The aim of this study is to examine the relationship of intelligence scores with Age, Sex and school achievement of Secondary School Students in the Republic of Yemen. For this purpose the Otis-Lennon Mental Ability Test Advanced Level Form K (OLMAT) (1967) was adapted to suit the Yemeni environment.

The sample of this study consisted of 1561 students. Of this, 801 were males and 760 were females; 682 were from the tenth grade, 466 were from eleventh, and 413 were from the twelfth grade. A total of 47 classes for both sexes were randomly selected: 24 classes for boys, ten classes for tenth grade, seven classes for eleventh grade, and seven classes for twelfth grade. Out of 23 classes for girls, nine classes were for tenth grade, seven classes were for eleventh grade, and seven classes were for twelfth grade.

The researcher used the Otis- Lennon Mental Ability Test (OLMAT) advanced level form (K). The original OLMAT (80 items) was translated to Arabic language. Some items were changed and modified to suit the Yemeni culture. The Arabic adaptation of OLMAT was administered to the study sample. Difficulty values and discrimination values were estimated for each item.

The reliability coefficients were obtained by test-retest method and split-half method for the entire sample and for different grade levels. Construct, concurrent and discriminant validity were established and were found to be significantly high. The
reliability and validity results revealed that the Arabic version of OLMAT advanced level form K was highly reliable and valid.

Age norms and grade norms were derived for the entire sample and for different age and different grade levels by various types of scores: Percentile Ranks, z-scores, T-scores, Deviation IQ (DIQ) and Stanines.

The differences between students scores in intelligence in different age groups were tested using ANOVA, and the differences in intelligence scores between males and females and between high and low school achievement were tested using t-test.

The relationship (Point-biserial correlation, Pearson correlation coefficient) between intelligence students’ scores and their age, sex and school achievement was tested. The multiple regression analysis helps to predict school achievement by using different subtests of intelligence (mental ability).

The results of the differences between intelligence (mental ability) scores of students according to their age show that there were significant differences between all of mean scores for all age levels except between 15 and 16 year old students in subtests of verbal comprehension and figural reasoning and 18 and 19 years old students for the total test and for each subtest.

One of the findings of this study was that there were significant positive correlations between students’ intelligence (mental ability) scores and their age in total test and in all subtests and in the entire sample as well as in grade levels (tenth,
eleventh, twelfth) at the 0.05 level, except the correlation between age and verbal reasoning subtest in eleventh grade, there is a positive correlation but not significant.

The finding of the differences between males and females in the intelligence scores in the entire sample showed that there were no significant differences between males and females in the intelligence scores in the total test and in all subtests, except for quantitative reasoning subtest. In grade tenth there were no significant differences between males and females in the total test and in all subtests except quantitative reasoning subtest. In grade eleventh there were no significant differences between males and females in the intelligence scores for the total test and for all subtests. In grade twelfth there were significant differences between males and females in the total test and in all subtests (p < 0.01).

The results of the relationship between intelligence scores and students’ sex indicated that there were no significant correlations between intelligence scores and students’ sex in the total test and in all subtests for the entire sample and for tenth grade except quantitative reasoning subtest, there were significant correlation between quantitative reasoning scores and students’ sex at the 0.05 level. There were no significant correlations between intelligence scores and students’ sex in grade eleventh in the total test and all subtests. There were significant correlations between intelligence scores and students’ sex in grade twelfth in the total test and in each subtest at the 0.01 level.

The results of the differences between intelligence scores with high and low school achievement showed that there was a significant difference between
intelligence scores of students with high and low school achievement in the total test and in each subtest for entire sample and for all grade levels.

The results of the relationship between intelligence scores and school achievement are that there is a significant relationship between students’ intelligence scores and their school achievement in the total test and each subtest for entire sample and for all grade levels.

The stepwise multiple regression analyses with school achievement (dependent) and different subtests (verbal comprehension, verbal reasoning, figural reasoning and quantitative reasoning) (independent) showed 56.4 percent variation in school achievement is explained by the verbal comprehension, verbal reasoning and figural reasoning, 55.2 per cent of the variance is explained by verbal comprehension and verbal reasoning and 48 percent of the variance is explained by verbal comprehension alone. The beta coefficient indicated that the three subtests (verbal comprehension, verbal reasoning and figural reasoning) had significant effect on school achievement (p<.01) but the fourth subtest (quantitative reasoning) did not have any significant effect on school achievement. The highest beta weight is that of the verbal comprehension subtest which contributed most to the school achievement and is therefore, the best predictor.