Abstract
A total of 120 children, aged 6-8 years, with different socioeconomical status (A, B and C categories) of high, middle and low class, respectively, were selected for a dental examination and data on possible variables for dmft(s) and DMFT(S) were obtained to predict the risk of caries development. Variation on dmft(s)/DMFT(S) was accounted for by the effect of some variables with a socioeconomic base. A representative part of the population in this study, particularly among the lower socioeconomic status group, was considered the highest risk group for developing dental caries. Among the parameters employed to identify such high risk populations only dmft(s) showed statistically significant differences for each socioeconomic status. The data obtained in our studies also showed that the second inferior deciduous molar followed by the first inferior deciduous molar, second molar and first superior molar respectively, were the major teeth showing high scores of dental decay. In the permanent dentition, the lesion is more often observed in the first inferior molar. In the primary dentition the inferior deciduous molars seems to be more susceptible to dental caries, followed by the superior deciduous molars, with the occlusal surface the most harmed by this pathology.

Key Words:
Dental caries experience, primary and permanent dentition, scholars, socioeconomic status
Introduction
The decline in caries in children on industrialized countries is currently well documented in many regions of the world. The increase in dental care as well as other social and political factors that have improved the conservation of a large number of teeth among old people. In countries such as Brazil, reports concerning caries experience in teenagers and children are rare, particularly those associated to dietary practice, together with social, cultural and socioeconomic factors.
Although it is possible to find studies on dental caries prevalence in children, research to determine if mixed dentition has a socioeconomic base is less common. The purpose of this research was to conduct an analysis of variation in dental caries experience in the primary and permanent teeth of Brazilian children as well as to identify high-risk groups of children based up on their deciduous caries experience.

Material and methods
Subject selection
A total of 120 children, aged 6-8 year old, with different socioeconomic levels (40 children in each socioeconomic level: categories A, B and C) were selected for dental examinations. The children were mainly from public schools and all were born in Piracicaba, State of São Paulo, Brazil, a region where fluoridation of the water was introduced in 1971.

Oral examination
The oral examination was conducted by a dentist using natural light and standard mouth mirrors and explorers, using the dmft(s) and DMFT(S) index according to the criteria of Pinto. No recommendations concerning dietary habits or buccal hygiene were given to the volunteers before the oral examination.

Statistical analysis: The statistical analyses were performed with non-parametric tests. The correlations were performed using the Student – t and Chi-square tests, considering a minimal level of 5% of significance.

Results
The results of the dmft(s) variables found among the children of all socioeconomic levels studied, can be observed in Table I.
The mean dmft values found in our investigations were 5.10±0.98, 6.05±1.61 and 10.10±1.89 for the A, B and C socioeconomic levels, respectively. The socioeconomic C level differed significantly from the A and B levels. Moreover, the increase in the values and prevalence was more obvious in levels A and B, although these numbers were not significantly different between the two levels.

<table>
<thead>
<tr>
<th>Socioeconomic levels</th>
<th>Number of children</th>
<th>( X ± s(\chi) )</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>40</td>
<td>5.10 ± 0.98 *</td>
<td>high</td>
</tr>
<tr>
<td>B</td>
<td>40</td>
<td>6.05 ± 1.61 *</td>
<td>high</td>
</tr>
<tr>
<td>C</td>
<td>40</td>
<td>10.10 ± 1.89 #</td>
<td>high</td>
</tr>
</tbody>
</table>

* Not significantly different to socioeconomic A and B (p<0.05)
# Significantly different to socioeconomic A and B (p<0.05)

Figures 1, 2 and 3 shows the dmft(s) variables found among the children of all socioeconomic levels studied. The teeth included were 54-55 (first and second left superior molars), 64-65 (right superior molars), 74-75 (right inferior molars), and 84-85 (left inferior molars). In all these teeth, the occlusal surface had a highest dmft(s) index, followed by the distal, mesial, lingual and buccal surfaces. Results of the primary teeth in percentage of caries and carie-free individuals are shown in Figures 1a to 3a, demonstrating the data of 120 children analyzed including the A-B-C socioeconomic categories.
The results of the DMFT(S) variables found among the children of all socioeconomic levels studied, can be observed in Table II. The values found in this study were 0.73±0.23, 0.90±0.31 and 1.33±0.30 for A, B and C socioeconomic levels respectively. The socioeconomic level C had the highest values, although they did not differ significantly from those of levels A and B. Moreover, there was no significant difference in the values obtained for the levels A, B and C.

Table II – Experience of the caries in permanent teeth, DMFT(S), in different socioeconomic levels

<table>
<thead>
<tr>
<th>Socioeconomic level</th>
<th>Number of children</th>
<th>X ± s(X)</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>40</td>
<td>0.73 ± 0.23 *</td>
<td>Very Low</td>
</tr>
<tr>
<td>B</td>
<td>40</td>
<td>0.90 ± 0.31 *</td>
<td>Very Low</td>
</tr>
<tr>
<td>C</td>
<td>40</td>
<td>1.33 ± 0.30 *</td>
<td>Low</td>
</tr>
</tbody>
</table>

* not significantly different to socioeconomic levels (p<0.05)

The variables of the DMFT(S) index among the categories A, B and C are shown in Figure 4. The C category (lower class) presented a higher DMFT(S) index for the first permanent superior molars (16-26) and the permanent inferior molars (36-46) with the highest index for the occlusal surface, followed by categories B and A, respectively. Figure 4a shows the results of the permanent teeth in percentage of caries and caries-free individuals including the A, B and C categories. Category C had the highest percentage of caries lesions, followed by categories B and A.

**Discussion and Conclusions**

Although dental caries experience has been extensively studied, little has been done regarding mixed dentition. The available data shows that although dental caries prevalence varies in general dentition, the first and second molars are the major affected teeth. This seems to be prevalent in different regions of the world. The data obtained in our study showed that the second inferior primary molar followed by the first inferior primary molar, second superior molar and first superior molar, respectively, were the major teeth showing high levels of dental caries, particularly in the occlusal surface. In the primary dentition, the inferior primary molars seem to be most susceptible to dental caries, in general after eruption, followed by the superior primary molars. It was not possible to detect a similar pattern of dental caries in relation to other surfaces. On the smooth surfaces this type of occurrence is uncommon and when it occurs indicates high activity of dental caries in the population. Our results showed a bilateral symmetry, in caries distribution, similar
results were also observed by Lo et al.14. According to this author, such bilaterality demonstrates that if a lesion is detected in one dental surface, there is a risk to occurring in the other surface of the symmetrical buccal side. In general terms, the canines and incisors demonstrated fewer dental caries. From the anatomical point of view, such occurrences have been attributed to the anatomical oral position of the teeth, making them accessible to fluor exposition and hygienic habits. Caries is much more frequent in sites of food retention and bacteria accumulation. Forty to fifty percent of the cavities are normally found on the grooves and cracks of occlusal molar surfaces. Li et al.13 showed that the deciduous teeth, particularly the first and second molars, are susceptible to cracks formation, making the adhesion and colonization of cariogenic microorganisms possible. As a result, the dental caries on the occlusal surface are higher than on other surfaces. Naturally, any alteration in oral habits such as oral hygiene, topical fluor exposition and changes in dietary habits will influence the cariogenic indices in any of the socioeconomic population categories.4,6

Socioeconomic status has been considered as a determinant factor in caries risk assessment studies.1,2,3,7,11,15 According to Evans et al.3, low family income may affect food selection and nutrient intake by mothers and also infants during the tooth development period. It may also affect the degree of education, health values, life-style and access to health care information. As a consequence, family income can be an indirect factor for tooth susceptibility to caries. In our study, the caries experience of a representative sample of Brazilian students aged 6-8 years, of different socioeconomic levels, was examined for dental caries, and data on possible variables for dmft(s) and DMFT(S) were obtained to predict the risk of caries development. Variation in dmft(s)/DMFT(S) was accounted for by the effect of some variables having a socioeconomic base. A representative part of the population in this study particularly among the lower socioeconomic level was considered the highest risk group in developing dental caries because of the high level of caries indices. Tables 1 and 2 showed an increase in the caries index among the socioeconomic categories (A, B and C). According Poulsen & Holm12 there is a positive statistical correlation between caries on the deciduous and permanent dentition in the same individual. Such finding was also shown by Stamm et al.19 and Jaafar & Razak12, who demonstrated that the percentage of caries prevalence on deciduous and permanent teeth of 7-year old children was correlated to the caries index in 12-year old. Among all the parameters employed to identify such high-risk populations, only dmft(s) showed statistical significance for each socioeconomic status in our study. Gavazzi et al.3 also showed that there is a significant correlation among caries prevalence in primary teeth and permanent dentition, with dmft(s) being the sole index of some reliability to predict the risk of caries development.

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References