

## International note

### Parental knowledge and adolescents' risk behaviors

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## **Abstract**

In this paper we study whether parental knowledge of adolescents' activities varies according to socio-demographic variables, and we analyze the possible association between parental knowledge patterns and certain risk behaviors among adolescents. A cross-sectional study was performed with representative samples of high-school students in Peru and El Salvador. A questionnaire assessed risk behaviors, as well as possible determinants, including parental knowledge. The questionnaire was answered by 6,208 adolescents. We observed that the greater the degree of knowledge, the lower the frequency of risk behaviors among youth. The degree of knowledge was inversely associated with children's age, and we observed that being female was associated with a greater degree of parental knowledge. The study shows that parents' supervision criteria might be influenced by gender stereotypes, which would have a harmful effect on young males, as the lower degree of knowledge puts them at higher odds of risk behaviors.

**Key word:** parental knowledge, supervision, risk behaviors, adolescents, leisure time, drug use.

## **Introduction**

Adolescence is a stage where young people shape their behavior in accordance with their lifestyle. For years the lifestyle of adolescents and the risk behaviors they engage in at this stage (such as substance use or risky sexual behaviors) have been studied because of their potentially harmful health effects (Andrés Villas, Remesal Cobreros, Torrico Linares, & Salazar Torres, 2013; Costa Cabanillas & Lopez Mendez, 2008; Osorio, Lopez-del Burgo, Carlos, Ruiz-Canela, & de Irala, 2012). It is often said that the family context is the right place to educate young people about health behaviors and risk. Under this premise, family education implies the involvement of parents following certain educational styles that promote the optimal development of children (Averett, Argys, & Rees, 2011; Baumrind, 1968; Dishion & McMahon, 1998).

Among the approaches to the study of family education, one of the most commonly used is the model of parenting styles (Baumrind, 1967; Maccoby & Martin, 1983), which includes major variables such as emotional closeness and control. Parental control has been defined in different ways, but it often comprises two aspects: setting standards and monitoring/supervision (Chao, 2001; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). This last aspect of family education (parental supervision) is what interests us in this work

Several studies have found that parental supervision is a protective factor for children. Specifically, it has been found that children who are supervised by their parents engage less in crime (Kerr, Stattin, & Burk, 2010) and are not as likely to use alcohol (Arria, Kuhn, Caldeira, O'Grady, Vincent, & Wish, 2008), tobacco (Guo, Reeder, McGee, & Darling, 2011) and drugs (Jimenez-Iglesias, Moreno, Rivera, & Garcia-Moya, 2013).

There are different ways to assess supervision. One of them is parental knowledge: the degree to which parents know what their children are doing during their free time. Some studies have shown limitations in this measure (Kerr & Stattin, 2000; Stattin & Kerr, 2000), but it is still accepted as a good approach to assess parental supervision and control (Barber, 2005).

Parental knowledge depends on several factors, the main ones being the age and sex of the children. As children grow, they have more autonomy and parents begin to have less knowledge about their activities (Gryczkowski, Jordan, & Mercer, 2010; Jimenez-Iglesias, Moreno, Garcia-Moya, & Ramos, 2013). Moreover, parents often know more about their

daughters' leisure activities (Averett et al., 2011; Parra & Oliva, 2006; Waizenhofer, Buchanan, & Jackson-Newsom, 2004). Since knowledge is a protective factor for certain risk behaviors (Moreno, Ramos, Rivera, Jimenez-Iglesias, & Garcia-Moya, 2012), this gender difference could be making adolescent boys more vulnerable. In fact, they tend to engage in risk behaviors more often than women (Daddis & Randolph, 2010).

Parental knowledge and its association with other variables (both predictors and outcomes) have been abundantly analyzed (Barber, Stolz, Olsen, Collins, & Burchinal, 2005) in North America (Arria et al., 2008; Barton & Schwebel, 2007; Magoon & Ingersoll, 2006; O'Donnell et al., 2008) and Europe (Martínez Álvarez, Fuertes Martín, Ramos Vergeles, & Hernández Martín, 2003; Escribano, Anierte, & Orgilés, 2013; Kerr et al., 2010), and to some extent in Asia (Goh et al., 2016; Hasumi, Ahsan, Couper, Aguayo, & Jacobsen, 2012; Wang, Kim, Anderson, Chen, & Yan, 2012) and Africa (Bean, Barber, & Crane, 2006). In Latin America, though there are some studies (Cumsille, Darling, & Martínez, 2010; Gutiérrez, Contreras, Trujillo, Haro, & Ramos-Castillo, 2009; Malta, Mascarenhas, Porto, Barreto, & Neto, 2014), more research is necessary. Our aim is to study this issue in two developing countries in Central America (El Salvador) and South America (Peru).

In particular, the specific objectives of this study are:

1. To examine whether parental knowledge differs depending on the sex of the children, their age and other socio-demographic variables.
2. To confirm whether parental knowledge is associated with adolescents' risk behaviors such as the use of tobacco, alcohol or drugs and early sexual relations.

## **Method**

This work is part of an international study [project name omitted to enable blind review] about what teens think and feel about love and sexuality [references omitted to enable blind review].

### *Sample*

This study was carried out with representative samples of young students from El Salvador and Peru [references omitted to enable blind review]. In El Salvador, a questionnaire

was administered to 13-to-18-year-old students from 30 randomly selected public and private schools in the three major urban areas of the country (San Salvador, Santa Ana and San Miguel). In Peru 13-to-18 year-old students participated in 62 public and private schools which were randomly selected from all schools in the country.

### *Instrument*

The questionnaire included questions about lifestyle, opinions and attitudes about sexuality and affectivity and the socio-demographic characteristics of the adolescents. The questionnaire was administered on paper and read with optical reading devices. Most of the questions were closed. Prior to administration, a pilot study was run to ensure comprehensibility, to adapt the questionnaire to local conditions, and to be sure it could be completed in less than 45 minutes.

The main question for this article (parental knowledge) was formulated as follows: "Do your parents, or the persons responsible for you, know where you go or what you do in your free time (alone or with a group)?" The question had 5 possible answers (from 1 = never to 5 = always).

Risk behaviors were measured in different ways:

- Substance use: The question was, "Indicate how often the following situations apply to your life." Then adolescents responded to each of the following behaviors: "I smoke cigarettes", "I consume alcoholic beverages" and "I use drugs (marijuana, hashish, etc.)". The responses ranged from 1 = never to 5 = always. Given the high percentage of teenagers who said they never used any of these substances, for some analyses this variable was dichotomized, leaving the following categories: "never" (subjects who reported never consuming tobacco, alcohol or drugs) and "at least once" (subjects who reported one of the other frequencies).
- Sexual relations: The question was, "Have you ever had sex?" A note clarified, "Remember that by 'sex' we mean 'complete sexual intercourse'."

Questions relating to sex, age, socioeconomic status, type of school, and religion were also included. From the questions about religion a dichotomous variable called "religiosity"

was built. The category "high religiosity" was for respondents who met these three conditions: (1) they identify with a religion, (2) they go to their religion's temple at least once a week and (3) their response to the phrase "my faith is a very important influence I am willing to consider in my life" was "agree" or "Strongly agree". The remaining subjects (those who did not meet all three conditions) were in the "low or no religiosity" category.

### *Procedure*

Before administering the questionnaire to students, consent was obtained through the schools. Survey administrators traveled to each school to administer the questionnaire during school hours. In order to ensure respondents' privacy and increase their willingness to provide sensitive information, questionnaires were administered at the schools (i.e., away from parents) during school hours by people who were not teachers.

Students were informed that the questionnaire was voluntary and anonymous. It was stressed that they were not obliged to participate, and that they did not have to respond to any question they did not want to answer.

Approval was obtained from the Ethics Committee of the University of Malaga.

### *Data Analyses*

When analyzing parental supervision as a dependent variable (Objective 1), the association of this variable with various socio-demographic variables was tested. Bivariate associations were evaluated using Student's t-tests and ANOVAs. Multivariate analyses with multiple lineal regression were also performed, where the dependent variable was supervision and the independent variables were socio-demographic variables. All these analyses were performed separately for each country studied.

When analyzing parental supervision as an independent variable (Objective 2), four logistic regressions, one for each risk behavior (tobacco, alcohol and other drugs use, and sexual relations), were performed. The dependent variable in each regression was whether the relevant risk behavior was present or absent. In all regressions, the independent variables were supervision and socio-demographic variables.

Stata statistical software (version 12) was used in all analyses.

## Results

The questionnaire was answered by 6,208 adolescents (2,809 Salvadorans and 3,399 Peruvians), 155 of which were discarded due to respondents not being between the ages of 13 and 18 (123 participants) or because there was no response for the question about parental knowledge (33 participants). Therefore, the study sample included 6,053 adolescents (2,664 Salvadorans and 3,389 Peruvians). Table I shows the summary of the main socio-demographic variables. Participants were on average 15.2 years old and 49.7% were women. Sixty six percent of teens said their parents always or almost always know what they do in their free time.

The degree of parental knowledge varied with some socio-demographic variables (Table II). In both countries, being younger, being female and having a high religiosity were associated with increased parental knowledge levels.

In terms of the risk behaviors under study, the percentage of teens who said they had used substances at least once (from "almost never" to "always") was 23% for tobacco, 29% for alcohol, and 8% for drugs. On the other hand, 20% of adolescents (23% of the Salvadorans and 17% of the Peruvians) said they had had sex.

Higher degrees of parental knowledge were associated to lower frequencies of each of these behaviors (Figure I). Furthermore, the association between knowledge and risk behaviors remained even after adjusting for several potential confounding variables (Table III). Other protective variables that reduced risk behaviors were: being younger, being female and having a high religiosity. Studying at a private school was associated with a higher prevalence of tobacco and alcohol use, but with a lower prevalence of drug use and sexual relations. Having a high socio-economic status was associated with a higher prevalence of tobacco and alcohol use and sexual relations.

Interactions (data not shown) showed that, for all risk behaviors, parental knowledge was more protective ( $p < .05$ ) among Salvadorans than among Peruvians. Besides, for all risk behaviors except for alcohol use, parental knowledge was more protective among younger adolescents. Only for sexual relations, parental knowledge was more protective among females than among males.

## Discussion

As explained at the beginning, this paper has a double objective: to examine how socio-demographic variables are associated with parental knowledge in developing countries such as Peru and El Salvador, and to confirm whether this knowledge is associated with risk behavior in teens.

With regard to the first objective of the study, we found that being younger, being female and having a high degree of religiosity were associated with greater parental knowledge. These data are consistent with other studies, for example, with those that show greater parental knowledge regarding daughters' activities (Dishion & McMahon, 1998; Parra Jimenez, 2007; Parra & Oliva, 2006).

In terms of the second objective, we have observed that in these countries there is an association between parental knowledge and risk behaviors (substance use and sexual relations), which had been found previously by studies in other cultural environments (Arria et al., 2008; Ashery, Robertson, & Kumpfer, 1998; Guo et al, 2011). Moreover, being male is associated with a higher prevalence of engagement in risk behaviors, regardless of parental knowledge. This suggests that being male is associated directly and indirectly with risk behaviors: males engage in more risk behaviors than females (direct association) and parents know less about their activities, which could increase the risk of continuing and/or worsening such behavior (indirect association).

Since male adolescents engage in risk behaviors more often, it might be expected that parents would try to know more about what their sons are doing than what their daughters are doing (or at least supervise both sons and daughters to the same degree). The results of our study, however, show that male adolescents report a lower degree of parental knowledge. This could be due to the behavior of the children or parents. What our study measures is the knowledge that children perceive their parents are having about their activities, but it does not address the source of that supposed knowledge. The greater degree of knowledge reported by the girls in our sample may be due to girls being more likely than boys to speak spontaneously with their parents, which has been found in several studies (Daddis & Randolph, 2010; Parra & Oliva, 2006; Waizenhofer et al, 2004). But it may also be that parents control or monitor their daughters more than their sons; a phenomenon for which there is also evidence (Berkien, Louwerse, Verhulst, & van der Ende, 2012; Parra & Oliva, 2006). This might be because parents consider their daughters to be more vulnerable, and for



that reason tend to watch them more. In other words, this phenomenon could be due to a gender stereotype held by parents. In any case the result is that boys could end up being more unprotected than girls from risky behaviors. It would be interesting to carry out studies that clarify why parents know less about what their sons are doing.

Despite the agreement that it is desirable for parents to know what their children are doing in their free time, there is controversy among researchers who emphasize the importance of spontaneous revelation (that knowledge is effective only if children have voluntarily revealed it to their parents) (Kerr et al, 2010; Stattin & Kerr, 2000), and those who propose that monitoring and control are effective (Fletcher, Steinberg, & Williams-Wheeler, 2004). Although the debate has not yet been closed, it is clearly desirable that parents stay informed about their children's friendships and activities, mainly by encouraging communication and trust between children and parents. In the event that this communication does not occur spontaneously, especially in the case of sons, then it seems prudent that parents seek out other ways to have that knowledge.

The main limitation of this study is due to its transversal nature, which does not necessarily establish the causal direction of the associations between variables. It is possible that those behaviors bring those children to communicate less, and this would lead parents to know less (Stattin & Kerr, 2000). It takes therefore longitudinal studies, and with different measurements of supervision, to understand these phenomena more deeply. Another limitation of this study is that we only know the adolescents' perception of what their parents know about their activities.

Despite these limitations, this study suggests that the role of parental knowledge in El Salvador and Peru could be similar to that found in other countries (Arria et al., 2008; Guo et al., 2011; Jiménez-Iglesias, Moreno, Rivera et al., 2013; Moreno et al., 2012). In particular, having large and representative samples and adjusting for various confounders, it was found that parental knowledge was associated with a lower prevalence of risk behaviors. The proven benefit of knowing how adolescents are spending their free time should be taken into account.

Besides, the main contribution of this paper is the finding that, despite boys being at higher risk than girls, parents have less knowledge about them. The possible harmful effect for them should be considered by parents and educators.

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**Table I.** Socio-demographic characteristics of the participants

Features	El Salvador (N=2,664)	Peru (N=3,389)	Total (N=6,053)
<b>Age (years) (range: 13-18)</b>			
Mean	15.2	15.2	15.2
Standard deviation	1.6	1.1	1.3
<b>Sex (%)</b>			
Women	43.4	54.6	49.7
<b>Type of school (%)</b>			
Public	61.5	46.1	52.9
<b>Religion (%)</b>			
Catholic	52.4	72.5	63.9
Protestant	29.9	11.4	19.3
Other <sup>a</sup>	4.5	5.8	5.3
No religion	13.2	10.3	11.6
TOTAL	100.0	100.0	100.0
<b>Socioeconomic level (%)</b>			
Low	15.7	12.1	13.6
Middle	68.2	73.5	71.2
High	16.1	14.5	15.2
TOTAL	100.0	100.0	100.0
<b>Parental knowledge (%) <sup>b</sup></b>			
Never	5.4	3.7	4.5
Almost never	9.2	5.3	7.0
Sometimes	20.8	23.5	22.3
Almost always	24.4	25.8	25.2
Always	40.3	41.7	41.1
TOTAL	100.0	100.0	100.0

<sup>a</sup> Other religions include Jehovah's Witnesses, Mormons, Jews, Muslims and other religions that vary between the two countries.

<sup>b</sup> Do your parents, or the persons responsible for you, know where you go or what you do in your free time?

**Table II.** Variables associated with parental knowledge

	El Salvador			Peru		
	Parental knowledge (mean) <sup>a</sup>	p <sup>b</sup>	B (95% CI) <sup>c</sup>	Parental knowledge (mean) <sup>a</sup>	p <sup>b</sup>	B (95% CI) <sup>c</sup>
<b>Age (years)</b>						
13-15	3.89	0.036	(ref)	4.00	0.012	(ref)
16-18	3.79		-0.10 (-0.20 to -0.01)	3.91		-0.06 (-0.14 to 0.01)
<b>Sex</b>						
Male	3.72	< 0.001	(ref)	3.80	< 0.001	(ref)
Female	4.01		0.26 (0.16 to 0.36)	4.10		0.27 (0.20 to 0.35)
<b>Type of school</b>						
Public	3.88	0.119	(ref)	3.81	< 0.001	(ref)
Private	3.80		-0.05 (-0.15 to 0.05)	4.10		0.26 (0.19 to 0.34)
<b>Religiosity</b>						
None / low	3.67	< 0.001	(ref)	3.87	< 0.001	(ref)
High	4.04		0.33 (0.24 to 0.42)	4.23		0.33 (0.25 to 0.41)
<b>Socioeconomic level</b>						
Low	3.81	0.408	(ref)	3.75	< 0.001	(ref)
Middle	3.89		0.07 (-0.06 to 0.21)	4.00		0.15 (0.03 to 0.26)
High	3.85		0.05 (-0.12 to 0.22)	3.99		0.12 (-0.03 to 0.26)

ref = reference

<sup>a</sup> Scale: 1-5.<sup>b</sup> P-value of ANOVAs (socioeconomic level) and of Student's t-tests (the remaining variables in the left column).<sup>c</sup> B coefficients (and 95% confidence intervals) of parental knowledge, adjusted for all the variables in the first column.

**Table III.** Variables associated with risk behaviors

	<b>Tobacco OR (95% CI)<sup>b</sup></b>	<b>Alcohol OR (95% CI)<sup>b</sup></b>	<b>Drugs<sup>a</sup> OR (95% CI)<sup>b</sup></b>	<b>Sexual relations OR (95% CI)<sup>b</sup></b>
<b>Parental knowledge</b>				
(cont.)	0.69 (0.65-0.73)	0.75 (0.71-0.79)	0.69 (0.63-0.74)	0.72 (0.68-0.77)
<b>Age (years)</b>				
(cont.)	1.27 (1.21-1.34)	1.38 (1.31-1.45)	1.12 (1.03-1.21)	1.58 (1.50-1.67)
<b>Sex</b>				
Male	(ref.)	(ref.)	(ref.)	(ref.)
Female	0.44 (0.38-0.51)	0.57 (0.50-0.65)	0.32 (0.26-0.41)	0.36 (0.31-0.41)
<b>Type of school</b>				
Public	(ref.)	(ref.)	(ref.)	(ref.)
Private	1.63 (1.41-1.87)	2.41 (2.11-2.75)	0.82 (0.66-1.02)	0.90 (0.77-1.04)
<b>Religiosity</b>				
None/low	(ref.)	(ref.)	(ref.)	(ref.)
High	0.46 (0.40-0.54)	0.53 (0.46-0.60)	0.44 (0.34-0.57)	0.70 (0.60-0.81)
<b>Socioeconomic level</b>				
Low	(ref.)	(ref.)	(ref.)	(ref.)
Middle	1.09 (0.88-1.35)	1.39 (1.13-1.70)	0.80 (0.60-1.07)	1.00 (0.81-1.23)
High	1.60 (1.24-2.07)	2.04 (1.59-2.61)	1.28 (0.89-1.83)	1.82 (1.41-2.35)

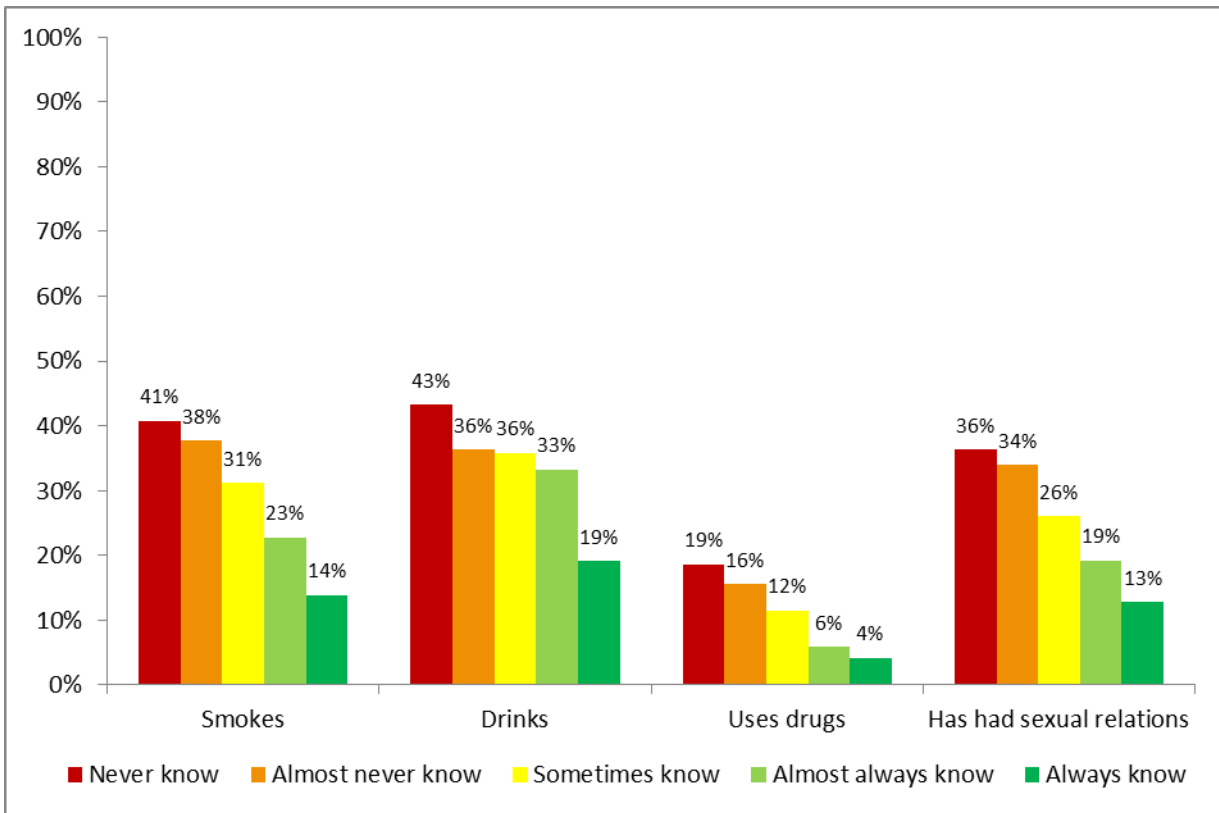
cont = continuous variable

ref = reference

<sup>a</sup> Marijuana, hashish, etc.<sup>b</sup> Odds ratios (and 95% confidence intervals) of each risk behavior, adjusted for all variables in the first column.



**Figure I.** Percentage of young people engaging in certain risk behaviors, depending on the degree of parental knowledge \*



\* Parental knowledge is measured as the extent to which parents know where their children go or what they do in their free time.