First, on-site evaluation of the sample, ecological characteristics of the village and status of personnel. Secondly, to field test procedures we had proposed. Thirdly, to initiate training for Egyptian scientists involved in the project and fourth to develop short term goals for the cognition and behavior area over the next several months. What is described below is an outline of my activities in each of the above areas. I will not be including material which would be of interest primarily to those working in the cognition and behavior area per se (for example information on the characteristic response style of Egyptian babies to cognitive testing or the major types of interaction observed between Egyptian mothers and their babies). These details will be in my field notes which are available to any member of the project.

1. Sample, setting and personnel

Much of January 6 was taken up by discussion with Dr. Zeinab Bishry regarding cultural attitudes and child rearing practices in Egypt. While much of this discussion is not central to this report, a number of points that were raised should be noted here. First, in the test site there was a strong possibility that many marriages are consanguineous in nature. This appears to be quite common in the lower class Egyptian villages. There are two implications that follow from this. First, this may make comparisons across the different countries extremely difficult, particularly if consanguinity is concentrated primarily in the Egyptian population. While available evidence indicates that consanguinity effects mean level of test performance (which should not hamper cross-country comparisons) there is also the possibility that the more inbred children in our sample may also be more sensitive to stress in their environment. This may change the specific correlational patterns observed within Egypt, as compared to other countries. One way of assessing these effects would be to look at our within sample data comparing children with different degrees of inbreeding in terms of their means and correlational patterns. To do this, it is strongly recommended that we compute a coefficient of inbreeding on each non-adult subject in our sample, so we have some measure of the degree of consanguinity for each individual.

A second problem associated with consanguinity is the increased probability of physical and mental defect. Physical defect and severe mental retardation are of special concern in terms of inclusion or exclusion of subjects. Dr. Bishry and I are recommending for subjects with severe mental defect or for subjects with physical handicaps that, once identified, these individuals continue to be studied but that their results be analyzed as a separate subsample from the nonhandicapped. This would allow us to determine whether or not the impact of chronic malnutrition and its correlates differs for physically intact versus nonphysically intact individuals.

A second problem that arose out of our discussion was the possibility that in some cases fathers may have more than one wife. Although this practice does appear to be dying out in Egypt it still occurs to some extent. Since the biological father may therefore not be living in the same house as some of his offspring, there may be some confusion in terms of the exact influence of the fathers status upon the child's developmental patterns. Discussion at a later date with Dr. Farouk concerning the census data revealed that this

information will be available from the census records and it will therefore be possible to handle half sibs as a special group in terms of a separate subanalyses.

Finally, given the possibility of halo effects, it was agreed by Dr. Bishry and myself that testers be rotated so that the person who tests one core subject within a family will not also be responsible for testing other core subjects within that family. Insuring that the right testers get to the right subjects should be left to the field coordinator.

In terms of the sample itself, in a meeting on January 12th between myself and Drs. Farouk, Waffa, and Bishry it was agreed that the core sample, for whom all measurements would be obtained, would be the lead male and lead female in the household, children between seven and ten and children under two years of age. Dr. Bishry and I are in agreement with these recommendations, however, we are also proposing that we obtain cognitive measurements on children between 24 months and 7 years in our households. The rationale for this recommendation is that if there are no differences as a function of nutritional status over the first two years of life but there are starting after seven years of age it would be extremely useful to know when the cognitive decline began to set in, so that in future studies we could more precisely target specific age brackets.

In terms of the village ecology, three visits were made to the village, (January 10th, 13 and 17th) for purposes of observing interactions between Egyptian caretakers and their infants. These observations were carried out both within homes, and in settings where mothers and infants were likely to be gathered (for example, along the canal). As a result of these observations we made a number of changes in our proposed home observation manual (see 2). Although the nature of our observation procedures are beyond the scope of this report it is worth noting that it would be extremely difficult to categorize the Egyptian village setting by a single label such as deprived or disadvantaged. Rather what we saw were highly complex interactions, some of which could be very conducive to infant development (for example the high degree of physical contact between caretaker and infant) while others could be detrimental (for example the lack of available objects within the home for infants to interact with).

In addition to observing the village, on January 17 and January 19 we also observed a number of classrooms in both school systems in the village. In addition, during these visits we also obtained permission to utilize school children in our research from the headmasters of both the government and religious schools. Again, while a detailed description of the nature of the classroom situation is beyond the scope of this report there are a number of points about these school systems in the village which should be noted. The problem of observing and obtaining data from the school is complicated by the fact that in the government schools there are two school sections. One in the morning and one in the afternoon; each section has its own set of teachers. This should not be a major confounding variable since, hopefully, children will be randomly assigned to either the morning or afternoon sections. However, there also appear to be distinct differences between the government and religious schools not only in terms of the curriculum but also in terms of instructional styles. Specifically, based on observations, it appears that

the religious schools are stressing rote memory as a teaching technique to a much greater extent than are the government schools. Further, it is still unclear as to exactly what factors, besides degree of religious belief, which would lead some parents to use the government schools, while others send their children to religious schools. This may be another potential confound at the very least, this does mean that we shall have to analyze data from the two school systems separately since it is quite possible that different patterns of results may occur as a function of differences in teaching style.

In terms of personnel based on a January 9th meeting it was agreed that Dr. Faisal (who is a clinical psychologist at Cairo University) would be responsible for cognitive testing measures whereas Dr. Bishry would have prime responsibility for the observation and interaction measures. There will be some overlap between these two areas (for example Dr. Bishry will have responsibility for the Brazelton testing whereas Dr. Faisal will have responsibility for toy play observations). In general the division of responsibilities appears to be equitable and appears to fit the particular strengths of both Egyptian colleagues. In terms of doing the testing Dr. Faisal is recommending that we hire psychologists who are trained in Egyptian Universities. These will typically be masters level personnel with a good background in most standard assessment procedures; they are not however trained in infant assessment and will have to receive special training in this particular area. In the event that we are unable to hire masters level psychologists we will then attempt to hire undergraduate psychology students who have had some background in testing. Only if we are unable to do this will we go outside to other disciplines. In terms of observers, based on a meeting with Drs. Bishry and Wafaa it was agreed that the observations would be done by the dietary workers. We would use part of the cognition and behavior budget to help hire additional dieticians. During the week the dieticians are doing food observations in the family they will spend 15 to 20 minutes a day doing our observations as well. Obviously special training will be required for these individuals and Dr. Bishry will take on this job. In terms of the school observations it was agreed that one or two social workers could be used to do the school observations.

2. Field Testing

In terms of field testing a primary concern was the utility of our infancy measures with an Egyptian population. There was less concern with the measures for older children and adults since in our first meeting Dr. Faisal (January 9) it was learned that all of the instruments we are recommending for use with older children and adults had been translated into Arabic and standardized in Egypt (though these were the early forms of the test and not the revised versions; work is currently underway modifying these earlier forms to make them equivalent to the revised versions of the tests).

As a first step in field testing the utility of our infancy measures Dr. Bishry and I visited a variety of Egyptian stores in Cairo looking for appropriate toys and test materials. It was obvious from this experience (January 7) that there were sufficient similarities between U.S. Test Materials and material available in Egypt to allow us to construct test kits for the Uzgiris-Hunt with minimal trouble. On January 12 and January 13 I tested babies in the village with Drs. Bishry and Faisal as observers.

In general, while there were minor differences in test taking behavior there did not seem to be any insurmountable problems in testing village babies using the material we had. Such minor problems as we observed can be easily handled through training. We therefore do not see major obstacles to testing Egyptian babies in the village using available materials. One factor however was obvious to us. It will be critical to test Egyptian babies in their homes and not in the clinic. We had little trouble testing babies in their homes except for the minor problems noted above. It proved almost impossible to test babies in the clinic. Away from the home and not exactly sure of the purposes of the test, mothers were extremely anxious and this anxiety was transmitted to the infant. In contrast, in the homes both mothers and infants appeared much more at ease. While the home lacked certain facilities that the clinic does, such as testing tables, this is not insurmountable since floor or beds can be used. Further, while homes are crowded this can work to our advantage, since various relatives can be used by the tester to help coax maximal performance out of the infant. Therefore, while our field testing of infant instruments did not reveal any major procedural changes necessary in test administration per se, the testing did strengthen our original conception that tests should be done in the home and not in the clinic.

In addition, based upon our observations in the village, we extensively revised the originally proposed home observation manual to fit local conditions. In general the revisions involved expanding existing categories rather than replacing categories. For example, given the relative lack of objects in the Egyptian home, compared to the relative wealth of objects outside, we added a subcategory coding the amount of time the infant spends outside the home as opposed to the amount of time the infant spends inside the home. The original revisions were done by myself and were cross checked by Dr. Bishry, based on her experiences with patterns of childrearing in Egyptian villages. The end product was a manual which we feel gets at the dimensions of parent/infant and infant environment interaction we feel are critical and yet can be easily transmitted to field workers.

In addition to developing a training manual for infants, we also developed a training manual for observations in the school, based upon our visits to a number of classrooms in both the government and religious schools. While the school observations manual contains many of the categories used in similar manuals in the United States, our observations confirm that it is critical that pilot work be done to determine the occurrence rate and variability of the coding categories in this manual. Specifically, several of the parameters coded in the United States are less likely to occur in Egypt (ie., bringing non-school objects into the classroom) while other categories (ie., out of class time) may be more critical. Further, our attempts to do systematic observations of the classroom were hampered by the obvious disruption in classroom routine caused by our presence. In both the government and religious schools the headmasters went around to the classrooms with us and did some of the teaching themselves. As a result the pupils were obviously much more attentive than they would normally be. Given this, in contrast to our home environment observation manual, which we feel is field usable, questions still remain about the utility of the school observation manual. These will have to be settled by pilot data (see 4).

In terms of other measures, previous discussion with Dr. Bishry had established that Egyptian mothers do have a concept of the infant as difficult. Mothers did appear to respond with some consistency when asked if their infant had been easy or difficult in the last month. Based on these observations, two approaches will be pilot tested in terms of an alternative measure of temperament (besides the infant behavior record) to see which is of most use. Following our discussions Dr. Bishry has developed a rating scale for mothers using the New York Longitudinal temperament categories. In addition we also will obtain data on what criteria Egyptian mothers use to label their babies as either easy or difficult.

In terms of the language sample measure, based on observations, it was agreed that the most appropriate task that we could ask mothers to teach their young children was doing something around the house, such as learning to feed the animals. We will be pilot testing this task to see if it is comprehensible to mothers and two year olds and if we can obtain usable data on maternal language and teaching style from this task. Finally, as an alternative measure of cognitive functioning in childhood Dr. Faisal recommended using the Galvonic skin response as a measure of attention and reactivity to stimulation. This appears to fit very nicely with some of the measures we will be using in infancy. Acquisition of a portable Galvonic skin response measurement device was therefore recommended.

3. Training

The most critical focus of training appears to be in terms of infant testing. Dr. Faisal is a skilled examiner in regard to childhood and adult testing and his students are also experienced. But Dr. Faisal has only limited experience in testing infants. As a start in this direction two training sessions were utilized (January 16,22) with Dr. Faisal. In the first session I tested and Dr. Faisal scored; in the second session Dr. Faisal tested and I observed and critiqued his testing procedures. Dr. Faisal will continue to obtain experience in infant testing and will use the Telex to question me in regard to ambiguities in either scoring and administration. In terms of observations, on January 22 Dr. Bishry held an first orientation meeting with dieticians and social workers to go over general observation procedures. A training format was developed (see 4) where the dietary and social workers will be systematically trained in observation skills.

4. Activity in Egypt over the next several months

It was agreed that there would be little utility in my returning to Egypt until the activities noted below have been accomplished. At that time I can return to specifically calibrate field workers performance on both test and observational procedures. In terms of observational procedures Dr. Bishry will be working with the dietary and social workers. The training program we have developed involves dietary and social workers first observing babies in the nutrition institute to get them used to recording times and using stop watches. Once they are comfortable with the mechanics small groups will be taken out to the village to practice observations. At this time discrepancies in scoring and ambiguities in the manual would be resolved. Once the workers appear to be comfortable with the system, formal reliability checks between

Dr. Bishry and each of the workers would be undertaken. A similar procedure will be also used in regard to school observations. The pilot work in the schools will also be useful in terms of telling us the variability of each of our observational codes.

In terms of other measures which Dr. Bishry will be responsible for she will develop culturally appropriate examples of each of the nine New York Longitudinal temperament dimensions so that observers know what to look for while in the home. Once these have been developed training will proceed as above. Further, while in the home Dr. Bishry's observers will also obtain information from the mothers in terms of characteristics that lead the mothers to label the baby as easy or difficult over the past month. This data when obtained will be sent to me for hierarchical cluster analysis to see if it is possible to develop a check list. If enough variability is obtained, these measures can be used to form the basis of a checklist where mothers could simply note the predominant characteristics of their infant over the past month. As noted earlier Dr. Bishry will also be doing pilot work on the language sample to see how mother and infants respond to this test and what is the best way to code the mother vocalizations. (For example can this be written down or is it necessary to taperecord). Dr. Bishry will also be training Dr. Faisals examiners to be sensitive to signs of hearing or visual problems in infancy.

In terms of testing, Dr. Faisal will first get as much experience as possible testing babies with our different measures. Once Dr. Faisal has resolved any problems in scoring and administration he will then do demonstrations for his examiners in the nutrition institute, testing babies of different ages using our different measures. The examiners will then administer the test to babies in the Nutrition Institute to get comfortable with the material. Once this is done the examiners will then be taken out to the village to practice test administration under field conditions. At this point interobserver reliability will be obtained. A similar procedure will be used for the infant behavior record.

In terms of other testing procedures, a very preliminary manual for the toy play codes was developed. This will be expanded by pilot testing by Dr. Faisal in Cairo. Further refinements will be made in the village once the Cairo codes appear to be fairly well set. At this point it would then be possible to obtain interobserver reliability for the toy play codes.

For older children and adults given that the available instruments are already translated into Egyptian, the only necessary step would seem to be that of obtaining interobserver reliability between Dr. Faisal and his examiners. Finally, Dr. Faisal is currently determining whether any standardized school achievement test has already been translated into Arabic. If a standard achievement test has been translated into Arabic there will be no necessity for us to construct such a measure. If it is not it will be necessary for us to translate one of the existing North American achievement test into a culturally appropriate form.

5. Potential Problems

There are several potential problems in future collaboration but all seem to resolve around time requirements. Specifically, there are a number of steps that must be taken prior to the time that the cognition and behavior section is ready to start formally collecting data in Egypt. First, a number of our training and test manuals must be translated into Arabic. This will

be an extremely time consuming procedure; as yet we have not found a person with sufficient technical and linguistic qualifications to do this. Secondly, there is the time required to actually train testers and observers. While in some cases (adult and child cognitive testing) time requirements will be minimal, in other cases (infant cognitive testing) considerable amounts of time will have to be expended. The time problem is compounded by the fact that both Drs. Bishry and Faisal have other commitments besides this project, which means that it will be impossible for them to spend full time training. This may be a problem in other areas as well but it is especially critical for our area, given that our training requirements are among the most time consuming. Further, many of our measures are among the most sensitive to cultural effects and must therefore be pilot tested prior to actual use in the field. In general, with the exception of a more detailed toy play manual and the necessity for developing a scoring manual for the language interaction section, satisfactory progress has been made on providing appropriate training material and training instructions. However, the amount of time required for training still remains a major obstacle. It is as a means of partially minimizing this time commitment that we have recommended that the initial training take place in Cairo rather than in the village, given the tremendous time involved in actually getting out to the village from Cairo.

In terms of my own future activities I will be developing a manual for the toy play interactions. In addition, I will be developing a preliminary manual for the language interaction sessions. I will also serve as a reference for Dr. Bishry and Dr. Faisal regarding specific questions that emerge during the course of their training observers and testers. Once the observers and testers have received preliminary training and we have some preliminary data on interobserver reliability then it would be appropriate for me to return to Egypt to run a cross-check on the accuracy of observation and testing and scoring. Until I have received work from Dr. Bishry and Dr. Faisal that their field personnel are at this stage there seems little reason for me to return to Egypt.

Two final points should be noted in this report. First, it was strongly recommended that money be allocated for Dr. Bishry to come to the United States this summer for training on three specific measures. Specifically, it is recommended that Dr. Bishry be checked out on her scoring and administration of the Brazelton through one of the Brazelton training centers in the United States. This is a necessary step so that her data with this instrument will be comparable to that obtained by other scientists who have been formally trained on this instrument. Secondly, Dr. Bishry could also be trained on two supplementary measures that we recommended (measurement of infant competence motivation and measurement of child social interaction) through observation of existing approaches to these dimensions currently being used in my laboratory and laboratories of colleagues who are working in these areas in the United States.

Finally, it was unclear from my visit exactly which of our area groups would have responsibility for measurement of infant activity. It was originally recommended that we utilize actometers but, given the tremendous amount of carrying that Egyptian babies are given, actometer readings would

be extremely misleading unless special situations were set up wherein mothers were instructed not to carry their babies. This would require more field workers to monitor these situations. The cognition and behavior area unfortunately does not have the field workers to spare for these additional observers. Given the general thrust of our proposal it would seem most logical for the measurement of activity to be given to the social competence area, particularly in view of the fact that we have, at the request of Dr. Jerome, agreed to take school performance as part of our area.