

Comparison of Egyptian and Canadian Children on a Picture Apperception Test

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Individualism–collectivism theory predicted that Egyptian and Canadian children’s performance would differ on relevant scales of the Roberts Apperception Test for Children (RATC). The RATC was administered to 34 Egyptian and 34 Canadian children ages 6–13 years. Canadian children scored higher on autonomy and lower on receiving support from others and parental limit setting. At older ages, Egyptian children manifested less rejection, desire for help from others, and aggression. There were no cultural differences in anxiety or depression and few differences on indicator and resolution scales related to understanding the task and resolving problems. The findings validated cross-cultural use of the RATC and demonstrated that the increasingly general theory of collectivism allowed meaningful predictions about personality and clinical traits.

• *personality development • collectivism • individualism • independence • social support*

Ethnic diversity places increased pressure on psychologists to carry out clinical practice and basic research in a culture-sensitive manner, including appropriate assessment

and interpretation of psychological traits. Psychologists require both valid measures of relevant traits and theoretical models for observed similarities and differences. Despite a

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growing need (Kagitcibasi, 1990, 1996; Rao & Stewart, 1999), valid assessment of personality across cultures remains a challenge because translations of verbal measures may lack conceptual equivalence.

Nonverbal materials reduce comprehension and translation difficulties (Paunonen & Ashton, 1998). Pictures also engage children readily, can assess traits that children may be unwilling or unable to report (Holtzman, 1959), may better accommodate cultural differences in the meaning of events (Harari & Beaty, 1990), and are less sensitive than verbal tests to distortion by cultural norms (e.g., Weisz et al., 1988) and response sets (e.g., Peng, Nisbett, & Wong, 1997). Joiner (1996), for example, found that the Roberts Apperception Test for Children (RATC) was less susceptible to defensive response styles than self-reports of depression. Consistent with this analysis, the RATC has produced meaningful results for Thai and other cultural groups (McArthur & Roberts, 1987; Roberts, 1994).

The present study further examined the RATC for use with children from different cultures (Egypt and Canada) and examined if cultural differences were predicted by collectivism theory. On the RATC, stories generated to pictures are scored in a standardized way for traits relevant to clinical practice and normal development (see the Appendix). Objective scoring corrects unreliability and other limitations of projective tests (Weiner, 1999) and facilitates clinical use and comparisons across cultures. The RATC has been used with both clinical and nonclinical groups (Friedrich & Share, 1997; Hersh, 1978; Palomares, Crowley, Worchel, Olson, & Rae, 1991; Worchel, Rae, Olson, & Crowley, 1992), is taught in assessment courses, and is commercially available. An extended guide to interpretation has been published more recently (Roberts, 1994).

Collectivism reflects differences in the value of in-groups and correlates with many cultural differences in psychological functioning (e.g., Hofstede, 1980, 1983; Triandis, 1995). Collectivists consider more how

their actions affect in-group members and are more involved in lives of in-group members (Hui & Triandis, 1986). They conform more to in-group norms, obey authorities more, and cooperate less with out-groups (Shweder & Levine, 1984). Collectivists more often subordinate personal to in-group goals (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Collectivism is correlated with such parenting variables as use of reinforcement, methods of reward, and modes of justice (Kagitcibasi & Berry, 1989). Collectivist children bring material benefits to the family while young and care for aging parents as adults (Kagitcibasi, 1982). Family dependencies and attachments are more extended in collectivist cultures (Georgas et al., 1997).

This model predicted cultural differences on the RATC. Although classifying entire nations requires caution, Canadians tend toward individualism and Egyptians toward collectivism (e.g., Buda & Elsayed-Elkhoully, 1998; Oyserman, 1993). Canada is at the high end of Hofstede's (1980, 1991/1997) individualism scale ($M = 80$); Egypt and other Arab nations score much lower ($M = 38$). The countries also differ on the individualism ratings of Diener, Diener, and Diener (1995). Consistent with such ratings, Rugh (1985) found that Egyptian families emphasize interrelatedness, and Abudabbeh (1996) found that Egyptian children value the extended family and sacrifice self for family.

Collectivism is implicated directly in RATC scales related to autonomy. Triandis (1995) stated that independence differentiates child rearing in individualist and collectivist cultures. Egypt and other collectivist cultures value obedience more than independence (Kagitcibasi & Berry, 1989; Strom et al., 1992). Ghareeb and Beshai (1989, p. 325) noted that in Egypt "it is culturally sanctioned for children to exaggerate their need for help." Similar results hold for Turkey (Kagitcibasi, 1982; Kagitcibasi, Sunar, & Bekman, 1988; Sunar, 1982), Hong Kong (Feldman & Rosenthal, 1991), and Greece (Kyrios, Prior, Oberklaid, & Demetriou,

1989). Collectivist cultures that encourage conformity are also more likely to put constraints on children (Ellis & Peterson, 1992) and to emphasize harmony and control of aggression. Egyptian parents oppose all aggression, and little aggression is observed in children from the Middle East (Al-Ansari, 1987; Chandler, El-Samadony, Shermis, & El-Khatib, 1991; Strom et al., 1992), Japan (Bornstein, 1989), China (Abel, 1948), or Turkey (Sunar, 1982). Thompson and Joseph (1945) hypothesized that concern for the communal good led to restrained aggression in Hopi children.

On the basis of this analysis, we predicted that Canadian children would obtain higher scores on the Support-Child scale, which measures self-sufficiency and independence, the Rejection scale, which may result from unwanted autonomy, and the Aggression scale. Egyptian children were expected to obtain higher scores on the Reliance on Others, Support-Other, and Limit-Setting scales, all measures that reflect dependency and external restrictions.

No strong predictions were made for other RATC scales in the Appendix, although they were examined because they are routinely obtained when the RATC is administered and may be particularly important in clinical settings. In particular, collectivism per se did not warrant specific predictions with respect to anxiety and depression, and empirical results are mixed (see Discussion). On the resolution scales related to children's handling of problems, no predictions were possible given the lack of theory and empirical evidence. The RATC indicator variables were primarily useful for identifying anomalous response patterns.

Method

Participants

The Canadian group consisted of 34 children (17 boys and 17 girls) from 6 to 13 years old ($M = 10$ years 0 months) matched on age and gender with 34 Egyptian chil-

dren (17 boys and 17 girls) from 6 to 13 years old ($M = 9$ years 11 months). Canadian children were born in Canada, attended urban public schools in Winnipeg (Manitoba, Canada), were from two-parent families, and had at least one family line present in Canada for three generations. Egyptian children attended urban public schools in Tanta, Egypt, and came from two-parent families living in Egypt for at least three generations. Winnipeg and Tanta are medium-sized urban centers in rural settings and with major universities. The three schools in each city served predominantly middle-class, urban families, with one or both parents working. In both cities, school officials volunteered to participate after board approval and distribution of invitations and information about the proposed study. With respect to statistical power, samples of this size will detect differences of 1.00 standard deviation 98% of the time and differences of 0.75 standard deviation (a typical difference between clinical and nonclinical samples in research with the RATC) 87% of the time. Egypt and Canada were selected for the present study because of their collectivist and individualist orientations, respectively, and because we were collectively familiar with the two cultures and languages and were geographically situated to test children in both locations.

Materials and Procedure

Designed for children from 6 to 15 years old, the RATC (McArthur & Roberts, 1987) consists of 16 pictures of common situations and stresses for children, including such clinically relevant situations as parent disagreement and peer conflicts. Children in Tanta view television and are familiar with RATC-like stimuli. The standardized instructions asked children to "make up a story about each picture. Tell me what is happening . . . what led up to this scene . . . how the story ends . . . what the people are talking about and feeling." Paraphrases were given if children did not understand, and inquiry

prompts were given, if needed, to elicit a full response (e.g., "How does the story end?"). Background questions asked about the child (e.g., age, gender), others living in the home, parent occupation, and place of birth for the child, parents, and grandparents.

Upon approval of school authorities, background questionnaires were sent to parents who agreed to participate. Children were tested in individual sessions of 30–45 min, remained interested, and did not request breaks during testing. The Canadian stories were written verbatim. Egyptian children's responses were audiotaped and later transcribed, translated from Arabic to English, and then back-translated by Ali El-Khatib, who is a professional psychologist fluent in both Arabic and English (he was educated and has worked in both North America and Egypt for many years). The back-translator had not seen or heard the original stories and was unaware of the specific hypotheses being studied. Egyptian children were audiotaped to permit more precise translation of their stories, as well as verification of the subsequent translations. Taping was done unobtrusively, and none of the children appeared to pay attention to or be otherwise influenced by the recording.

Individual stories were scored on the 13 subscales and three indicators in the Appendix using extensive instructions in the manual. Prior studies have yielded interrater agreements from .80 to .95 (Hersh, 1978; Kaleita, 1980; McArthur & Roberts, 1987; Muha, 1977). Anastasia Barbopoulos and Fatmah Fisharah independently scored the responses of 10 children (a total of 160 stories). Interrater reliability ranged from .77 to .91 across the scales. All stories were then scored by separate raters. Fatmah Fisharah was familiar with Egyptian culture and scored the Egyptian stories; Anastasia Barbopoulos scored the Canadian stories. Standardized scores were obtained from norms for three age groups: 6–7, 8–9, and 10–12 years. These scores use a common baseline and facilitate comparisons with other studies but do not assume that norms are necessarily appropriate for Egyptian children. In-

deed, we predicted differences between collectivist Egyptian and individualist Canadian children.

Results

The primary analyses compared Egyptian and Canadian children, but participants were also divided by gender and age, with young (less than 10 years of age; mean age = 8 years 6 months) and old (10 years or older; mean age = 11 years 1 month) groups. Analyses of variance were performed with culture, gender, and age as variables. All F s had degrees of freedoms of 1 and 60. Reported p values are for nondirectional (i.e., two-tailed) tests, making the tests somewhat conservative in cases in which observed results were predicted. Because of reduced sample sizes, we discuss only age and gender effects that involved culture (i.e., interactions).

Factor analysis of the six scales hypothesized to be related to collectivism identified two factors (see Table 1). When reversed, Factor 2 scores reflected Independence, including themes of autonomy and self-sufficiency, as well as lower levels of support to others and being disciplined. As predicted, Egyptian children scored lower on Factor 2 than did Canadian children (M s = -0.61 vs. 0.61), $F = 40.49$, $MSE = 0.63$, $p < .001$, $\eta^2 = .38$ (p s $< .02$, for the simple effects at each level of age and gender). All three measures loading on Factor 2 showed the predicted effect. Canadian children scored higher on Support-Child (M s = 70.59 vs. 46.18), $F = 115.63$, $MSE = 87.86$, $p < .01$, $\eta^2 = .62$ (p s $< .01$ for simple effects) and lower on both Support-Other (M s = 45.62 vs. 60.24), $F = 30.92$, $MSE = 110.57$, $p < .01$, $\eta^2 = .28$ (p s $< .05$ for simple effects) and Limit Setting (M s = 53.68 vs. 63.26), $F = 9.17$, $MSE = 181.11$, $p < .01$, $\eta^2 = .13$. The last difference was uniform for each age and gender (p s $< .27$).

Factor 1, labeled Support, reflected Reliance on Others, Rejection, and Aggression. Largely as predicted, Factor 1 scores were

TABLE 1 Correlation and Factor Analysis Results for Independence-Related Scales

Scale	1	2	3	4	5	6
1. Support-Other	—					
2. Support-Child	-.51	—				
3. Limit Setting	.31	-.37	—			
4. Rejection	-.38	.33	-.14	—		
5. Reliance on Others	.12	.18	.20	.33	—	
6. Aggression	-.28	.36	-.02	.52	.33	—
Factor loadings						
Support	-.20	.40	.19	.73	.77	.77
Independence	.78	-.69	.76	-.33	.32	-.22

Note. Factors 1 and 2 accounted for 39.74% and 24.62%, respectively, of the variability in the scales.

lower for Egyptian ($M = -0.49$) than for Canadian ($M = 0.49$) children, $F = 23.26$, $MSE = 0.63$, $p < .01$, $\eta^2 = .22$. All three scales showed this pattern. That is, Canadian children scored higher on Rejection ($M_s = 52.47$ and 62.09), $F = 14.77$, $MSE = 96.07$, $p < .01$, $\eta^2 = .17$; Aggression ($M_s = 44.59$ and 55.44), $F = 21.22$, $MSE = 88.63$, $p < .01$, $\eta^2 = .23$; and, unexpectedly, perhaps even Reliance on Others ($M_s = 47.97$ and 54.09), $F = 3.60$, $MSE = 146.83$, $p = .063$, $\eta^2 = .05$. Factor 1 and its defining variables produced a significant interaction between culture and age, $F = 6.32$, $p < .02$. The difference between factor scores for young Egyptian ($M = -0.30$) and Canadian ($M = 0.18$) children was weak, $F = 2.45$, $p = .12$, whereas Egyptian children scored lower at older ages ($M = -0.66$ vs. 0.73), $F = 29.54$, $p < .01$. Again this pattern was observed for all three measures. Younger Egyptian and Canadian children did not differ clearly on Rejection ($M_s = 53.75$ and 58.67), $F = 1.79$, $MSE = 96.07$, $p = .19$; Reliance on Others ($M_s = 51.25$ and 52.60), $F = 0.04$, $MSE = 146.03$, $p = .85$; or Aggression ($M_s = 46.50$ and 52.80), $F = 3.49$, $MSE = 88.63$, $p = .07$. At older ages, however, Egyptian scores were significantly lower for Rejection ($M_s = 51.33$ and 64.79), $F = 17.89$, $p < .01$; Reliance on Others ($M_s = 45.06$ and 55.16), $F = 6.76$, $p < .02$; and Aggression ($M_s = 42.89$ and 57.53), $F = 22.87$, $p < .01$.

A second factor analysis identified three factors in the remaining six RATC scales.

Factor 2, which included Anxiety and Depression, was of particular clinical importance. Egyptian ($M = -0.02$) and Canadian ($M = 0.02$) scores did not differ, $F = 0.06$, $MSE = 1.06$, $p = .81$, nor did culture interact with age or gender. Egyptian and Canadian children did not differ on Anxiety ($M_s = 63.53$ and 64.12), $F = 0.03$, $MSE = 154.77$, $p = .86$, or Depression ($M_s = 59.76$ and 62.09), $F = 0.97$, $MSE = 130.30$, $p = .33$. Canadian scores were somewhat higher for Factor 1 ($M_s = -0.21$ vs. 0.21), $F = 6.60$, $MSE = 0.50$, $p < .02$, $\eta^2 = .05$, which included scales related to Problem Identification and Resolution. Canadian children scored higher on Resolution 2 ($M_s = 47.62$ and 42.62), $F = 5.65$, $MSE = 78.96$, $p = .02$, $\eta^2 = .05$, and lower on Unresolved ($M_s = 51.91$ and 57.85), $F = 7.76$, $MSE = 86.65$, $p < .01$, $\eta^2 = .08$, with Canadian and Egyptian scores similar on Problem Identification ($M_s = 76.62$ and $M = 77.09$), $F = 0.13$, $MSE = 37.76$, $p = .72$. There were also no differences between Egyptian ($M = -0.08$) and Canadian ($M = 0.08$) children on Factor 3 (Unrealistic Solutions), $F = 0.36$, $MSE = 1.04$, $p = .55$.

Indicator scores reflect misunderstanding of the task or extreme dysfunction. Consistent with prior work using the RATC, all of the children obtained very low raw scores. A complete absence of Refusals indicated that the task was appropriate for both groups. Maladaptive Outcomes, which occur when characters hamper a solution or oth-

erwise behave inappropriately, were also low and did not differ significantly between Egyptian ($M = 0.94$) and Canadian ($M = 0.59$) children, $F = 1.71$, $MSE = 1.17$, $p = .20$. Atypical Responses that indicate deviation from usual themes or primary process thinking were low for both groups but were higher for Egyptian children ($M_s = 1.32$ vs. 0.38), $F = 15.31$, $MSE = 0.96$, $p < .01$, $\eta^2 = .17$.

Discussion

Overall the results confirm, with few qualifications, the usefulness of the RATC for children in a non-Western collectivist culture (Egypt) and also the validity of collectivism as a model for conceptualizing cultural similarities and differences. All of the children showed little confusion about the task and eagerly participated. Of the indicator variables, only Atypical Responses produced significant differences, although both groups had very low scores. This effect may reflect modest differences in familiarity with content across cultures (e.g., bathtubs).

Most predictions of the model were confirmed. Egyptian children scored higher on Limit Setting and Support-Others and lower on Support-Child. With respect to Rejection, Aggression, and Reliance on Others, Canadian children scored higher than Egyptian children at older ages but not at younger ages. This pattern is consistent with expectations that autonomy is emphasized more in individualist countries and that promotion of independence may produce some feelings of rejection. Reduced parental support may also contribute to aggression in individualist countries. The unexpected higher scores on Reliance on Others for Canadian children could reflect a desire for help from significant others when that help was withdrawn to encourage independence.

The results suggest some caution in test interpretation with children from collectivist cultures. Scores on scales related to independence might appear low given individualist norms, whereas even modest levels of

aggression may be clinically significant in children from collectivist cultures. The comparable scores on Anxiety and Depression suggest that these clinical scales and norms are appropriate for both groups. This result is not consistent with reports that individualism correlates with subjective well-being (Diener et al., 1995) or that Egyptian children show higher levels of worry (Chandler et al., 1991). One issue for future research is whether developmental stage moderates cultural differences in negative emotion. As collectivist children mature, greater interpersonal demands may produce cultural differences in adult well-being. Differences between self-reports and structured projective measures, such as the RATC, could also play a role.

Although additional research is required with other collectivist cultures and more children (our sample sizes were small and hence the power of our analyses was low), the fact that similarities and differences on the personality and clinical scales of the RATC were largely predictable from theory suggests that clinicians can, with care, use collectivism theory to determine when adjustments are warranted in interpreting test results for different cultural groups. This strategy is not meant to substitute for culture-specific norms for psychological tests. Rather, theory-based adjustments can help when culture-specific norms are not available, which appears likely given the numerous cultures and assessment instruments that need to be studied. Such adjustments need to be made with caution because questions about the meaning or personal significance of traits in different cultures remain unresolved. Whaley (2000), for example, noted the different import of physical discipline for European American and African American families. Further research is also needed to confirm cross-cultural validity (e.g., discriminating clinical and non-clinical groups) and other psychometric properties (e.g., test-retest reliability) and to more fully ensure that the comparisons were not affected by differences in income, parent education, and the host of other po-

tential contaminants of between-culture comparisons.

In making cultural inferences, clinicians must also be sensitive to individual differences within cultures. Variation exists in the parenting styles of Egyptian mothers (Brink, 1994), in part as a function of environment (Wachs et al., 1993). Used too crudely, theories about cultural differences could exaggerate within-culture similarity, leading to unwarranted, stereotyped inferences about individuals (Dien, 1999). The present results characterize dominant tendencies of middle-class families in the two cultures.

In conclusion, our results suggest that individualist children show greater independence at a young age but may develop some resentment at older ages, as reflected in the Rejection and Aggression scales. Other differences in negative affect, including such clinically important scales as Anxiety and Depression, were largely absent. Collectivism theory enriches our understanding of the role of culture in family functioning and the personality development of children (Wilson-Oyelaran, 1989) and provides a principled way for clinicians to anticipate and conceptualize cultural differences and similarities in test performance.

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Appendix

Scales and Indicators for the Roberts Apperception Test for Children

Adaptive Scales	Clinical Scales
Reliance on Others: use outside help to overcome problem; sometimes overreliance	Anxiety: frequency of manifest anxiety or apprehension; also guilt or remorse
Support-Other: give assistance or emotional support; express supportive attitudes	Aggression: express anger, or physical or verbal aggression
Support-Child: self-sufficiency and maturity; assertiveness or experience of positive emotions	Depression: sadness, despair, physical symptoms of depression (e.g., fatigue, apathy)
Limit Setting: authorities place reasonable and appropriate limits given perceived violations	Rejection: themes of separation, jealousy, discrimination, feelings of being left out
Problem Identification: formulate abstract concepts that engage and articulate problems	Unresolved: problems or emotions that characters cannot resolve, or no outcome
Resolution 1: easy or unrealistic solutions (e.g., magical, wish-fulfilling) to problems	
Resolution 2: constructive resolutions of problems limited to present situation	
Resolution 3: constructive resolutions generalize beyond the immediate problem	
	Indicators
	Atypical Response: deviation from usual themes or primary process thinking
	Maladaptive Outcome: characters make solution more difficult, or behave inappropriately
	Refusal: child refuses to make up a story for card