Factors that influence teenage consumer behavior of contraceptive methods

This paper aims to investigate the precedents of the use of contraceptive methods among teenagers. Therefore, we developed and tested a theoretical model that depicts the interrelationships between evaluations on the self-efficacy of the teenager, the influence of the partner, the socialization agents and their goals in life. The results indicate that the intention and the use of contraceptive methods are sensitive and directly affected by: perceptions of self-efficacy; the fact that the adolescent have goals related to their stability and education; and the gender of the respondent (boys intend to use contraceptive methods more than girls). Furthermore, the partner in the relationship and the contact with doctors appeared as major factors in the intention and use of contraceptive methods.

Teenagers, contraceptive methods, social marketing

1. Introduction

Adolescence is characterized by a period in the life of the human being that leads to the exploration of the biological and social limits. It is a period of change and transition between childhood and adulthood. As it is a period of discoveries, doubts and uncertainties, during adolescence there is a strong tendency to search for experimentation, which makes the teenager vulnerable to engaging in risky activities that can have negative consequences in the short and long term (Irwin & Millstein, 1986). The marketing area began to dedicate attention and research efforts on these kinds of issues in the 70’s (Kotler & Zaltman, 1971; Kotler & Lee, 2011). Since then, there have been numerous efforts to understand, from the marketing standpoint, how is it possible to promote a social cause, an idea or a behavior.

The academia, in several areas of knowledge, has been concerned to find motivational, personality, biological and sociological variables that lead to the use of contraceptive methods (BORUCHVITCH, 1992; ROMIG and BAKKEN, 1990; KIRBY, LEPORE and RYAN, 2005) and to develop public policies that aim at increasing their use by the teenagers (AVARETT, REES and ARGYS, 2002; GROSSMAN ET AL, 2006; KALMUSS ET AL, 2003). The focus of most recent studies on the problem of teenage pregnancy has evolved from the simple contraceptive advice to the need for more a comprehensive understanding of the characteristics of the pregnant teenager and her partner. It is important to know how this relationship occurs, its values, what are the perspectives for personal achievement that drive these couples, and what risks this relationship model may cause. This knowledge seems to be essential for us to better understand what actually occurs in the lives of these young people, and how we can help them.

This study aims to bring together the findings of previous studies, as well as include other factors, for the purpose of testing, in a qualitative and quantitative research effort, the precedents that better explains the intention and use of contraceptive methods among teenagers. Despite the growing attention given to the subject, no published study has intended to perform a descriptive and conclusive study consolidating the accumulated knowledge in a conceptual model. The figure below graphically represents what influences the use of contraceptives among adolescents and the resulting hypotheses.

**Table 1. Hypothesis development**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Theory</th>
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<tr>
<td>H₂: Parents, Friends, School, Doctor and Santiso-Galvez &amp; Bertrand (2004); Leite, Rodrigues &amp;</td>
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<td>Media will have a positive impact on the intention and use of contraceptive methods among adolescents.</td>
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<td><strong>H3:</strong></td>
<td>The opinion of the partner about the contraceptive methods will affect the intention and use of contraceptives among adolescents.</td>
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<td>Paiva, Caldas and Cunha (1996); Condon, Donovan and Corkindale (2001); Hellerstedt et al. (2001); Abeche (2002).</td>
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<tr>
<td><strong>H4:</strong></td>
<td>The teenager who has professional and financial goals will indicate a greater intention and use of contraceptives among adolescents.</td>
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<td>Cericatto et al. (1994); Franco, Rodrigues and Dionísio (1998).</td>
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2. **Sample Characterization**

Fifty-one percent of the respondents (51%) are boys. The average age is 16 years old (d.p. = 1.08). Thirty-four percent of the respondents (34%) have family income above six thousand reais and 25% have income lower than two thousand reais.

Most respondents never had sex (53.5%), 25.5% had one or more times with a single partner and 21% with more than one partner. Among those who have had sex, 59% used at least one contraceptive method. This indicates that 41% of the teenagers in the sample who had already had sex were at risk of pregnancy or STDs. Among the 166 students interviewed from public schools, the exposure to risk seems to be greater, as 62% among those who have had sex in this sub-sample, 46.6% did so without any contraceptive protection at least once. These results show the criticality of the facts and the urgency to initiate a process of sex education before the teenager’s first intercourse.

The descriptive results also reveal that 54% of the sample has never spoken to a doctor about contraception and 29% spoke only once to a doctor to obtain information on the subject. These data provide a warning to the medical community, to seek for alternatives to approach teenagers and teach them about the contraceptive methods. With respect to the interaction with parents, only 49% of the teenagers talk to their parents about contraceptive methods. On the other hand, 61% often talk to friends. This somewhat confirms the results of the qualitative phase, in which peers appeared as the first source of information on contraceptive methods.

In relation to the goals in life, 72% of the teenagers want to start college as soon as they graduate from high school and 87.5% plan to have a good financial position before thinking about having children. This indicates a high maturity among the teenagers interviewed and that most of them do not wish to have a child at least for now. Still, these results reveal an inconsistency, because although the majority is aware that it is necessary to have a structural and financial stability to then think of having children, most of them do not make use of contraceptive methods, which indicates the lack of accuracy of the self-efficacy evaluation in adolescence, as indicated by Bandura (1998). However, the comparison of the means shows that among those with higher levels of intention of having a college degree and financial stability before having children, the intention and use of contraceptives is significantly higher. A significant statistical difference was achieved, thus validating the hypothesis 4 of the study. The results showed a high difference on the intention and use of contraceptive methods among groups of high and low goals in life related to the college degree and obtaining financial stability. The significance test (F = 145.723, p <0.000) corroborated with the strong difference in the means regarding the intention and use of contraceptive methods between the two groups.
3. Discussion on the Measurement Model

Initially, to test the invariance of the measurement model in both types of education - public and private schools, the model was estimated simultaneously for each sample, through the Multi-groups Structural Equation Modeling. Following the procedures performed by Sirdeshmukh et al. (2002), all the parameters were initially restricted as invariants in the two groups and a fully restricted model was estimated. Subsequently, based on the Lagrange-multiplier test (BYRNE, 1994), parameters with significant indicators are “released” until such release fails to significantly improve the model. In this case, no parameter was indicated, which after being released, would provide the best fit in the model. This means that the measurement model used can be considered as suitable for both types of services studied. The fit indices for the model are: $\chi^2 = 1878.495$, $gl = 721$, $\chi^2/gl = 2.60$, $NFI = 0.96$, $NNFI = 0.98$, $CFI = 0.97$ and $RMSEA = 0.06$, therefore, satisfactory.

Continuing the analysis of the measurement model, the convergent validity was primarily supported through the fact that all items, without exception, showed significant and high factor coefficients on the constructs to which they were proposed to measure (between 0.69 and 0.89, t-values above 9.47). In addition, items associated with the same construct showed significant correlation between them. Therefore, the convergence of the measures, that is, the existence of a strong correlation between measures designed to measure the same construct was detected (CHURCHILL, 1999). The evidence of discriminant validity was found through the levels of correlation existing between the constructs. Correlations above 0.80 indicate a lack of discriminant validity, that is, constructs would be measuring the same phenomenon. The constructs were found distinct from each other, with higher correlation between self-efficacy and goal in life (0.51). Finishing the discussion on the measurement model, the measures used provided satisfactory levels of reliability and extracted variance. The reliability was between 0.79 and 0.90 (influence of agents and influence of the partner in the relationship, respectively). The extracted variance was between 0.54 and 0.69 (self-efficacy and influence of the partner in the relationship, respectively). This demonstrates the internal consistency among the multiple indicators of a variable, noting that these are indeed measuring the same construct and substantially explaining its latent constructs.

4.2.3 Discussion on the Structural Model

After analyzing the measures used, the focus of this study turns to the theoretical framework developed, which establishes relationships between the theoretical constructs proposed. The investigation of the set of hypotheses will be made primarily through the fit indices of the hybrid model and the significance and magnitude of the estimated regression coefficients. Moreover, the coefficient of determination was established for each structural equation. It represents the proportion of variance of the dependent variable that is explained by the independent variables.

First, however, we analyzed the multi-group structural equations in order to investigate whether the union of data of the two types of schools (public and private) was appropriate or if separate models should be estimated. The greatest advantage of this procedure is the increase of accuracy in the estimated parameters. Similarly with the measurement model, we used the Lagrange-multiplier test to verify the need to allow the nomological relations established vary, according to the type of school. It did not indicate any parameter that, after released to vary, significantly improved the model fit. Therefore, the data could be grouped into a single database only.

The results of the analysis of the structural model, based on the database with 344 respondents, are presented in Table 2. The chi-square value is significant. However, given that this test is very sensitive to deviations from normality and to samples above 200, the analysis of the chi-square value should be made in composition with other fit criteria (HAIR.
et al., 1998). By verifying it on the degrees of freedom, it produces a satisfactory value – 1.60, much lower than the maximum suggested (5). The fit indices CFI, NFI, NNFI, all well above 0.90, are considered highly satisfactory and the RMSEA of 0.05 is acceptable.

The effect of the perceptions of self-efficacy in the intention and use of contraceptive methods, established in the hypothesis $H_1$ was supported by the results achieved. However, among the significant effects, this was the lowest. The impact of the partner of the relationship in the use of contraceptive methods was high (0.23), showing that the decision-making about contraception is a process agreed by both parties in the relationship. The fact of having the life goal of achieving stability before having a child was also a determining factor in the use of contraceptive methods (0.17). Still, similarly, sex was a determining factor in the use of contraceptive methods (0.24). This shows that boys have higher intention to use contraceptive methods than girls.

With regard to the impact of socialization agents in the intention to use contraceptive methods, both parents, the school and the media had little influence on the decision-making of the teenager. Only the recommendation of doctors and the level of contact with experts exerted a very strong influence on the intention of teenagers to have sex using contraceptive methods (0.26). Friends indicated a significant influence, but not very relevant (0.09).

Table 2: Regression coefficients estimated to the theoretical relationships established in the model

<table>
<thead>
<tr>
<th>Relationships of the Model</th>
<th>Standardized Regression Coefficient $^a$</th>
<th>Hypotheses</th>
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<tbody>
<tr>
<td>Self-efficacy</td>
<td>0.11 (2.04)</td>
<td>$H_1$ - Confirmed</td>
</tr>
<tr>
<td>Goals in Life</td>
<td>0.17 (3.14)</td>
<td>$H_1$ - Confirmed</td>
</tr>
<tr>
<td>Partner of the Relationship</td>
<td>0.23 (3.93)</td>
<td>$H_3$ - Confirmed</td>
</tr>
<tr>
<td>Gender</td>
<td>0.24 (4.47)</td>
<td>$H_3$ - Confirmed</td>
</tr>
<tr>
<td>Age</td>
<td>0.05 (0.81)</td>
<td>$H_4$ - Confirmed</td>
</tr>
<tr>
<td>Influence of Socialization Agents</td>
<td></td>
<td>$H_2$ - Confirmed</td>
</tr>
<tr>
<td>Parents</td>
<td>0.02 (0.41)</td>
<td></td>
</tr>
<tr>
<td>Friends</td>
<td>0.09 (1.70)</td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>0.05 (0.75)</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>0.06 (0.97)</td>
<td></td>
</tr>
<tr>
<td>Doctors</td>
<td>0.26 (2.56)</td>
<td></td>
</tr>
</tbody>
</table>

$^a$ t-values in parentheses. Based on a one-tailed test: t-values > 1.65 = p<0.05; and t-values> 2.33 = p<0.01. Significant coefficients in bold (all at level 0.01).

These results show the high influence assigned to the doctor in the intention to use contraceptive methods. In addition, the results indicate an aspect that should be explored by the programs that encourage the use of contraceptives. While friends have little influence and slightly encourage the use of some contraceptives, they are the primary source of contact of the teenager (the descriptive results indicated that 61% of the respondents often ask friends for information about contraceptive methods). On the other hand, even though doctors significantly influence the use of contraceptive methods, 54% of the sample has never talked to a doctor about it and 29% did only once. These results point to a critical factor that should be explored by the programs that promote the use of contraceptive methods.

5. Final Considerations
This paper aimed to study the risk behavior among teenagers, covering an important issue – contraception to avoid teenage pregnancy. As indicated by professionals and evidenced in the data collection, despite media campaigns promoting the prevention of sexually transmitted diseases, little attention is given to teenage pregnancy, which may cause biological, economic and social complications to the mother and child. Therefore, it is the obligation of the government to develop activities that have more significant effects. The expansion of the social marketing concept deals precisely with this issue, that is, the way institutions (e.g. government) can develop marketing activities best suited to achieve their goals. In the case studied here, the main objective would be to encourage the use of contraceptives. The considerations below highlight the information that can be used by stakeholders in public health and public policy management in the development of more appropriate marketing efforts.

As academic implications, the structural model proved the importance of the adequacy of self-efficacy, socialization agents, life goals and the opinion of partners in the decision of teenagers to use or not protection before a sexual intercourse. Although the issue represents a major taboo in today’s society, the risks taken by teenagers and the findings presented here point to the need for coordination of public policies that make the schools, parents and teenagers aware of the need for contraception from the first sexual experience.

Important socialization agents, such as the media, school and parents should be used for the teenagers, in direct and constant contact with information about the risks and the probability of conception, to realize the risks they face when engaging in sexual activities without the due care. Knowing that not all teenagers seek medical help before they start their sex life, but that they trust medical recommendations, the best would be that parents and schools encouraged teenagers to seek a specialist, while the media should constantly reinforce information about the risks inherent in the sexual activity, including issues concerning contraception.

In addition, the socialization agents should reinforce the importance of life planning and the completion of the professional preparation, making the life goals of each teenager to be another reinforce to the option for a more responsible practice. This effort should indicate that it needs more than just providing contraceptives to teenagers, since they often do wish this pregnancy, but teenagers should be informed and educated about this issue, because only a change of attitude by the government (which should inform through the media), schools and family, leaving aside taboos and accepting the reality that teenagers begin their sexual life increasingly earlier, could change the worrying situation that is observed today.

It is worth it to point out that this study is not meant to condemn the sexual activity in adolescence, even because the experimentation of the other and the sexual activity is essential for the biological, psychological and social development of the teenager. The problem occurs when this experimentation is followed without the due awareness or planning, and therefore, without protection. As Abeche (Professor of the School of Medicine, UFRGS) said in one of the in-depth interviews: “today, in our society, everything works against (...). The media does not expose the sexual protection as a necessity; the sexual intercourse is seen as something unplanned or morally disturbing. In addition, child sexuality is explored in absurd ways. The teenager does not have time to develop awareness and plan sex before trying it.”

With a more explanatory and informative character and less prescriptive characteristics, this study sought to bring relevant information about an issue that can be considered as a disease with strong potential to spread increasingly more, since we live in such an alienated society. This paper is an attempt from the consumer behavior area to study issues related not only to businesses, but to the society as a whole, and provide a social contribution to the well-being of the community.
References


