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Risky consumption and intergenerational mobility: a research program in a family context

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The objective of this document is to propose a research program that links risky consumption and inter/generational mobility, in the context of the family. Evidence on risky consumption for Spanish individuals reveals that, among other things, reduction of drug use by both parents and friends implies a fall in the rates of individual drug use. Strong evidence has been found to support the hypothesis that health-risk behaviors of fathers and mothers influence the corresponding health-risk behaviors of their offspring, in this way proving the importance of the inter-generational context. We now propose to extend this relationship between risky consumption and inter-generational mobility to the family context. To that end, we base this work on the general framework of the Economics of the Family to propose some ideas about interrelations between family members with respect to the relationship between our two topics of interest.

Keywords: Risky consumption, inter-generational mobility, research program, family

JEL codes: D11, D12, D64, I18, I38

I. Introduction

While it is true that the literature has identified the environment and the lack of information on the harmful effects of risky consumption as the primary determinants of such consumption, it also reveals that, through information campaigns and reduction of drug use by both parents and friends, the rates of individual abuse will be reduced. In both developed and developing countries, there has long been a debate over how to implement policies to reduce the abuse of alcoholic beverages, tobacco, and other drugs among younger individuals. These kinds of abuse, almost always acquired in adolescence, are especially disturbing given the vulnerable psychological nature of such individuals, who configure their own identity, partly through the adoption of certain modes of risky behavior

In this context, one important factor that helps to explain the high prevalence of risky consumption among adolescents is what the literature has termed *inter-generational transmission*. Strong evidence has been found to support the hypothesis that health-risk behaviours of fathers and mothers influence corresponding health-risk behaviours of their offspring. This could be explained by the Social Learning Theory (Bandura, 1977), which emphasizes the importance of the inter-relationships of individuals within the closer environment, especially that of the family, in the engagement and reinforcement of behaviour. In this way, some adolescents who are exposed to parents' smoking will be more prone to smoke by emulating their parents, through a process of social learning. In addition, the association between parental risky consumption and offspring's smoking could also be due to common genetic influences.

Focusing on adolescents in Spain, the literature has analyzed the influence of the environment on adolescents to consume such substances, along with an explanation of

the rational theory of consumption in decision-making, and a discussion of the relevant public policies (proposed or carried out) to curb this behavior (Jimenez and Labeaga 1994; García and Labeaga 1996; Jiménez et al. 1998; Labeaga 1999; Escario and Molina 2000; Escario and Molina 2001; Escario and Molina 2001; Jones and Labeaga 2003; Escario and Molina 2004; Escario and Molina 2004; Duarte and Molina 2004; Duarte et al. 2005; Duarte et al. 2005; Duarte et al. 2006; Gil and Molina 2007; Gil and Molina 2009; Duarte et al. 2009; Duarte et al. 2011; Duarte et al. 2013; Borderías et al. 2015; Duarte et al. 2015; Duarte et al. 2016).

From a socio-economic point of view, abuse of drugs can trigger a series of physical and psychological problems. In addition to health problems that directly affect the individual through the liver, the stomach, and the lungs, substance abuse also acts on the brain, reducing concentration and reaction levels, which increases the risk of death or injury, for example, in traffic accidents. In addition, it can lead to premature sexual contacts, with the consequent risk of unplanned pregnancy and the transmission of sexual diseases. All these problems, which affect both present and future health, clearly imply a significant loss to the individual's human capital, thus reducing the possibility of higher personal income. Drug abuse among young people is clearly an important public health problem, and it is logical that society think in terms of restrictive and preventive socio-economic regulation that, in addition to educational measures, also imposes effective penalties.

In this context, we add to the existing research a new program that relates risky consumption with inter-generational transmission of behaviors and attitudes. Despite the volume of research on inter-generational transmission of values, happiness, and economic outcomes, very few papers have directly analyzed inter-generational transmission of risky consumption in Spain (see, for example, Molina et al. (2011) for

the case of well-being, Giménez and Molina (2013) for education, Giménez et al. (2014) and Giménez et al. (2015) for housework time, Molina (2014) for the case of altruism, and Duarte et al. (2016) for smoking behavior). To the extent that this consumption represents a significant aspect of daily life, especially for adolescents, this document focuses on an important issue. We will consider policy recommendations on the basis of the well-known concept that inter-generational mobility reflects reality. It is important to invest money in information campaigns about the risks of drug use, because adolescents are the most vulnerable to substance abuse, which can lead to dependency, to school failure, and consequently to a deterioration in the individual stock of human capital - not to mention the effects on health.

II. Risky Consumption: Theories/Approaches

Becker and Murphy (1988) propose the rational addiction model, based on behavior that maximizes the utility obtained during the total lifetime of individuals. This model incorporates inter-dependence between the current and the past consumption of addictive goods, implying that recognition is given to notions of tolerance, reinforcement, and withdrawal. Tolerance suggests that a given level of consumption yields less satisfaction, as past cumulative consumption is higher. Reinforcement implies a learned response to past consumption, and withdrawal refers to a negative physical reaction, and other reductions in utility associated with the cessation or interruption of consumption.

In this context, Escario and Molina (2000) use this model to obtain a range of anticipated and unanticipated demand elasticities, which allow for characterizing the behavior of individuals with respect to tobacco consumption, with all price effects being individually significant at the 5 percent level and all values having the expected

negative sign, according to normal demands. The conclusion is that, given that the rational consumer anticipates the future in current decisions, the effects of price on consumption are greater when changes in price are anticipated. Moreover, as expected, long-term values are higher than short-term values. Therefore, assuming rational consumer behavior, levels of consumption will be controlled through price.

One of the main avenues that leads adolescents to the world of drug addiction is "imitation", either for social reasons (do what your friends do), or simply the fact that their parents are, for example, smokers and pass on that habit. Duarte et al. (2011) observe in their study that the influence of the peer group on academic results has often been examined, with several authors concluding that belonging to a deviant group can lead to higher rates of truancy and school failure. Other papers have also demonstrated the influence of the peer group in the consumption of substances such as tobacco, alcohol, and other drugs (Gaviria and Raphael 2001; Kawaguchi 2004; Powell et al. 2005; Lundborg 2006).

From a theoretical/conceptual point of view, the consideration of peer group influences further separates the explanation for the consumption of addictive substances from the traditional notions, and from the theory of social relationships. The former is based on the idea that consumption depends only on the characteristics of the individual, whereas the latter considers the social network as an agent that modifies and directly affects such use (Manski, 1995). In this context, DeCicca et al. (2000) point out that the consumption of tobacco, alcohol, and other drugs can be understood if we consider that adolescents need recognition of their actions and behavior from their group of friends, their family, and their social environment. The consideration of these influences leads us to suppose the existence of 'social multipliers', meaning that a certain policy can not only have a direct effect on the individual, but can also have an indirect effect through

the peer group. As Lundborg (2006) states, when the social multiplier is high, even small interventions can have a great effect on individual behavior. Nevertheless, Manski (1995) establishes different levels of social interaction. First, the behavior of the individual is influenced by the exogenous characteristics of the peer group; that is to say, the 'contextual effect'. Second, the individual is influenced by the behavior of the peer group, which is identified as the 'endogenous effect'. Finally, Manski (1995) recognizes the possibility of an unreliable relationship between the behavior of the individual and that of the group, which can be wrongly identified as 'contextual' or 'endogenous' effects. These latter effects – the 'correlated effects' – are due to the existence of undetected characteristics shared by all members, which generally result from the previous sorting; that is to say, the non-random choice of group by individuals. Much of the literature highlights the importance of distinguishing among these three types of effects when deriving policy implications. Contextual and endogenous effects indicate that groups matter; the individual is influenced by the group through its characteristics and its behavior. However, 'social multipliers' are only activated by the endogenous effects in so far as they reflect feedback interactions. Contextual and correlated effects do not generate this multiplier effect.

Another key aspect of this subject is Psycho-social Theories of Addiction. Adolescence is a phase of development during which the individual configures his own identity in relation to the peer group, which may lead to the adoption of certain models of risky behavior. In recent years, this psycho-social line of research has undergone substantial development, leading to a more inclusive view of the individual, combining cognitive, affective, and behavioral aspects. In addition, recognition has also been given to the importance of the relatively close environment in terms of individual behavior. This psycho-social perspective has been developed in the Social Learning Theory, which

focuses on the relationships that individuals have with their direct environment, essentially with the family unit, and in the Theory of Planned Behavior (Ajzen, 1991). Other related theoretical frameworks are the Bio-psycho-social Model and the Theory of Problem Behavior, centered on the combination of biological, psychological, and social factors as determinants of behavior in the consumption of addictive substances. We should also note the existence of other theories, such as Socio-cultural Models (Sympathetic Theory), and Public Health Models, which attempt to identify social factors, including poverty, unemployment, and violence, all of which have the effect of increasing the risk of drug use in particular groups of individuals.

In this context, developments in models that explain the use and abuse of addictive substances, including alcohol, appear to focus on two fundamental points. First, the recognition that biological, psychological, and environmental determinants are present in the consumption of such substances. Second, the central importance of the environment, from the closest, i.e. the family, through the school or workplace, to the institutional level, the latter being characterized by legal regulations.

Duarte et al. (2011) find that, although a class-based peer effect is significant if the closest peer group is not considered, consistent with prior studies (Gaviria et al. 2001; Powel et al. 2005), this disappears once the effect of the closest peer group has been defined, and the latter becomes clearly significant. The results provide evidence in favor of a reconsideration of the measures of the paired groups and, consequently, a reinterpretation of the references found in the literature. Estimates indicate that if the student attends a class where the proportion of marijuana smokers is 10 points higher, the probability of becoming a smoker increases by 2.1 points. However, one of the most important findings is that, when controlling for a closer peer group effect, the traditional peer variable measured at the class level is not significant, even though income and

school campaigns report that drug use risks appear to be significant, the former as a risk factor and the latter as a protective factor.

We now extend our analysis of the relationship between risky consumption and inter-generational mobility to a family context (Becker, 1985), where the interrelations between family members produce new insights in different aspects: behavioral (altruism, cooperation...), and socio-economic (education, health, labor,...).¹ Against this preliminary background, future lines of research should be open to study in greater detail the interactions of the different family members, assuming that each one has its own preferences, on the relationship between our two topics of interest. From this multiple perspective, empirical analyses must take into account that the consumption of one spouse can affect the consumption of the other spouse and consequently, joint estimations using Seemingly Unrelated Regressions (SUR)² can be used, where one partners' consumption is correlated with the other's regressions.

III. Inter-generational mobility

The analysis of the inter-generational persistence of socio-economic variables is crucial in the design of social policies. These policies aim to increase the independence of children from their parents' income position, or to minimize disadvantages that may be transferred from one generation to the next (for example, risky consumption). The standard approach to this issue is to estimate correlations between parents and children. The inter-generational transmission of socio-economic variables and behaviors has been analyzed, for example, in Molina et al. (2011) for the case of well-being, in Giménez

¹ Some recent examples of family behaviors useful to design our new research program are Andaluz and Molina (2007), Garcia et al. (2007), Molina and Montuenga (2009), Garcia et al (2010, 2011), Molina (2011), Giménez et al. (2012), Andaluz et al. (2013), Gimenez and Molina (2013), Molina (2013, 2015), Molina et al. (2013), Bellido et al. (2016), Giménez and Molina (2016), Andaluz et al. (2017), Campaña et al. (2015 and 2017).

² The SUR method has been used to describe the simultaneity of consumption goods (see, for example, for the case of Spain, Molina, 1994, for food; Molina, 1997, for transport goods; Molina, 1999, for leisure; Molina, 2002, for all consumer goods, and Molina et al. 2015, 2016, for cultural goods)

and Molina (2013) for education, in Giménez et al. (2014) and in Giménez et al. (2015) for housework time, in Andaluz et al (2007) and Molina (2014) for the case of altruism, and in Duarte et al. (2016) for smoking behavior. Thus, attitudes appear to be transmitted from generation to generation, given the common patterns found in most countries and the stability of such patterns. Within this framework, we can presumably expect transmissions of preferences, values, and/or social behaviors concerning risky consumption between generations.

In fact, most smokers begin smoking in adolescence and it is during young adulthood when occasional smokers generally become permanent smokers. In this sense, although most begin smoking with no specific intention of becoming lifelong smokers, they are trapped by the addictive nature of tobacco. This addictive nature, especially of nicotine, is more powerful the earlier a person begins smoking. This is also common in other risky consumptions. Most drinkers begin in adolescence or earlier, and become regular consumers at the same stage of life, indicating that this consumption remains a major health problem. This is why it is important to understand what leads adolescents into consumption and becoming regular risky consumers.

Duarte et al. (2015) study why adolescents decide to start smoking and continue to create a relationship of dependence. Among the most important are, because they like to smoke, and because it relaxes them. Beneath these obvious factors, we find other social factors, related to the environment. Duarte et al. (2016) study the influence of the parents on the adolescents, to determine whether there is a transmission from parents to children. The authors observe that having a mother who is a housewife, and an unemployed father, increases the probability of being a non-smoker, although these characteristics do not exert a significant influence on the level of consumption. While the level of education of the father has a negligible effect on the probability of being a

non-smoker, having a mother with a college education increases the probability of being a non-smoker and reduces the level of consumption. Most notably, estimates suggest that smoking among family members is an important determinant. In addition, having two smoking parents brings an increased risk of becoming a smoker, relative to having only one parent smoker. There is strong evidence for this result in the literature, where it is known as the inter-generational transmission of smoking (Ashley et al. 2008; O'Loughlin et al., 2009; Becoña et al. 2012; Melchior et al. 2010; Vanderwater et al. 2014). Consequently, it is claimed that the visibility of smoking among adult role-models is an important predictor of adolescent smoking. It seems that parents who stop smoking before their children reach adolescence could reduce the likelihood of their children becoming smokers, and could also have a positive effect that reduces the level of consumption.

IV. Discussion

Despite the fact that the World Health Organization's Framework Convention on Tobacco Control has persuaded many countries to adopt policies to reduce smoking prevalence in recent years, tobacco and other risky substances continue to be widely consumed in the global population, and among adolescents, in many countries, including Spain

The abuse of drugs in adolescents can trigger a relationship of dependence on these substances, and continued consumption over time can lead to a number of physical and psychological problems. In addition, the individual can become accustomed to "handle" their problems by consuming alcohol and, consequently, do not learn to actually solve them, thus significantly postponing normal psychological development. Similarly, substance abuse can lead to premature sexual contacts, with the consequent risk of

unplanned pregnancy and the transmission of sexual diseases. These are the main problems faced by adolescents who are addicted.

Drug abuse among adolescents is clearly an important public health problem, in that it affects both present and future health, and evidently involves a significant loss of individual human capital, thus reducing the possibility of higher income. Consequently, it seems logical that society should think in terms of restrictive socio-economic regulation and prevention that, in addition to including educational measures, also imposes effective penalties.

The Spanish government has presented a draft parliamentary bill on the prevention of alcohol consumption among adolescents. The main aspects of this proposed legislation are a ban on alcohol consumption on the public highway, the imposition of a minimum age of 18 for the purchase of alcohol, the strengthening of the current system of penalties imposed on shops that sell alcohol to under-age customers, and re-education measures for adolescent offenders in the form of compulsory community service. The presentation of this draft bill has given rise to a wide-ranging political and social debate in anticipation of its passage through the Spanish Parliament, with the aim being to introduce new proposals that improve the initial contents of the bill. Policy measures that directly affect individual income could be effective in preventing alcohol abuse among adolescents. However, elasticities of 20% to 30% suggest that these measures must be accompanied by others aimed at the social environment of the adolescent population.

Another option is a publicity campaign that focuses on the harmful effects of drugs. A new law increases the penalties for anyone driving a motor vehicle under the influence of alcohol, with the aim of reducing the number of adolescents involved in such misconduct, at the same time as it reduces the number of peers who are involved, so that

every adolescent should realize that being a passenger in a vehicle driven by an individual under the influence of alcohol is also subject to a penalty. Thus, the effect produced in the group could be several times the effect at the individual level.

With regard to the consequences of drug consumption and the harmful effects on health, from the point of view of political implications, we must ask ourselves if the current range of health and academic goods and services offered by the public sector are the most appropriate for modern Spanish adolescents. We must also remember that, although these goods and services are provided by the State, that does not mean they are free. That said, and although there is no evidence from Spain about the effectiveness of public policies aimed at reducing alcohol consumption (such as increased taxes on alcoholic beverages or increasing the minimum age of access to alcohol), the government has recognized the magnitude of the problem and is beginning to allocate part of its resources to the prevention and rehabilitation of adolescents who have fallen into the trap of alcohol abuse. The National Anti-Drug Campaign of the Spanish Government, (the National Plan on Drugs, 2001), aims to provide information not only to young people, but also to their teachers and parents, in the hope that they will be able to exercise a positive influence on adolescent habit formation.

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