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**BEER CONSUMPTION AND ALCOHOL
ABUSE RELATED PROBLEMS IN
ITALIAN ADOLESCENTS: RISK AND
PROTECTIVE FACTORS**

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ABSTRACT

Alcohol consumption, above all wine drinking, is deeply rooted in the Italian culture. However, national and European statistics (ISTISAN, 2010; ESPAD, 2011) emphasize that beer is the preferred and most widespread alcoholic beverage of 16-20 year-old Italian adolescents. This is consistent with a progressive change in young drinking models, from the traditional “Mediterranean” style (prevalent consumption of wine during meals or on special occasions) to the “Northern” style, (occasional and heavy consumption of beer and spirits) (Bonino, Cattelino, 2012).

Starting from the Problem Behavior Theory proposed by Jessor (Jessor, Donovan, Costa 1991), the present study analyzes young beer consumption in the context of adolescents’ risk behaviors and in relation to a complex system that includes variables related to individual values, opinions and feelings and to the peer and family contexts (distinguishing both individual and contextual proximal and distal factors).

The aims of the study were to investigate: a) different styles of beer consumption (moderate or heavy) and their relations with alcohol abuse and problems related to alcohol abuse; b) the relation between beer abuse, problems related to alcohol abuse and different externalizing (substances use, risky driving, antisocial behavior) and internalizing problems (depression and feelings

of alienation); c) protective and risk factors with reference to beer consumption, beer abuse and problems related to alcohol abuse. In particular, both individual and social (concerning family and peer context) factors, divided in proximal and distal variables were considered. Gender differences were also investigated.

Data were collected through an anonymous self-report questionnaire (Italian version of the Health Behavior Questionnaire of R. Jessor by Cattelino, Begotti, Bonino, 1999). The study involved 1173 adolescents, boys (43%) and girls, ages 14 to 18, attending different high schools in North-western Italy. Correlations and hierarchical multiple regressions were carried out, respondent age and gender were controlled for, in order to investigate relations between variables.

Main results stressed that: 1) 12% of adolescents are heavy drinkers (moderate 57%, non-drinkers 31%) 2) beer abuse is strongly correlated with alcohol abuse problems (health and social problems) and both correlate with involvement in externalizing problem behavior; 3) among proximal contextual factors, beer consumption with friends is the strong predictor for both beer abuse and problems related to alcohol abuse; among both individual and contextual distal factors, regulatory self-efficacy and family variables play a protective role.

Cultural aspects of adolescents' beer drinking in Italy and implications for alcohol abuse prevention were discussed.

1. INTRODUCTION

In Italy, alcohol consumption involves about 65% of the population over 11 years with a slight decrease in the last ten years (ISTAT – Italian National Statistics Institute, 2012). The alcohol consumption trend points out a decrease in the daily consumption, yet a worrying increase in the consumption between meals. The consumption style is actually changing: if it was moderate and mainly characterized by wine and beer drinking with meals, it is now becoming occasional, yet heavy and characterized by spirits drinking between meals (Kuntsche, Remh, & Gmel, 2004; Permanent Observatory on Youth and Alcohol, 2006).

Young and very young people often reveal risky consumption styles for the high amount of ingested alcohol, for consumption between meals and binge drinking. Both the consumption of alcohol by young people, and the strong increase in alcohol consumption between meals among adolescents are of particular concern. With regard to the consumption by the very young, the WHO recommends abstention from alcohol consumption up to 15 years. However, with respect to drinking between meals by adolescents, it should be emphasized that the physical development connected to this age group does not allow boys and girls to properly metabolize alcohol. If in 2001 15.5% of 14-17-year-olds consumed alcohol between meals, in 2011 the share was 18.8%, with a more evident increase among males (from 17.2% in 2001 to 22.8% in 2011). The highest increases are observed among the very young 11-17-year-olds: in this age group, alcohol consumers between meals increased from 44.4% in 2010 to 54% in 2011 (ISTAT, 2012). The most common alcoholic drink among young people is still beer, even if the consumption of aperitifs, bitters and spirits is increasing.

The widespread use of alcohol, especially beer, may be linked to various factors.

With regard to regulatory aspects, in Italy selling alcohol to minors under 16 years is banned – most recently the limit has been raised to the age of 18 (Legislative Decree n. 158, 2011)-, but this norm is often disregarded. It must be added, then, that all alcoholic drinks, and beer in particular, are extremely common substances, easily found in public places (bars, discos, etc.) and in supermarkets. This wide availability

shows that beer consumption in particular is largely accepted and widespread. The low alcoholic content of beer has probably contributed in making the consumption of this drink accepted among young and very young people, and widespread in both public and private contexts, for example with family and friends. The consumption type is yet changing among very young people: we are indeed witnessing a progressive decrease of the moderate consumption during meals or on special occasions towards a consumption style marked by heavy drinking in short periods of time (binge drinking) and, as we mentioned above, by drinking between meals. During the last few years we have witnessed a springing up of thematic parties (“beer parties”) which promote heavy drinking. In these cases too, the social worry is not only about the heavy beer consumption, but also about the risk of car accidents caused by drunk driving. It follows that preventive measures are more oriented towards not driving and not towards a responsible way of drinking.

If the moderate consumption is culturally accepted and it doesn't cause a particular concern, the heavy consumption of beer can expose people to several kinds of risk. Above all, alcohol can cause health problems both to the central nervous system and also to some organs, in particular the liver. There are also problems in the sphere of the interpersonal relationships because alcohol, especially in high amounts, can cause behavioral changes ranging from disinhibition to aggressiveness with important repercussions in the relations with other people, especially with family and friends. In some cases, the consequences of a really heavy consumption of alcohol can even involve the relations with the institutions, by interfering with working or study skills and with the public order. Especially among young people, we can observe a widespread combination of heavy beer consumption and other risk behaviors such as the use of other substances (tobacco, marijuana and other drugs), deviant behaviors (aggressions, vandalizing) and risky driving (Kelly, Darke & Ross, 2004; van Lier et al., 2009). In subsequent ages or in particular cases, there is also the combination of heavy alcohol consumption and some forms of internalized risk such as depressive feelings and alienation (Fite, Colder & O'Connor, 2006; Vanheusden et al., 2008). In connection with the different potential risks related to the heavy consumption of beer, it is important to identify some possible protective factors, which are the combination of personal and contextual characteristics which enable adolescents to limit their involvement in risk behavior (Rutter, 1990). Many studies have shown that protective factors act both by promoting personal abilities useful in overcoming the various developmental tasks and by promoting greater well-being through the reduction, balancing, neutralization, or compensation of risk factors (Stattin & Magnusson 1996; Deković, 1999; Bonino, Cattellino & Ciairano, 2005).

For a long time, studies about risk behaviors and alcohol consumption, along with prevention interventions, considered above all as protective factors individual variables, such as knowledge about risks of different behaviors. With regard to this, the information deficit model (Ajzen & Fishbein, 1980) in a preventive scale claimed that people assume risk behaviors being unaware of the possible implications and consequences. According to this approach, it would be sufficient to make young people aware of the health consequences in order to allow them to develop negative attitudes towards risk behaviors and to make logical and rational decisions. This model has been overcome by some approaches which have been defined as “multicomponent” in which the transmission of correct information about behavior consequences is integrated with interventions of skills promotion.

In this theoretical frame, protective factors are various and refer both to individual characteristics and skills and to contextual factors. Numerous studies have

tried to identify the risk and protective factors related to the use and the abuse of alcohol (in particular of beer) among young people. Our study, starting from the Problem Behavior Theory proposed by Jessor (Jessor, Donovan &, Costa 1991; Jessor, 1998), analyzes young beer consumption in the context of adolescents' risk behaviors and in relation to a complex system that includes variables related to individual values, opinions and feelings and to the peer and family contexts, distinguishing both individual and contextual proximal and distal factors.

Proximal factors can be conceptualized as variables directly connected with alcohol consumption, i.e., the context and age of initiation, the awareness of physical and psychological risks and advantages related to beer consumption, the perceived self-efficacy in avoiding to drink, parental and friends' model and disagreement, the context of consumption. Distal factors, on the other hand, are features which can increase or decrease alcohol consumption, although not directly connected with it. Distal factors can affect some functions which alcohol consumption in general, and beer consumption in particular, accomplish for adolescents or they can promote some skills which help adolescents to achieve their developmental tasks in a less risky and less health dangerous way (Bonino, Cattellino & Ciairano, 2005). In particular, in this study we analyze the perceived regulatory self-efficacy (in resisting to peer pressures), the perceived self-efficacy in being assertive, in fulfilling the expectations, in asking for help, parental and friends support and control, and the quality of relationships with parents and friends. Family and friends contexts have been chosen because they have a central role in the adolescents' life and because many of the functions related to the use and the abuse of beer among the adolescents have a social value and are connected with relations with parents and friends (Cooper, 1994; Kuntsche et al., 2005; Graziano et al., 2012).

2. AIMS

The aims of the study were to investigate: a) different styles of beer consumption (moderate or heavy) and their relations with beer abuse and problems related to alcohol abuse; b) the relation between beer abuse, problems related to alcohol abuse and different externalizing (substances use, risky driving, antisocial behavior) and internalizing problems (depression and feelings of alienation); c) protective and risk factors with reference to beer consumption, beer abuse and problems related to alcohol abuse, taking into consideration both individual and social factors (concerning family and peer contexts), divided in proximal and distal variables, according to Jessor's model.

3. METHOD

3.1. Participants and Procedure

The study involved 1173 adolescents, boys (43%) and girls, aged from 14 to 18 (mean age 15,45; 36% <16 named younger; 54% ≥16 named older), living in towns of different dimensions in north-western Italy and attending different type of secondary schools (69% lyceums, 20% technical and 11% professional schools).

Participants completed an anonymous self-report questionnaire administered by trained researchers in the schools during classroom time without teachers present. Completed questionnaires were turned in immediately to researchers. Parents' and students' consent was required before the administration in accordance with Italian law and the ethical code of the Professional Psychologists Association.

3.1. Instrument and Measures

The revised Italian version (Cattelino, Begotti & Bonino, 1999) of the Health Behavior Questionnaire of Jessor (1992) was used to collect data. The questionnaire included different measures concerning involvement in different kind of risk behavior and internalizing problems, along with questions and scales related to some personal variables and some characteristic of the main life contexts of adolescents (family, school and peer group). The following measures were used for the purposes of the present study.

3.1.1. Beer and Alcohol Consumption

Beer consumption style – Beer consumption styles were defined by the combination of the answers to two different questions. The first was referred to lifetime alcohol use: *Have you ever drunk an alcoholic beverage?* (Answers were: 0 = never; 1 = only once; 2 = sometimes; 3 = many times, 4 = habitually). Only adolescents who referred to have drunk alcohol more than once answered the second question concerning specifically beer consumption. Such consumption was measured by asking adolescents about the amount of beer habitually assumed per occasion during the last six months [Answer modalities: 5-point Likert scale with 0 = usually I don't drink beer; 1 = a small mug (250 ml); 2 = a medium mug (500 ml); 3 = a big mug (1 L); 4 = more than a big mug (1 L)]. Depending on answers to both questions, three styles of beer consumption were defined: a) *non-drinkers*: adolescents who had never drunk alcohol or who had drunk up to once in their life, along with adolescents who had not drunk beer in the last six months; b) *moderate drinkers*: adolescents who usually drink up to a medium mug (≤ 500 ml) per occasion, with reference to the preceding six months; c) *heavy drinkers*: adolescents who usually drink a big mug of beer or more (≥ 1 L) per occasion, with reference to the preceding six months.

Age and context of initiation to alcohol consumption were investigated by the following questions: *Think about the first time you had an alcoholic drink. Who were you with?* (Answers: with your family; with your friends; alone; 0=no; 1=yes for each of the three possible answers) and *How old were you?*

Drinking during the weekend was assessed by the following question: How many of your "drinks" usually occur when you go out during the weekend? (Answers: 0 = none, 1 = a few, 2 = many, 3 = the most part).

Beer abuse: Beer abuse frequency was assessed by asking adolescents how often they had drunk more than a big mug (1L) of beer per occasion in the preceding six months (0= never; 1 =sometimes; 2 = often; 3=very often).

Alcohol abuse related problems were measured by assessing the frequency (0 = never, 1 = once, 2 = 2-4 times; 3 five or more times) of different kinds of negative consequences subsequent to the assumption of an excessive quantity of alcohol: social problems (3 items: problems with friends, parents and partner), problems with authorities (2 items: at school and with the police), health problems (2 items: health

problems and road accidents) (range= 0-21; $\alpha=.72$; N=1608).

3.1.2. Externalizing Problem Behaviors

Tobacco smoking: subjects answered the following question: *Have you ever smoked cigarettes?* (Possible answers were five: 0 = “never”, 1 = “once”, 2 = “few times”, 3 = “many times”, 4 = “habitually”).

Marijuana use: it was assessed by the following question: *Have you ever tried hashish or marijuana?* Possible answers were: “never” = 0, “once” = 1, “more than once” = 2.

Other drug use was measured by assessing a 7-item scale about consumption of various types of drugs (stimulants, tranquillizers, crack, cocaine, acids, heroin, ecstasy). For each item adolescents answered on a 3-point scale from 0 = “never” to 2 = “three or more times” (1 = “1-2 times”) (range= 0-14; $\alpha=.91$; N=1137).

Risky driving was evaluated considering the frequency of different traffic offences over the last six months (e.g. driving through a red light; driving more than 30 Km/h over the speed limit). Each offence corresponds to one item of the risky driving scale (total 13 items). Possible answers for each item were ranging from 0 = “never” to 4 = “6 or more times” (1 = “once”; 2 = “2-3 times”; 3 = “4-5 times”) (range= 13-39; $\alpha=.90$; N=592).

Antisocial behaviors were assessed by asking adolescents how many times they had committed various types of antisocial actions (aggressive behaviors, theft and vandalism, lying and disobedience), over the last six months. E.g. *During the past six months, how often have you shoplifted from a store?* Total scale of antisocial behaviors consisted of 13 items with answer modalities on a 5-point scale ranging from 0 = “never” to 4 = “6 or more times” (1 = “once”; 2 = “2-3 times”; 3 = “4-5 times”) (range= 13-39; $\alpha=.82$; N=1608).

3.1.3. Internalizing Problems

Depressive feelings were assessed by a scale consisting of 18 items, such as: *in the past six months, have you just felt really down about things?* Possible answers were ranging from 1 = “not at all” to 4 = “much” (2 = “a little”; 3 = “enough”) (range= 18-72; $\alpha=.92$; N=1202).

Feelings of alienation were investigated by asking adolescents about their level of agreement with four items, stating different feelings (e.g. *I often feel left out of things that other kids are doing*). Possible answers were based on a 4-point Likert scale (1 = “I disagree”; 2 = “I partially agree”; 3 = “I agree”; 4 = “I strongly agree”) (range= 4-16; $\alpha=.97$; N=1260).

3.1.4. Individual Risk and Protective Factors

3.1.4.1. Proximal Variables

Awareness of risk of alcohol use was investigated taking into consideration two kinds of risk: the physical one and the psychological one. The following question was used: *Do you think daily use of alcohol can have negative effects on the health of young people of your age?* Separate possible answers for physical and psychological effects were: 0 = no; 1 = mild; 2 = serious.

Awareness of advantages of alcohol use was investigated by asking participants if they thought that daily alcohol use could have both physical and psychological positive consequences for adolescents (Answers: 0 = none; 1 = a few; 2 = many).

Self-efficacy in resisting to peers' pressure to drink was assessed by the following question: How are you able to resist if your friends push you to drink alcohol? Answer modalities from 1= "not at all" to 4 = "much" (2 = a little; 3 = enough).

3.1.4.2. Distal Variables

Regulatory self-efficacy (efficacy in resisting to peer pressure) (12 items), self-efficacy in being assertive (3 items), fulfilling the expectations (4 items) and asking for help (4 items) was measured by self-efficacy scales of Bandura (Bandura et al., 1996; Caprara, 2002). Adolescents had to state their sense of efficacy in response to items like: "How are you able to meet what your friends expect from you?" (Answer modalities on a 4 point likert scale: 1 = not at all, 2 = a little, 3 = enough; 4 = much) (regulatory: range= 12-48; $\alpha=.75$; N=1202; in being assertive: range= 3-12; $\alpha=.75$; N=1289; fulfilling the expectations: range= 4-16; $\alpha=.595$; N=1255; asking for help: range= 4-16; $\alpha=.61$; N=1257).

3.1.5. Contextual Risk and Protective Factors

3.1.5.1. Proximal Variables

Parents' and friends' disapproval of alcohol use was assessed by asking participants what their parents and friends thought about adolescents who drink alcohol (Answers: 1 = approve; 2 = neither approve nor disapprove; 3 = disapprove).

Alcohol consumption in family and with friends was investigated by assessing the frequency of adolescents alcohol use in family and with friends (Answers on a likert 4-point scale: 0 = never, 1 = sometimes, 2 = often, 3 = very often).

Friends model for habitual alcohol consumption was assessed by asking adolescents how many of their friends drink alcohol regularly (Answer modalities: 0 = none; 1 = some; 2 = most; 3 = all).

3.1.5.2. Distal Variables

Perceived mother's and father's support was evaluated by five questions concerning parents' interest, affection and help perceived by adolescents during childhood and adolescence (e.g. *During your childhood, was your mother affectionate with you? Currently, does your mother understand your problems?*) considering mother and father separately. Answer modalities were ranging from 0 = "never" to 3 = "always" (1 = sometimes; 2 = often) (maternal: range= 0-15; $\alpha=.82$; N=1282; paternal: range= 0-15; $\alpha=.84$; N=1268).

Perceived parents' control was measured by assessing the strictness of parents' rules pertaining behavior at home (e.g. getting the homework done) and outside the home (e.g. letting parents know where adolescents are going when he/she goes out; answer modalities: 1 = not at all; 2 = not too; 3 = fairly; 4 = very) (range= 8-32; $\alpha=.73$; N=1129)

Perceived quality of relationship with parents was assessed using three questions pertaining family closeness and facility of communication with parents about thoughts, feelings, personal problems and school problems. Adolescents assigned a score from 0 to 10 for each item (range= 0-30; $\alpha=.78$; N=1280).

Perceived friends' support was evaluated by the following question: *When you have personal problems, do you feel that your friends take care of you?* (Answer modalities were 1 = Never, 2 = Sometimes, 3 = Often and 4 = Always).

Perceived friends' control was assessed by a single question: *If you did*

something people think is wrong, would your friends stop you? Possible answers were 1 = definitely would not, 2 = probably would not, 3 = probably would, 4 = definitely would.

Perceived quality of relationship with peers was evaluated by a question related to the adolescents' perception of getting on well with their peers (*How well do you get along with other adolescents being the same age as you?*). There were four possible answers from "Not well at all" (codified as 1) to "Very well" (codified as 4).

4. RESULTS

4.1. Descriptive Analysis: Beer Consumption Styles by Gender, Age, Context and Age of Initiation and Consumption during Weekend

Results showed that 31% of adolescents were non-drinkers (they have drunk beer at least once in their life or they have not drunk beer in the last six months, these latter were the 76% of non-drinkers), 57% were moderate drinkers (they usually drink a small or a medium mug per occasion) and 12% are heavy drinkers (they usually drink a big mug or more per occasion). A greater number of drinkers was found among boys and older adolescents; moreover heavy drinkers were in a larger percentage boys (Table 1). The mean age of initiation to alcohol beverages was 12.6 years, without significant differences among non-drinkers [M(sd) = 12.9(2.3)], moderate [M(sd) = 12.3(2.5)] and heavy drinkers [M(sd) = 12.3(2.3); F(df) = 1.96(2;814), p=.141].

With regards to the contexts of initiation to alcohol consumption, heavy drinkers of beer were more likely to have drunk alcohol for the first time on their own or with friends. Moderate drinkers were less likely to have started to drink alcohol on their own. Adolescents who had not drunk beer in the last six months were more likely to have drunk for the first time in family or on their own, and less likely to have started to drink with friends. Finally, in most cases heavy drinkers were used to drink alcohol mostly during the weekend (Table 1).

4.2. Beer Abuse and Alcohol Abuse Related Problems by Beer Consumption Styles

Analysing the relation between beer consumption styles, on one hand, and beer abuse and problems related to alcohol abuse, on the other hand, significant differences between moderate and heavy drinkers in mean levels of beer abuse and problems tied to excessive alcohol consumption were found.

Table 1. Beer consumption styles (frequencies)

	Non-Drinkers		Moderate Drinkers		Heavy Drinkers
	N	%	N	%	N
Total sample	359	31	673	57	139
<i>Gender*</i>					
Boys	138	27	275	55	88
Girls	221	33	398	59	51

<i>Age*</i>					
Younger	274	36	395	52	87
Older	85	2	280	67	52
<i>Contexts of initiation¹</i>					
In family					
yes	50	13	309	76	45
no	36	7	363	74	93
With friends*					
yes	33	7	351	74	88
no	53	12	322	76	50
Alone*					
yes	5	23	12	64	5
no	81	11	661	76	133
<i>Drinks during the week end (last six months)*</i>					
None	-	-	182	97	6
A few	-	-	202	87	29
Many	-	-	55	69	25
The most part	-	-	219	73	79

* Significant differences in frequencies

By gender: $\chi^2=27.70$; $df=2$; $p<.001$; By age: $\chi^2=32.66$; $df=2$; $p<.001$; By consumption in family: $\chi^2=14.81$; $df=2$; $p=.001$; By consumption with friends (yes or no): $\chi^2=13.94$; $df=2$; $p=.001$; By consumption alone (yes or no): $\chi^2=6.1170$; $df=2$; $p=.047$; By consumption during the weekend: $\chi^2=57.96$; $df=3$; $p<.001$

¹ Frequencies pertaining to contexts of initiation of non-drinkers included only adolescent who had drunk alcohol in their life, but who had not drunk in the last six month (adolescents who have never drunk in their life did not answer the question).

Specifically, more frequent episodes of beer abuse and problems related to alcohol abuse were found in heavy drinkers compared with moderate drinkers (Table 2). Heavy drinkers referred more problems as consequences of beer abuse in different areas: in social relationships (with parents, friends and romantic partner), with relation to authorities (school and law enforcement agency) and with regards to health (physical diseases and road accidents).

Table 2. Beer abuse and alcohol related problems by beer consumption styles (one way anova)

	Mean(std)		F(df)
	Moderate drinkers	Heavy drinkers	
Beer abuse	0.95(1.69)	4.23(2.61)	336.83(1;799)
Alcohol related problems (total scale)	0.65(1.77)	1.96(2.64)	49.33(1;774)
Social Problems (subscale)	0.20(0.68)	0.66(1.04)	41.22(1;797)
Problems with authorities (subscale)	0.09(0.56)	0.34(0.85)	17.94(1;798)
Health problems (subscale)	0.21(0.60)	0.66(1.10)	45.54(1;799)

4.3. Relations among Beer Abuse, Problems Related to Alcohol Abuse and Externalizing and Internalizing Problems

Correlation analysis (Table 3) stressed that beer abuse and problems related to alcohol abuse were moderately correlated with each other. Moreover, beer abuse significantly correlated with risk behavior and in particular strongly correlated with tobacco and cannabis use, risky driving and antisocial behavior. Correlation between beer abuse and internalizing problems (depression and feeling of alienation) were very weak or not significant. Similarly alcohol related problems more strongly correlated with externalizing problems (in particular substances use) than with internalizing problems, nevertheless significant correlations with both depression and feeling of alienation were found.

Table 3. Correlations among beer abuse, alcohol related problems and externalizing and internalizing problems

	Beer abuse	Alcohol abuse related problems
Alcohol abuse related problems	.28**	-
Tobacco smoking	.37**	.31**
Cannabis use	.44**	.30**
Drugs use	.27**	.41**
Risky driving	.41**	.28**
Antisocial behaviors	.36**	.29**
Depression	.11**	.16**
Feeling of alienation	.03	.08**

**p<.001 *p<.05

4.4. Individual and Social Protective or Risk Factors

4.4.1. Protective or Risk Factors in Relation to Beer Consumption Styles

To investigate protective and risk factors in relation to beer consumption styles MANOVA analysis was performed. Starting from Jessor's theoretical model, both individual and social variables (divided in proximal and distal factors), were taken into consideration in separate analysis (Table 4). With regards to multivariate analysis including individual proximal factors (awareness of both risks and advantages of alcohol consumption and sense of efficacy in resisting to peers' pressure to drink), results showed significant mean differences of all variables by style of consumption. Specifically, heavy drinkers perceived less risks and more advantages of alcohol drinking than moderate drinkers and non-drinkers. Moreover, heavy drinkers had the lowest mean of self-efficacy in resisting to peers' pressure to drink.

With regards to proximal social factors (parents' and friends' disagreement towards alcohol consumption, frequency of drinking in family and with friends, friends' involvement in beer drinking), significant mean differences by styles of beer

consumption were found for all variables concerning peer relationships. In particular, non-drinkers reported to have more friends who disapprove alcohol drinking and fewer friends who drink alcohol. Heavy drinkers reported to drink with friends more frequently than moderate drinkers; moreover they drank beer more frequently than other drinkers within the family. This suggests that an usual and frequent alcohol consumption within the family could not protect from a heavy beer consumption. Parents' disapproval of alcohol use did not relate to styles of beer consumption.

With regards to distal variables, among individual characteristics heavy drinkers showed to perceive a lower sense of efficacy in resisting to peers' pressure, fulfilling the expectations and asking for help; any difference was found about self-efficacy in being assertive. Among social factors (parents' and friends' support and control and quality of relationships with parents and peers) the characteristics of parent-adolescent relationship, but not the variables concerning peer relationships, were tied to differences in the style of beer consumption. Specifically heavy drinkers referred a worse relationship with parents (lower support, control and quality of relation) than non-drinkers and moderate drinkers.

4.4.2. Protective or Risk Factors in Relation to Beer Abuse and Problems Related to Alcohol Abuse

To study the relations between individual and social variables, on one hand, and beer abuse and alcohol abuse problems, on the other hand, correlation and regression analysis were performed. Beyond individual and social variables, some characteristics of beer consumption, stressed by literature as tied to involvement in this behavior (age and context of initiation and frequency of drinking during the weekend), were also taken into consideration (Table 5).

Correlation analysis showed that both a greater involvement in beer abuse and more frequent problems related to alcohol abuse were associated with more frequent alcohol consumption during the weekend, lower awareness of psychological risks and greater awareness of advantages of alcohol consumption, and the perception of a greater efficacy in resisting to peers' pressure to drink. Psychological and physical perceived advantages of alcohol consumption were more strongly associated with alcohol abuse related problems than with beer abuse. Age of initiation to alcohol drinking was not significantly correlated with beer abuse and alcohol related problems; moreover correlations with the contexts of initiation were weak. Among distal individual variables, regulatory self-efficacy (in resisting to peer pressure) showed a stronger correlation with beer abuse and alcohol related problems than all proximal individual variables.

Table 4. Relations between individual and social variables and beer consumption styles (MANOVA analysis)

	Means (std)			F(df)
	Non-Drinkers	Moderate Drinkers	Heavy Drinkers	
Proximal individual variables				
Awareness of RISKS:				
physical	1.91(.28)	1.83(.38)	1.68(.47)	16.92(2;939)
psychological	1.87(.34)	1.75(.43)	1.54(.50)	23.41(2;939)
Awareness of ADVANTAGES:				
physical	1.02(.14)	1.02(.12)	1.07(.25)	5.00(2;939)
psychological	1.05(.22)	1.11(.31)	1.22(.42)	11.55(2;939)
Self-efficacy in avoiding to drink	3.77(.59)	3.32(.79)	2.87(.97)	62.43(2;939)
<i>Model:</i>	N = 942	T. di Hotelling =.192	F(df)=17.88(10;1868)	p<.001
Proximal social variables				
Parents' disagreement	2.67(.47)	2.61(.52)	2.54(.54)	1.87(2;873)
Drinking in family	.41(.49)	.84(.57)	1.07(.54)	31.67(2;873)
Friends' disagreement	1.92(.92)	1.74(.57)	1.53(.57)	12.68(2;873)
Friends' involvement in drinking	2.00(.92)	2.28(.90)	2.79(.97)	23.95(2;873)

Table 4. Continued

	Means (std)			F(df)
	Non-Drinkers	Moderate Drinkers	Heavy Drinkers	
Drinking with friends	.42(.54)	1.35(.76)	2.11(.75)	134.88(2;873)
<i>Model:</i>	N = 876	T. di Hotelling =.349	F(df)=30.33(10;1736)	p<.001
Distal individual variables				
Self-efficacy				
regulatory	42.95(3.67)	40.06(4.83)	36.23(6.56)	74.74(2;894)
in being assertive	9.73(1.76)	9.96(1.70)	10.15(1.64)	2.54(2;894)
in fulfilling expectations	12.24(1.69)	11.86(1.71)	11.22(1.74)	12.70(2;894)
in asking for help	14.58(2.62)	14.42(2.62)	13.70(2.64)	4.77(2;894)
<i>Model:</i>	N = 897	T. di Hotelling =.187	F(df)=20.82(8;1780)	p<.001
Distal social variables				
Maternal support	17.35(2.77)	16.97(2.64)	15.97(3.05)	(2;964)
Paternal support	15.82(3.35)	15.27(3.28)	15.10(3.59)	(2;964)
Parental control	22.34(4.03)	21.37(3.97)	19.36(4.10)	(2;964)
Quality of relation with parents	22.83(4.89)	22.19(4.57)	19.80(5.58)	(2;964)
Friends' support	2.78(.86)	2.89(.83)	2.83(.84)	(2;964)
Friends' control	3.16(.61)	3.15(.61)	3.12(.68)	(2;964)
Quality of peer relationships	8.13(1.31)	8.08(1.40)	8.09(1.41)	(2;964)
<i>Model:</i>	N = 967	T. di Hotelling =.093	F(df)=6.38(14;1914)	p<.001

In general, proximal social variables showed the strongest associations with beer abuse; they were also significantly tied to alcohol related problems. In particular, factors concerning friends seem to play a more important role than family factors. In fact, the frequency of drinking alcohol with peers and friends' involvement in alcohol consumption were tied to a greater involvement in both beer abuse and alcohol related problems, while friends' disagreement of alcohol consumption resulted associated with a lower involvement and less frequent problems. On the contrary, among distal social variables only factors pertaining to family context showed significant correlations with beer abuse and alcohol problems. In particular, less frequent beer abuse and alcohol problems were tied to a greater control from parents and to a good relationship with them (table 5).

Table 5. Correlations among beer abuse, alcohol related problems and individual and social factors

	Beer abuse	Alcohol abuse related problems
<i>Variables related to alcohol consumption</i>		
Initiation in family	-.12**	-.13**
Initiation with peers	.09**	.13**
Age of initiation	-.01	.02
Drinks during the weekend	.35**	.16**
<i>Proximal individual variables</i>		
Awareness of: RISKS: physical	-.11**	-.05
psychological	-.19**	-.11**
Awareness of: ADVANTAGES: physical	.08*	.23**
psychological	.15**	.21**
Self-efficacy in avoiding to drink	-.24**	-.16**
<i>Proximal social variables</i>		
Parents' disagreement	-.10**	.02
Drinking in family	.15**	.01
Friends' disagreement	-.27**	-.17**
Friends' involvement in drinking	.37**	.19**
Drinking with friends	.52**	.31**
<i>Distal individual variables</i>		
Self-efficacy: regulatory	-.35**	-.34**
in being assertive	.11**	.03
in fulfilling expectations	-.13	-.14**
in asking for help	-.09**	-.15**

	Beer abuse	Alcohol abuse related problems
<i>Distal social variables</i>		
Maternal support	-.12**	-.13**
Paternal support	-.05**	-.09**
Parental control	-.22**	-.10**
Quality of relation with parents	-.19**	-.17
Friends' support	-.01	.01
Friends' control	-.02	.07*
Quality of peer relationships	.01	-.07*

** $p < .001$ * $p < .05$

To investigate the joint role of individual and social variables on beer abuse and problems related to alcohol abuse, two models of linear hierarchical regression analysis were tested; one for beer abuse and the other for problems related to alcohol abuse. To create more sparing models, only variables with a significant correlation ($\geq .15$) in bold in table 5) with beer abuse and alcohol abuse problems were included as predictors. The effects of individual and social variables were controlled by gender and age, included as predictors in the first step of hierarchical models. In the second step some control variables pertaining to alcohol consumption characteristics were included (styles of consumption and drinking during the weekends). Proximal variables, both individual (3rdstep) and social (4th step), and distal variables, again both individual (5th step) and social (6th step), were included in succession.

Table 6. Protective and risk factors on beer abuse and problems related to alcohol abuse (linear hierarchical regression analysis)

Step		Beer abuse			Alcohol abuse related problems			
		β	Final β	ΔR^2	β	Final β	ΔR^2	
1	Gender	-.11*	.06	.04**	.03	.07	.01*	
	Age	.17**	.09**		.12**	.06		
2	<i>Variables related to alcohol consumption</i>			.07**			.06**	
	Moderate (=0) or heavy (=1) drinking	—	—		.22**	.14**		
	Drinks during the weekend	.27**	.05		.08*	-.01		
3	<i>Proximal individual variables</i>			.05**			.05**	
	Awareness of: RISKS: psychological		-.11*		-.02	—		—
	Awareness of: ADVANTAGES: physical		—		—	.16**		.14**
	psychological		.04		-.01	.10*		.07
	Self-efficacy in avoiding to drink		-.19**	-.01	-.08*	.06		
4	<i>Proximal social variables</i>			.14**			.02*	
	Drinking in family		.08*		.08*	-.08		-.06
	Friends' disagreement		-.11*		-.10*	-.03		-.03
	Friends' involvement in drinking		.16**		.16**	.04		.02
	Drinking with friends		.31**	.27**	.17*	.13*		

Table 6. Continued

		Beer abuse			Alcohol abuse related problems		
Step		β	Final β	ΔR^2	β	Final β	ΔR^2
5	<i>Distal individual variables</i>						
	Self-efficacy regulatory in asking for help	-.16**	-.13*	.02**	-.20**	-.19**	.04**
6	<i>Distal social variables</i>						
	Parental control		-.07*	.01**			>.01
	Quality of relation with parents		-.08*			-.06	
final model R^2		.33**			.18**		

** $p < .001$ * $p < .05$

With regard to beer abuse, among proximal variables only social factors showed significant effects in the final model. Specifically, beer consumption with friends was the best predictor of greater involvement in beer abuse, followed by friends' involvement in alcohol consumption. Friends' disapproval showed to be itself a protective factor, while more frequent alcohol consumption in family resulted as a risk factor (table 6). Among distal variables, only one individual factor, that is regulatory self-efficacy, resulted to play a significant protective role. The inclusion of social distal variables in the model produced a significant increment of explained variance, and specifically both parents' control and quality of relationships with parents were significantly related to a lower involvement in beer abuse.

Concerning problems related to alcohol abuse, among proximal individual variables the perception of physical advantages of alcohol consumption resulted as significantly tied with more frequent problems. Among proximal social variables, only the consumption with friends showed a significant association with a perception of more frequent problems related to the assumption of an excessive quantity of alcohol. With regard to distal variables, among individual factors both regulatory self-efficacy and self-efficacy in asking help showed a protective role on problems related to alcohol abuse. The inclusion of social distal variables in the model did not produce a significant change in explained variance. So, individual factors resulted more relevant than social variables with respect to problems related to alcohol abuse. On the contrary social variables showed a stronger role with respect to beer abuse (Table 6).

5. CONCLUSION

Beer consumption is precocious and widespread among adolescent and young Italians. The sample we analyzed shows values about implication consistent with national statistics, which point out that most boys and girls get in contact with alcohol before the legal age (ISTAT, 2012). The contexts of initiation are both within the family and with friends, while very few of them start drinking on their own. Moreover, opportunities for greater consumption are generally represented by going

out with friends on the weekend, a symbol of the function of socialization often carried out by beer consumption for young people (Kuntsche et al., 2005).

Not only do many Italian minors drink alcohol, but 12% of them are heavy drinkers. Moderate beer drinkers do not usually report problems linked with alcohol use, while heavy drinkers often have health and social problems, in particular in relationships with family, friends and partners. Problems with authorities, especially with the police, are not common in this age group. On one hand, this result confirms the protective role of moderate beer consumption in social contexts; on the other, it emphasizes that controls on the use of alcohol among minors are still scarce and that drinking beer is accepted for all ages.

Significant correlations only with externalizing problems emerged from the analysis of the relations between beer consumption and externalizing and internalizing problems. In fact, heavy consumption of beer often goes together with the consumption of other psychoactive substances, mainly tobacco and cannabis, and the involvement in antisocial behavior and risky driving (Kelly, Darke & Ross et al, 2004; van Lier et al., 2009), while significant relations with internalized risk did not emerge. This result is very different from what emerges in adulthood when the problematic use of alcohol is often linked to internalizing problems, such as depression and alienation (Fite, Colder & O'Connor, 2006; Vanheusden et al., 2008).

The relation with externalized risk increases the problems linked to beer consumption; that is the reason why prevention policies often focus on avoiding alcohol and drugs mixing and the combination of alcohol and car or motorcycle driving.

The analysis of possible protective factors seemed to be useful with regard to prevention. As mentioned above, following Jessor's Problem Behavior Theory and the constructivist and interactionist theoretical models used to analyze risky behaviors in adolescents (Silbereisen, Eyferth & Rudinger, 1986; Bonino, Cattellino & Ciairano, 2005; Cattellino, 2010), the analyzed factors have been divided in individual and contextual, proximal and distal. This approach allowed us to analyze the complexity of the variables involved.

In general, non-drinkers and moderate drinkers are more aware of physical (i.e. liver problems) and psychological (i.e. dependence) risks associated with the consumption of beer, and refer higher levels of self-efficacy in avoiding to drink, in fulfilling expectations and in asking for help. On the contrary, heavy drinkers think they could benefit more from the consumption of beer (i.e. sense of freedom and lack of inhibition, sense of belonging to the group of peers, self-image as a confident, strong, mature person) and have lower levels of self-efficacy. They therefore seem to be lacking a structure of personal control and to surrender more easily to the lure of drinking and heavy drinking.

With regard to social factors, non-drinkers and moderate drinkers have friends who disapprove beer consumption among young people, less friends who drink, and can rely on a bigger maternal support, parental control and better quality of the relation with parents.

The final model, tested to analyze the combined effects of the different variables, underlines that it is useful to work on three levels in order to prevent beer excessive use: on a personal level on the regulatory self-efficacy which is an excellent element of the structure of personal control able to protect the individual from many risk behaviors (Bandura, 1997; Pajares & Urdan, 2005); on a friendly level, on the proximal variables related to disapproval, to the model and to the frequency of drinking with friends; on a family level, on the distal variables related to supervision

and good quality of the relations between parents and children. The necessity of a multi-level approach thus emerges, where the interventions with the individuals need to be integrated with group interventions with young drinkers' friends. As mentioned above, beer consumption in adolescence and in young adulthood has mainly social functions and values (Martens et al., 2003; Kuntsche et al., 2005): that is the reason why exclusively individualized approaches, based on the promotion of risk awareness, can nearly be ineffective at this age (Ferrer-Wreder et al., 2004). The true context of prevention and drinking education is the friendly one.

The parents' model and their attitude towards beer don't seem to assume a protective role, while protection offered by parental control and by a good quality of relation with parents emerges. These variables, which precociously emerge in the relations between children and parents and which are built in long periods, result in a protection of the young, even in the case of friends who are more involved in the abuse of beer. This finding is in line with studies about different risk behaviors in adolescence, which identified parental authoritative style as one of the main protective factors with respect to adolescents' high involvement (Bonino, Cattelino & Ciairano, 2005; Vieno et al., 2009; Low, Snyder & Shortt, 2012).

Finally, concerning alcohol abuse related problems, personal factors emerge as the most important ones, in particular the perception of the advantages of the use and abuse of beer. Other important variables were low levels of regulatory self-efficacy and in asking for help, and a high frequency of drinking with friends. In Italy, in prevention programs, the trend to minimize the role of perceived benefits has prevailed for a long time and prevention interventions have been primarily focused on knowledge about disadvantages and risks of behaviors. Many studies today show that, right where life skills are lacking, risk behavior in general, and alcohol abuse in particular, can be seen as strategies, albeit dangerous and often illusory, to achieve developmental tasks (Lintonen & Konu, 2003; Miller & Plant, 2003). Prevention interventions should necessarily focus on these positive goals, in order to plan activities which allow adolescents to individuate alternative healthy behaviors which enable them to reach the same positive goals (Bonino & Cattelino, 2008).

The study has some limitations. First of all measures were self-reported and in particular perception about friends' models and disapproval with regard to alcohol use might be biased by adolescents' desire to conform to peers and to justify their own behavior. Notwithstanding from a constructivistic point of view, it has been repeatedly demonstrated that the individual's perception of reality is an important source of information in understanding individual action (Magnusson & Stattin, 1997; Juang & Silbereisen, 2001). A second limitation is linked to the cross-sectional design of the study which prevent us from a causal interpretation of results. We recognize the need to develop a longitudinal research design in order to better investigate the potential risk or protective role of the examined variables. Finally, caution should be used when generalizing these findings to adolescents with different demographic characteristics or from different countries.

Despite these limitations, the results presented here allowed us to emphasize the importance of using different prevention approaches in dealing with the abuse of beer and its problematic consumption in middle and late adolescence. They also highlighted the importance of self-efficacy, in particular the regulatory one, but not only, in the processes of self-regulation and promotion of not-risky lifestyles.

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