The acquisition of a random sample is one of the many methodological problems that arise when conducting research with adolescent populations. Frequently, due to ethical considerations associated with collecting data from adolescents, active parental consent procedures are required. The current study examined characteristics of parents who consented, refused consent, or did not respond to an active consent request for their children to participate in a large-scale study of adolescent lifestyle behaviors. Results indicated nonresponding-parents were more likely to be employed than consenting-parents. Further, differences were found for a number of attitudinal variables and about the importance of adolescent research. There were significant differences between refusing-parents, and consenting- and nonresponding-parents who were similar in their attitudes toward adolescent research. The findings suggest that nonresponding-parents are characteristically more similar to consenting-parents than to refusing-parents, which supports the use of passive consent procedures as a reasonable alternative to requiring active parental consent in adolescent research.

CHARACTERISTICS OF RESPONDING-, NONRESPONDING- AND REFUSING-PARENTS IN AN ADOLESCENT LIFESTYLE CHOICE STUDY

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Adolescence is typically described as the period of transition from child to adult and is considered an important period of human development, during which adolescents acquire lifestyle patterns that frequently persist into adulthood with physical, psychological, and social consequences (Dusek and Flaherty 1981; Jessor 1984; Morris 1993; Pierce and Gilpin 1996). Some
adolescents have been identified as exhibiting a “syndrome” of negative behaviors and have been targeted for research based on their many risk-taking lifestyle choices (e.g., Jessor 1993; Moffit 1993). However, this syndrome of behaviors also describes the experimental lifestyle patterns of adolescents in general. For instance, Yardley et al. (1996) described the significance and strength of intercorrelations among a large number of adolescent behaviors, including physical activity, smoking, gambling, sexual behaviors, school misbehaviors, school achievement, and substance use. Clearly, our understanding of adolescent lifestyles is dependent, in part, on conducting strong studies that encompass a number of these interrelated behaviors. However, one of the most common problems in conducting strong research among adolescents is obtaining a representative sample. This is particularly the case when “problematic” behaviors are the foci of the research.

An extensively studied adolescent lifestyle behavior is substance use, particularly alcohol use. Santrock (1996) described adolescence as a period of experimentation, during which the initiation of substance use usually occurs. Current studies examining substance use trends (e.g., Barrett 1999; Redmond 1999; Welte et al. 1999) have indicated that substance use rates in adolescents are increasing. Of equal concern is the reported increase in adolescent binge drinking and getting drunk (see, e.g., Adlaf, Ivis, and Smart 1997). Moreover, adolescent use of substances is significantly related to a number of other important adolescent behaviors. For example, substance use and misuse has been found to be negatively related to school achievement (Wolford-Symons et al. 1997; Yardley et al. 1997), negatively related to frequency of physical activity (Adeyanju 1990; Yardley et al. 1996), positively related to absence from school (Yardley et al. 1997), positively related to sexual behaviors (Wolford-Symons et al. 1997; Yardley et al. 1996), and positively related to gambling behaviors (Vitaro et al. 1998). This constellation of related adolescent behaviors indicates the importance of the need for researchers to study the interrelationships among adolescent behaviors to determine mechanisms for interventions that might have multiple positive effects for these lifestyles. However, many of these behaviors are illegal (e.g., underage drinking, marijuana use) or of a personal nature (e.g., sexual behaviors). Consequently, researchers are currently obliged to seek active consent from parents to conduct their research with adolescents, even if the research is done anonymously through surveys or other arm’s-length procedures. This forcing of active consent on such research comes at considerable cost. As is discussed below, these costs come most frequently through loss of subjects with consequent biases, loss of randomness with consequent loss of generalizability, and the creation, or increase in the number, of recruitment barriers in adolescent-related research.
When conducting substance use studies, researchers have to contend with many methodological problems. A frequent problem is selection bias due to inadequate, or less than adequate, sampling procedures. Although researchers would readily agree that the obtaining of a random sample is the most representative of a given target population, the acquisition of such a sample is rarely possible. This is particularly the case for studies dealing with adolescent populations and/or sensitive subject areas. These types of research frequently, if not always, require researchers to seek parent or guardian consent, and when it is not obtained, they are unable to include those adolescents in their study. Active parental consent requires parents to be informed of the nature of the study and its consequences and to return a signed consent form indicating “whether or not they want their child to participate” in specific research activities. Passive parental consent, on the other hand, requires parents to be informed of the nature of the study and its consequences and to return a signed consent form “only if they do not want their child to participate” (Ellickson and Hawes-Dawson 1989).

Consequently, researchers examining adolescent lifestyle choice behaviors frequently face a double-edged sword. On one hand, researchers would ideally like to use passive consent procedures, which improve the likelihood of obtaining close to random samples of adolescents and maximize the number of subjects in their studies. On the other hand, due to decisions made by Ethics Review Boards (ERB), written informed parental consent (we use the term active parental consent) is almost always required before an adolescent is permitted to take part in lifestyle choice behavior studies. Consequently, sampling issues permeate adolescent studies, reducing the reliability and validity of these studies.

It is well documented that studies requiring active parental consent frequently encounter higher rates of sampling bias due to underrepresentation of certain populations, which in turn jeopardizes the generalizability of the sample’s results (e.g., Dent et al. 1993; Ellickson and Hawes-Dawson 1989; Pirie et al. 1989; Severson and Ary 1983). In comparison, passive consent procedures require little or no action on behalf of parents, and these procedures typically yield sample numbers that are consistently higher than they would have been if active consent had been used (Jessor and Jessor 1975; Josephson and Rosen 1978; Kearney et al. 1983). For example, active consent procedures can yield response rates of 50% to 60%, although they can range lower (Ellickson and Hawes-Dawson 1989; Severson and Ary 1983; Kearney et al. 1983). Moreover, Severson and Ary (1983) reported that participation rates for adolescents in secondary school studies rose from 60% to 96% when passive consent procedures were adopted compared to previously used active consent procedures. Clearly, these findings are evidence that passive consent
procedures are of major assistance to obtaining strong research due to more appropriate sampling.

Moreover, not only does active parental consent have the potential to severely reduce sample size, it is also highly likely to increase sample bias (Ellickson and Hawes-Dawson 1989; Severson and Ary 1983). Active parental consent often underrepresents many important groups including minorities, low achievers, children with less educated parents, dissatisfied students, and students who are at risk for engaging in problem school behavior (Dent et al. 1993; Ellickson and Hawes-Dawson 1989; Severson and Ary 1983). Furthermore, this underrepresentation of certain groups limits the scientific validity and generalizability of these studies (Betan, Roberts, and McCluskey-Fawcett 1995; Ellickson and Hawes-Dawson 1989; Severson and Ary 1983).

Perhaps the most compelling point about the issue of requiring active parental consent is that adolescents with the highest risk profiles are those least likely to obtain parental consent (Pirie et al. 1989). For instance, many researchers (e.g., Dent et al. 1983; Lynch et al. 1993; Noll et al. 1997) have suggested that students omitted due to a lack of action on the behalf of the parents are at higher risk for health and social problems. By requiring adolescents’ parents to provide active consent, researchers run the risk of losing the very subjects that are the targets of their research or interventions.

In addition to the above research biases and generalizability arguments, there is some evidence that equating parental nonresponse with their giving permission is an accurate reflection of the wishes of those nonresponding-parents. For example, Ellickson and Hawes-Dawson (1989) found that 96% of nonresponding-parents did not object to having their child participate in the study; they simply lacked the motivation to sign and return the form without considerable prompting. In other words, their evidence indicated that nonresponse is highly likely to be “latent consent” rather than “latent refusal.” The current study will further our understanding of the differences and similarities of nonresponding- and consenting-parents. On the basis of the reviewed literature, we would hypothesize that there will be few, if any, differences among nonresponding- and consenting-parents. On the other hand, we would expect active refusing-parents to be different from both nonresponding- and consenting-parents.

Our understanding of the mechanisms that lead to the initiation and maintenance of adolescent lifestyles is limited, in part due to the problem of recruiting adolescents into research studies (see, e.g., Abernathy 1997; St. Lawrence and McFarlane 1999) and in part due to not being able to obtain representative samples. As can be ascertained from the preceding literature review, the adoption of risky adolescent lifestyles is a significant problem that requires continued research efforts. Research procedures improving
recruitment of adolescents and ensuring better samples are, therefore, an important part of improving our knowledge of the adoption and maintenance of risky lifestyles. Furthermore, improvements in knowledge would have important positive effects on adolescent lifestyle intervention programs such as those aimed at reducing or preventing substance use, smoking, gambling, and risky sexual behaviors.

**METHOD**

This study was carried out to assess whether parents of adolescents recruited for a research study on adolescent lifestyle choices varied on a number of important dimensions. Parental groupings were made on whether parents consented, refused, or did not respond to active consent procedures based on data collected in the original study, from which this study’s sample was drawn.

**ORIGINAL STUDY DESCRIPTION**

A large-scale study of adolescent lifestyle choices was conducted with secondary school students in a Regional Municipality of Ontario, Canada (Yardley et al. 1996). One purpose of the study was to determine relationships among a wide variety of adolescent lifestyle choice behaviors (e.g., substance use, physical activity, sexual behaviors, gambling, school achievement).

A stratified random sample of 2,968 high school students (slightly more than 10% of the secondary school adolescent population) was selected from 39 secondary school enrollment lists. The sample was stratified by school and by grade, and an information package, containing consent forms and a full disclosure letter outlining the nature of the study, was mailed to the parents of the 2,968 students chosen. Parents were instructed to fill out the consent forms and have them returned to their children’s school by a specified date. Two follow-up letters were mailed out in an attempt to increase the overall response rate, which clearly stated the importance of returning the signed consent forms. In a final attempt to boost the response rate, school administrators were asked to actively pursue a response from those students who had not returned their consent forms. The administrators were encouraged to give daily reminders over morning announcements to urge students to return their forms, and in most instances, the return deadlines were extended to accommodate late returns.
The final rates of response were 1,481 responding-parents (49.9% of original sampling frame) and 1,487 nonresponding-parents (50.1% of original sampling frame, a group we call nonresponders). Among the responding-parents, 1,205 adolescents (81% of the responding-parent group) were consented by their parents to be involved in the study (a group we call consenters), and 276 (19%) of the responders were not consented by their parents (a group we call refusers).

**THIS STUDY’S DESCRIPTION**

A follow-up study was carried out on a random sample of the parents who were approached asking for permission that their adolescent children participate in the original study. Three groups of parents were studied, including parents who consented to have their child participate in the study (i.e., the consenters), parents who refused to allow their child to participate (i.e., the refusers), and parents who did not respond to our request for consent (i.e., the nonresponders).

A random sample of parents from the original study was drawn from research records held by an independent third party. The procedure for calling parents was to randomly draw parents from each subgroup until a minimum sample of 40 for each subgroup of parents was obtained. Using this procedure, 177 parents were drawn, and from among this sample, 23 parents refused to participate, 24 were unable to be contacted by telephone (3 attempts were made), and 130 consented to be involved in the 10- to 15-minute telephone interview. This study’s sample \( n = 130 \) was composed of the following original study subgroups: 30.7% consenters \( n = 40 \), 36.9% refusers \( n = 48 \), and 32.3% nonresponders \( n = 42 \). The relatively equal distributions of types of parental groups in this study’s sample indicates that the noncontact group (i.e., 24 parents) and refusal group (i.e., 23 parents) rates were reasonably equally distributed over each type of parent group. In addition, by randomly selecting parents from the original lists, the researchers attempted to control for differences within each group (e.g., controlling for differences among early versus later responders or refusers).

**STUDY VARIABLES**

The interview session reviewed the parents’ level of comfort with the nature of the original study in which their children were asked to take part, the likelihood that their children were or had been involved with various behaviors included in the original study, the importance of research in a number of
the original study’s areas, and general demographic information about the parents.

**Level of comfort with study areas.** Parents rated their level of comfort with adolescent research issues relating to (a) tobacco, alcohol, marijuana, and other illicit drug use; (b) leisure variables; (c) psychological variables; (d) school behaviors; (e) sexual experience; and (f) physical activity. Respondents were asked to choose the number that best described their level of comfort on a scale, from 1 (*very uncomfortable*) to 4 (*very comfortable*). By taking a mean value from the sum of these single items, an overall measure of the respondent’s comfort with adolescent lifestyle research was constructed.

**Child participation in various behaviors.** Parents were asked to rate the likelihood of their children participating in various lifestyle behaviors, which was measured on a 4-point scale, from 1 (*very unlikely*) to 4 (*very likely*). Parents were asked to rate the likelihood of their children’s participation in the following activities: (a) cigarette, alcohol, marijuana, and other illicit drug use; (b) sexual activity without intercourse; (c) sexual activity with intercourse; and (d) physical activity.

**Importance of types of adolescent research.** In addition, parents were asked to rate their attitudes regarding the importance of several areas of adolescent research on a scale, from 1 (*very unimportant*) to 4 (*very important*). The areas of research examined included (a) leisure, (b) substance use, (c) physical activity, (d) school behaviors, (e) psychology, (f) health, and (g) adolescent sexual activity. In addition to these single items, an overall measure of the importance of research was created by summing the respondent’s responses and constructing a mean.

**Demographic information.** Demographic information collected from the parents included (a) age of the reporting parent, (b) importance of religion, (c) employment status, (d) number of adults in the home, (e) reporting parent’s highest education level attained, (f) marital status, and (g) grade of the child selected for the original study.

**RESULTS**

Each of the three parent groups was compared on the basis of various demographic characteristics. One-way analyses of variance (ANOVAs) and
chi-square analyses were used to examine the differences among the three groups. No significant differences were found to exist between the groups with respect to the following demographic characteristics: age of parents, marital status, number of adults living in the home, importance of religious faith, education level, and perception of their children’s academic performance (see Table 1). However, significant differences were found to exist among the groups relative to the employment status of the parents ($\chi^2 = 8.51, p < .05$).

Among the consenters and refusers, the approximate ratio of employed and nonemployed participants was 2:1 (66% employed/33% nonemployed), whereas only two (5.9%) in the nonrespondent category were nonemployed.

In addition to the few demographic differences among the groups, there were no differences in their perception of their children’s involvement in the various deviant activities (i.e., forms of substance use and sexual activity). A series of one-way ANOVAs were performed to test for differences among the three parental groups’ perceptions of their children’s involvement in each of the lifestyle topic areas. These analyses indicated no significant differences. Similarly, one-way ANOVAs were performed to test for differences among the groups on their level of comfort with the original study’s research topics. Again, there were no significant differences.

However, there were many significant differences among the groups on importance of research areas (see Table 2). Refusers rated research in leisure, $F(2, 127) = 10.36, p < .001$; physical activity, $F(2, 127) = 6.91, p < .01$; and psychology, $F(2, 127) = 3.91, p < .05$, less important than consenters and nonresponders. In addition, refusers reported research in health as less important than consenters, $F(2, 127) = 3.39, p < .05$. There was also a significant difference among refusers and nonresponders/consenters for their perceptions of the overall importance of research. Refusers perceived research to be of lower importance than both nonresponders and consenters, $F(2, 127) = 8.15, p < .001$. There were also marginal ($p < .10$) differences among the groups for importance of school behavior, sexual experience, and substance use research, with refusers, again, rating those areas as less important. Although these differences do not meet the assigned level of statistical significance, they do support the trend that nonresponders are more similar to consenters, and in turn, they are different from refusers.

**DISCUSSION**

The lack of significant differences among the groups for their perceptions of their children’s involvement in the examined lifestyle behaviors implies
TABLE 1: Comparison of Demographic Variables for Consenting-, Refusing-, and Nonresponding-Parents

<table>
<thead>
<tr>
<th>Area of Research</th>
<th>Consenter</th>
<th>Refuser</th>
<th>Nonresponder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Parental education ($\chi^2 = 1.70$)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>38.9</td>
<td>51.3</td>
<td>37.5</td>
</tr>
<tr>
<td>Postsecondary</td>
<td>61.1</td>
<td>48.6</td>
<td>62.5</td>
</tr>
<tr>
<td>Employment status ($\chi^2 = 8.51^{**}$)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonemployed</td>
<td>33.4</td>
<td>29.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Employed</td>
<td>66.6</td>
<td>71.0</td>
<td>94.1</td>
</tr>
<tr>
<td>Reporting parent age (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 or younger</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>31-40</td>
<td>38.8</td>
<td>36.8</td>
<td>21.9</td>
</tr>
<tr>
<td>41-50</td>
<td>58.3</td>
<td>55.3</td>
<td>71.9</td>
</tr>
<tr>
<td>51-60</td>
<td>2.9</td>
<td>7.9</td>
<td>6.2</td>
</tr>
<tr>
<td>61 or older</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Grade of child</td>
<td>11.0</td>
<td>0.81</td>
<td>11.1</td>
</tr>
<tr>
<td>Number of adults in the home</td>
<td>1.86</td>
<td>0.54</td>
<td>1.92</td>
</tr>
<tr>
<td>Importance of religion</td>
<td>2.51</td>
<td>1.1</td>
<td>3.02</td>
</tr>
</tbody>
</table>

NOTE: The table indicates no differences between consenters, refusers, and nonresponders relative to all demographic variables with the exception of employment status. Nonresponders were more likely to be employed than consenters and refusers. **p < .05.
### TABLE 2: Comparison of Importance of Research Variables for Consenting-, Refusing-, and Nonresponding-Parents

<table>
<thead>
<tr>
<th>Area of Research</th>
<th>Consenter M ± SD</th>
<th>Refuser M ± SD</th>
<th>Nonresponder M ± SD</th>
<th>F</th>
<th>Schefé</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leisure</td>
<td>3.61 ± 0.64</td>
<td>2.97 ± 0.87</td>
<td>3.63 ± 0.49</td>
<td>10.36*** ac &gt; b</td>
<td></td>
</tr>
<tr>
<td>Substance use</td>
<td>3.75 ± 0.60</td>
<td>3.62 ± 0.70</td>
<td>3.91 ± 0.38</td>
<td>2.48</td>
<td>*</td>
</tr>
<tr>
<td>Physical activity</td>
<td>3.59 ± 0.64</td>
<td>3.15 ± 0.74</td>
<td>3.69 ± 0.53</td>
<td>6.91*** ac &gt; b</td>
<td></td>
</tr>
<tr>
<td>School behaviors</td>
<td>3.78 ± 0.48</td>
<td>3.50 ± 0.80</td>
<td>3.77 ± 0.43</td>
<td>2.51</td>
<td>*</td>
</tr>
<tr>
<td>Psychological</td>
<td>3.78 ± 0.48</td>
<td>3.42 ± 0.79</td>
<td>3.80 ± 0.58</td>
<td>3.91** n.s.</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>3.81 ± 0.40</td>
<td>3.48 ± 0.71</td>
<td>3.71 ± 0.46</td>
<td>3.39** a &gt; b</td>
<td></td>
</tr>
<tr>
<td>Youth sexual activity</td>
<td>3.62 ± 0.64</td>
<td>3.38 ± 0.78</td>
<td>3.71 ± 0.52</td>
<td>2.37</td>
<td>*</td>
</tr>
<tr>
<td>Overall importance</td>
<td>3.70 ± 0.44</td>
<td>3.35 ± 0.58</td>
<td>3.74 ± 0.29</td>
<td>8.15*** ac &gt; b</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: The table indicates the differences among consenters, refusers, and nonresponders on the importance of research in several adolescent research areas. Significant results and the trend in nonsignificant means support the contention that nonresponders are more like consenters than refusers.

*p < .10. **p < .05. ***p < .01. ****p < .001.
that regardless of whether parents consented, refused, or did not respond, all perceived their children as being involved in the behaviors to the same extent. This finding suggests that parents typically share similar views of their children's involvement in deviant behaviors. This finding stands in contrast to previous literature that identified that there are often differences among those involved in a study and those left out by sampling procedures. However, this study's results are based on parents reporting their children's behaviors. What is not known is whether parents' perceptions correspond to the actual behaviors of their children.

A very important finding in this study is the similarity between the consenters and nonresponders in their beliefs about the importance of adolescent lifestyle research. For three of the areas (leisure, physical activity, and overall importance of research), consenters and nonresponders reported statistically higher levels of importance than refusers. Furthermore, for importance of research in school behavior, sexual experience, and substance use research, this pattern of similarity between consenters and nonresponders is maintained. The results clearly demonstrate that nonresponders are more similar to consenters in their attitudes to adolescent lifestyle research than to refusers, and this finding is consistent with previous research (e.g., Ellickson and Hawes-Dawson 1989).

Results indicating that nonresponders were more likely to be employed than consenters may explain why nonresponders did not respond to our request for consent. Specifically, being employed often makes for a busier lifestyle. Because our request for the return of consent forms required time and action from the parents, it was likely perceived as low priority, in which case, they could have easily forgotten about it or simply did not have the time to complete them. Again, this evidence indicates that latent refusal may often be due to parent's lack of time to fill out, or their overlooking the need to return, necessary consent forms.

Although the ethical considerations for using active consent are valid, particularly when dealing with sensitive information, one must be aware of the limitations these restrictions place on proposed samples. The use of active consent procedures has been shown to reduce sample size significantly, jeopardize the randomness of the sample, and misrepresent many groups (Dent et al. 1993; Ellickson and Hawes-Dawson 1989; Severson and Ary 1983). These findings were supported by the current study examining adolescent substance use. In this follow-up study, it was discovered not only that was there a reduced sample size but also that there was a misrepresentation of employment status among the groups. It may be speculated that other studies that use active consent procedures would have experienced similar difficulties, putting their findings in jeopardy.
The identification of active consent procedures in a study’s methodology section would identify the possible limitations of the results and conclusions found within. It would also prevent misinterpretation of the study’s generalizability. To satisfy present ethical guidelines in research, the use of passive consent is often prohibited. Although this in itself should not limit research, it does limit the generalizability of certain types of research and should be recognized as such.

A concern to researchers and ERBs is the 19% of responding parents in the original study that refused their children’s involvement. The concern centers on whether these parents would have responded differently if they had been approached using passive procedures. There is little difference in the amount of effort required to refuse under passive consent procedures when compared to active consent procedures (i.e., the return of one form is required for both). It seems reasonable to assume that under passive consent procedures, parents would have again refused their children’s involvement. Furthermore, with the strong research findings supporting nonresponders as being similar to consenters and the interpretation that nonresponse is indicative of latent consent, the ethical basis for the use of active consent procedures loses much of its strength. Those who would refuse under active consent procedures will still refuse under passive consent procedures. On the positive side of the ledger, sample size would be increased due to the presence of those who were either too busy to respond or overlooked the forms. What is not clear is whether those parents who would refuse their children’s involvement but did not return the form would then be motivated to return the form to refuse consent. Future research should examine these possibilities. Research in this area has the potential to further our understanding of the costs of nonrandomized samples in validity and generalizability.

The findings of this study, and others, raise the issue of what conditions truly need to be satisfied for ERBs to require researchers to use the more conservative active consent procedures. The limitations of ERBs requiring researchers to labor under these conservative procedures needs to be raised more frequently in the light of the “harm” that such conditions lead to regarding the strength, interpretation, and generalizability of adolescent research. Although we call for further debate on this topic, it is important to recognize the importance of consent procedures in protecting those who need such protection. We do, however, point out that such procedures lead us to question the validity of a long history of adolescent research and that important interventions often are not able to be performed in adequate ways. The results of this study do, however, indicate that it would seem prudent that ERBs be more willing to allow passive consent procedures than is presently evident in adolescent research.
NOTE

1. Based on the comments of an anonymous reviewer, nonparametric analyses (Kruskal-Wallis tests) were also performed and indicated the same results.

REFERENCES


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