

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

## Life satisfaction and alcohol consumption among young adults at social gatherings

### **This is the author's manuscript**

*Original Citation:*

*Availability:*

This version is available <http://hdl.handle.net/2318/1645725> since 2019-12-13T17:44:28Z

*Published version:*

DOI:10.1007/s10902-017-9907-5

*Terms of use:*

Open Access

Anyone can freely access the full text of works made available as "Open Access". Works made available under a Creative Commons license can be used according to the terms and conditions of said license. Use of all other works requires consent of the right holder (author or publisher) if not exempted from copyright protection by the applicable law.

(Article begins on next page)

**Life satisfaction and alcohol consumption among young adults at social gatherings**

Stefano Tartaglia

Silvia Gattino

Angela Fedi

Department of Psychology, University of Turin

Correspondence concerning this article should be addressed to:

Silvia Gattino, Dipartimento di Psicologia, Università di Torino, Via Verdi 10, 10124 Torino, Italy.

Phone: ++390116702018      Fax: ++390116702061      E-mail: [silvia.gattino@unito.it](mailto:silvia.gattino@unito.it)

**Abstract** Although low life satisfaction is related to alcohol abuse among young adults, there is no clear evidence of a specific relationship between wellbeing indexes and alcohol consumption. Several studies have reported different nonlinear relationships. The role of other variables may explain the inconsistent relationships between life satisfaction and alcohol consumption. Concerning individual factors, people's expectations regarding drinking alcohol (i.e., drinking motives) are considered the most proximal antecedents of alcohol use and may mediate the relationship between life satisfaction and drinking alcohol. Regarding relational factors, social relations are related to both wellbeing and alcohol consumption. The aim of the present study was to examine the relationships among life satisfaction, drinking motives, and alcohol consumption in a sample of young adults. The data were collected by means of a self-report questionnaire from a sample of 536 young adults (median age: 22 years). We tested a structural equation model, assuming the hypothesized relationships, simultaneously on males and females to investigate gender differences.

The results showed the influence of social relations on life satisfaction, which in turn influenced participants' expectations regarding drinking alcohol. Drinking motives were antecedents of alcohol use. Among women, low satisfaction increased coping expectation, which, in turn, increased alcohol consumption. The most dangerous expectation about drinking was that alcohol may enhance a person. Prevention campaigns should aim to deconstruct this idea.

**Keywords:** Life satisfaction; Alcohol consumption; Drinking motives; Young adults; Structural equation modelling

## 1 Introduction

Young adults in Europe and North America commonly drink alcohol at social gatherings. Different individual (e.g. demographic variables, alcohol history) and social factors (e.g., peer and family influence) combine to shape the alcohol demographic consumption of young adults ((Ennett et al., 2008; Ham and Hope, 2003; Tartaglia, Fedi, & Miglietta, 2017). Concerning individual factors, people's expectations regarding drinking alcohol play a key role. The classical motivational model (Cox and Klinger, 1988) classifies motivations to drink alcoholic beverages according to two dimensions: the valence (positive or negative) and the source (internal or external) of the outcomes that individuals expect to achieve from alcohol use. People drink to obtain positive outcomes or to avoid negative consequences, and they are motivated by internal or external rewards. Crossing the two dimensions generates four drinking motives. The first one is *Enhancement*. It is internally generated with positive valence, to strengthen positive mood or well-being (e.g., drinking to have fun). The second one, which one, which is externally generated with positive valence, aimed to obtain public rewards, is *Social* (e.g., drinking to enjoy social gatherings). The third one is *Coping*. It is based on avoiding internal negative consequences, on attenuating undesired emotions (e.g., drinking to forget personal problems). The last one, which is based on negative reinforcement and is externally generated, is oriented to avoid social rejection, and named *Conformity* (e.g., drinking to fit in with a group). Drinking motives may be viewed as the most proximal antecedents of alcohol use (Tartaglia, 2014). The aim of the present study was to examine the relationships among life satisfaction, drinking motives, and alcohol consumption in a sample of young adults.

### 1.1 Alcohol and Life Satisfaction

Low life satisfaction is related to alcohol abuse among college students (Diulio et al., 2014), but there is no, clear evidence of a specific relationship between wellbeing indexes (including life satisfaction) and alcohol consumption (Murphy, McDevitt-Murphy & Barnett, 2005). Several studies have reported different nonlinear relationships (Alati et al., 2005; Lipton, 1994; Rodgers et al., 2000; Skogen et al., 2009). Regarding life satisfaction, a U-shaped relationship was found by Levy et al, (1980). Specifically, they reported a negative linear relationship between drinking alcohol and life satisfaction, excluding heavy drinkers. They reported higher satisfaction than moderate drinkers. However, the same authors interpreted this result in terms of an inappropriate measure reported by heavy drinkers, who are more inclined to deny their

dissatisfaction. Moreover, the drinker is not necessarily dissatisfied with his or her situation but may experience dissatisfaction because significant others are dissatisfied with the drinker's behavior and resulting consequences. In contrast, Ventegodt (1995) hypothesized an inverse U pattern, with moderate drinkers tending to be happier than abstainers and heavy drinkers. Recently, Massin and Kopp (2014) found a hump-shaped relationship between life satisfaction and alcohol use. Nevertheless, when they introduced a large number of control variables into the model, the hump-shaped curve increasingly flattened. Moreover, important gender differences have been highlighted. Massin and Kopp reported an inverse J-shaped relationship among men and an inverse U-shaped relationship among women, whereas several other studies

showed a linear relationship among women (Alati et al., 2004; Caldwell et al., 2002; Zhan et al., 2012). Despite the changing habits of women, who have increasingly smoked and drunk in recent decades (Homila and Raitasalo, 2005; Schaap et al., 2009), young men still consume more alcohol (O'Malley and Johnston, 2002; Tartaglia, 2014). There are also gender differences in drinking motives, as men are higher on social motives and lower on coping motives (Kuntsche and Kuntsche, 2009). We may interpret the inconsistent relationship between life satisfaction and alcohol consumption in several ways. The direction of this relation is not clear (Proctor et al, 2001; Zullig, et al., 2009). Some individuals might respond to declines in life satisfaction drinking alcohol in an attempt to improve their life satisfaction. However, it is possible that engaging in a risk behaviors (i.e. alcohol abuse) will alter an individual's life satisfaction. Both of these interpretations may be correct producing inconsistent results. Moreover, this may be due to the potential mediating effect of drinking motives. Low life satisfaction may increase the coping expectations of drinking, which, in turn, may increase actual alcohol consumption. Other motives may be unrelated to life satisfaction. These relationships may be different for men and women. We tested the model assuming the relation between life satisfaction, drinking motives, and alcohol use via structural equation modelling separately for men and women because the literature showed several differences between them.

## **1.2 Social Relations, Life Satisfaction, and Alcohol**

Friends and intimate relationships have positive effects on wellbeing (Barrett, 2000; Tartaglia, 2013).

Friends may be a source of support in the face of adversity. Moreover, identification with a group may have positive psychological consequences, providing individuals with a positive sense of social identity (i.e., a sense of meaning, purpose, and belonging) (Haslam et al., 2009). The peer group is particularly important for adolescents' life satisfaction because of their

identity development (Oberle et al., 2011), although it is relevant for young adults too because the identity formation process often continues during early adulthood (Kroger, 2000). During this life period, romantic relationships also provide an important social identity, contributing to a positive self-conception (Meirer and Allen 2008; Montgomery 2005). There are gender differences in the extent to which intimate relationships improve young adults' wellbeing. Simon and Barrett (2010) found that current involvements and recent breakups are more strongly related to women's than men's mental health. If low life satisfaction may push people to drink, we may assume that, through its influence on intimate relationships, life satisfaction may have an indirect effect on drinking behavior. Tartaglia (2014) found that perceived support from a significant other decreased alcohol consumption. The dimension of the social network (i.e., the number of friends has a positive effect on life satisfaction, although it also may be related to alcohol use (Tartaglia et al., 2017). This may be a spurious relationship because young people's interactions mainly occur at sites where alcohol consumption is common (e.g., parties, pubs, and nightclubs) (Træen and Nordlund, 1993). Moreover, it may be mediated by the *Conformity* drinking motive, as young people may consume alcoholic beverages to facilitate peer group integration (Maggs et al., 1997).

## **2 The Current Study**

Grounded in previously cited literature, the aim of the present study was to test a theoretical model assuming the relationship between life satisfaction and drinking motives, and between these motives and the alcohol consumption. Following the classical motivational model (Cox and Klinger, 1988), we examined drinking motives as independent variables and the alcohol use as an outcome measure. We hypothesized that the relationship between life satisfaction and drinking behaviour are inconsistent because of the role of drinking motives. We focused the investigation on young adults. Therefore, we also entered social relations (i.e., identification with the group of friends and involvement in an intimate relationship) into the model. In the literature, these variables were found to be related to both life satisfaction and alcohol use. We hypothesized as follows:

- a) Identification with the group and involvement in an intimate relationship would be positively related to life satisfaction.
- b) Low life satisfaction would be positively related to the Coping drinking motive (i.e., expectation that alcohol may improve coping with a negative mood).
- c) Low identification with the group would be positively related to the Conformity drinking motive (i.e., the positive expectation to fit in with a group by drinking).
- d) Drinking motives would be positively related to alcohol consumption.

Since the literature showed several differences between males and females, we tested separate models for men and women.

### 3 Method

#### 3.1 Participants

The data were collected for a survey conducted with students from two public universities located in the city (approximately 1 million inhabitants). For their master's thesis, three graduate students in psychology contacted other students attending courses in the Arts and Sciences schools of the two universities. The participants were contacted in classrooms before and after the lessons asking for their voluntary participation. They were informed that the questionnaire was completely anonymous and they freely consented to participate. The research has been conducted following the ethical principles of the Italian Society of Community Psychology. The study involved 600 participants. Because the analyses would not allow missing values, 64 participants were excluded from the sample. The final sample size was 536 (59.5% male, 40.5% female). There were no missing values on the variables of interest. The median of the age of the sample was 22 years ( $SD = 2.61$ ; range 18- 38<sup>1</sup>). Of the participants, 50.2% were engaged in a romantic relationship.

#### 3.2 Measures

We gathered the data using a self-report questionnaire. The following indicators were used in the analysis

- The Ingroup identification scale (Capozza et al., 2006) composed of 8 items referring to the peer group (e.g., "I feel similar to other members of my group of friends"). Participants rated the items on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree) (Cronbach's  $\alpha = .77$ ).

- The Satisfaction with Life Scale (SLS) (Diener et al., 1985) composed of 5 items (e.g., "In most ways

my life is close to my ideal") rated on a 7 -point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree) ( $\alpha = .85$ ).

- The Italian version of the Drinking Motive Questionnaire Revised Short Form (DMQ-R SF; Kuntsche and Kuntsche, 2009; Mazzardis et al., 2010), which included 12 items rated on a 5-point Likert-type scale ranging from 1 (almost never) to 5 (almost always). Participants were given the following instructions: 'In the last 12 months, how often did you drink...' Items belonged to four subscales measuring different drinking motives: *Enhancement* (e.g., 'to get

high?') ( $\alpha = .80$ ), *Social* (e.g., 'because it helps you enjoy a party?') ( $\alpha = .81$ ), *Coping* (e.g., 'to forget about your problems?') ( $\alpha = .84$ ), and *Conformity* (e.g., 'to fit in with a group you like?') ( $\alpha = .73$ ).

- A single item measuring the average number of drinks consumed when going out at night.
- A list of sociodemographic items (gender, age, romantic relationship status).

### 3.3 Data Analyses

After performing preliminary analyses, we tested a structural equation model, assuming the aforementioned hypothesized relationships. We tested the model simultaneously on males and females to investigate gender differences.

## 4. Results

### 4.1 Preliminary Analyses

Table 1 shows the mean scores of the scale used in the analyses. We calculated the means separately for gender group testing the differences using the T-test. Male participants had higher scores on Ingroup identification, Life satisfaction, and the Social drinking motive compared to female participants. Women had a higher Coping drinking motive score. Concerning correlations among the scales (see Table 2), Ingroup identification correlated positively with Life satisfaction and negatively with the Conformity drinking motive. Life satisfaction was negatively associated with the Coping drinking motive. Each subscale of the DMQ correlated positively with all the others. The average number of drinks consumed by male participants ( $M=2.93$ ) was higher than that of female participants ( $M = 2.52$ ;  $T = 2.29$ ;  $p<.05$ ).

### 4.2 Verifying the Model

We tested a structural equations model, assuming the following relationships: (a) a positive relation among Ingroup identification, involvement in an intimate relationship, and Life satisfaction; (b) a negative relation between Life satisfaction and the Coping drinking motive; (c) a negative relation between Ingroup identification and the Conformity drinking motive; (d) a positive relation between drinking motives and the average number of drinks consumed when going out at night. We tested the model simultaneously on males and females. For drinking motives, we inserted into the model the single items as indicators (three for each motive), whereas for Ingroup identification and Life satisfaction we used a partial disaggregating approach (Bagozzi, 1993; Bagozzi and Edwards, 1998). We randomly



aggregated the Ingroup identification and Life satisfaction items into two indicators for each scale. This aggregation reduced the number of variables in the model that might have led to significant reduction of the fit, although it still allowed for an estimation of the measurement error of the latent variables. As recommended (Hu and Bentler, 1998), we tested the model fit using different fit indexes to diminish the impact of their limits. We used  $\chi^2$ , CFI (Comparative Fit Index; Bentler, 1990), TLI (Tucker-Lewis Index; Tucker and Lewis, 1973) and RMSEA (Root Mean Square Error of Approximation; Steiger, 1990). For CFI and TLI, values higher than 0.90 were to be considered satisfactory (Bentler, 1990). For RMSEA, values lower than 0.08 were considered to be satisfactory (Browne, 1990). The model tested was acceptable. However, because two paths were not significant in both males and females, we retested the same model after deleting these paths. The second model was found to be acceptable according to all fit indexes, except  $\chi^2$ :  $\chi^2(250) = 392.65$ ,  $p < .01$ , CFI = .96, TLI = .95, RMSEA = .033 (90% CL = .026 .039). The significance of  $\chi^2$  depends on the sample size, and our sample was large ( $N = 536$ ). Moreover, the  $\chi^2/df$  ratio was very good (1.57). Therefore, we considered this model to be satisfactory<sup>2</sup>. Figures 1 and 2 show the model with the parameters estimated in males and females. In terms of the hypotheses, we observed the following: (a) Ingroup identification was positively associated with Life satisfaction for both men and women (males  $\beta = .19$ ; females  $\beta = .24$ ), whereas involvement in an intimate relationship was positively related with Life satisfaction for women only ( $\beta = .19$ ); (b) Life satisfaction was negatively linked to the Coping drinking motive (males  $\beta = -.21$ ; females  $\beta = -.29$ ); (c) Ingroup identification was negatively associated to the Conformity drinking motive for men only ( $\beta = -.22$ ); and (d) The Enhancement drinking motive was positively related to alcohol consumption in both men and women (males  $\beta = .57$ ; females  $\beta = .50$ ), whereas the Coping drinking motive was negatively related to alcohol consumption in women only ( $\beta = .19$ ). The drinking motives were correlated with each other. The model explained 29% and 36% of the variance in the alcohol consumption in men and women, respectively.

## 5. Discussion

The results confirmed the direct link between drinking motives and alcohol use and showed the relation between life satisfaction and participants' expectations regarding drinking alcohol. Moreover, we found significant gender differences. The following paragraphs present the main implications of the results and the limitations of the study.

### 5.1. Social relationships, life satisfaction, and drinking expectations

As expected, social relations are linked to young adults' life satisfaction, highlighting not only the key role played by the social relationship in this phase one's life (Haslam et al., 2009;

Meirer and Allen 2008), but also some gender related peculiarities. Specifically, identification with their group of friends related positively with life satisfaction for both males and females, whereas being engaged in an intimate relationship had a positive relation only for females. This result is consistent with previous results of Simon and Barrett (2010), which indicated that a current involvement affects women's mental health more than men's mental health. Gender stereotypes prescribe relational roles as congruent with women identity (Tartaglia & Rollero, 2015). This cultural pressure may explain the different importance of intimate relationships for young women and men. Life satisfaction showed a negative relation with the coping drinking motive, i.e. the expectation that drinking alcohol aids in coping with unsatisfactory life conditions. For young men only, Ingroup identification was related to the Conformity drinking motive. The less they experienced Ingroup identification, the more likely they were to have the positive expectation to fit in with a group by means of drinking. It seems more important for young women to engage in an intimate relationship, which involves their life satisfaction. Nevertheless, for young men, limited identification with the ingroup is more important, and it is associated to drink.

## 5.2. Drinking motives and alcohol consumption

As regards the drinking motives, enhancement and coping motives are associated with the average drinks consumed and, once again, there are some significant gender differences. The enhancement motive is strongly linked to the average quantity of alcohol consumed by participants, confirming the main positive expectation regarding drinking alcohol among young adults (Tartaglia, 2014). In postmodern Western society, nightlife became even more relevant, as it contributed to defining a cool, young identity (Chatterton and Hollands, 2002). Alcoholic beverages are an important part of the nightlife economy, and they may be offered to enhance consumers. The Coping motive was related to the average number of drinks consumed by young women. We found an indirect link between women's life satisfaction and drinking. Low satisfaction was positively and directly linked to coping expectation, which, in turn, had a positive relation to alcohol consumption. As with the consumption of other substances (Fox et al., 2011; Tartaglia et al., 2016), women's drinking also may be motivated by coping with unsatisfactory life conditions. Actually, women are usually higher in the coping motive (Kuntsche and Kuntsche, 2009). This result is consistent with other studies showing linear relationship among women's life satisfaction and alcohol consumption (Alati et al., 2004; Caldwell et al., 2002; Zhan et al., 2012) whereas men's life satisfaction is linked to alcohol-related problems (Murphy et al., 2005). Nevertheless, the interpretation of this gender difference deserves future investigation.

### 5.3. Limitations

This research suffers from some limitations that may be the starting points for further research. First of all, the cross-sectional design prevents a causal understanding of pattern of findings. As previously noted (Proctor et al, 2001, Zullig et al., 2009), it is difficult to explain whether individuals drink because of dissatisfaction with life, or whether they are dissatisfied with life because of drinking. Probably both relations exist in different conditions. Longitudinal studies are needed to clarify this point. Moreover to see any true relationship between life satisfaction and alcohol it is necessary controlling for confounding factors (Swain et al. 2012). Further research should take into account other variables possible sources of confounding effect (e.g. depression and anxiety).

An additional limit of this study is that our data cannot be generalized to other countries. We recruited participants from students in different courses, but the sample was not statistically representative of the entire population of students. Furthermore, several studies on young adults' drinking behaviours have been conducted with student samples (e.g., Atwell et al., 2011; Diulio et al., 2014) that are not representative of the entire young adult population. Future research is needed to replicate these findings on samples of non-students of the same age to increase the ecological validity of the results. Moreover, stronger conclusions could be inferred by collecting the drinking patterns with more refined measures considering quantity and frequency of use in a significant time, kind of situation (e.g., alone or gathering, in house, at college, in public spaces) in which drinking occurs, family history of substance abuse. At the end, further studies, in a clinical perspective not assumed here, could provide a more accurate overview of problematic drinking, by the means of an explanation of the phases of drinking and a definition of standard drink in terms of amount and frequency.

### 6. Conclusions

Limitations aside, this study allowed for the explanation of a good amount of variance in participants' alcohol consumption, suggesting some indication for prevention. The most dangerous expectation regarding drinking is that alcohol may enhance a person. Prevention campaigns should aim to deconstruct this idea. Moreover, specific interventions focused on young women should dispute the coping expectation so that they may avoid drinking as a reaction to negative life events or conditions. Our results had some implications for treatment programs also. Treatment can provide skills for coping with life's disappointments and for conforming through healthy self-expression to be in positive relationship with others without the use of alcohol. Furthermore, distinguishing clients on the basis of their drinking motives, and making them aware of their motivations, could direct the interventions in a more effective

and tailored way (e.g., teach one how to have fun without having to use alcohol to enhance, how to identify who one is individually and collectively without seeking definition externally from a group or from a substance).

## Notes

<sup>1</sup> The legal age for buy alcoholic beverage in Italy is 18 years old.

<sup>2</sup> Because the impossibility to establish causality in cross-sectional studies, in order to provide a more solid evidence of the hypothesized relationships among variables some authors (e.g., Hayes, 2013) suggest to establish a counter-argument to rule out the alternative possibility of a different relation path, by testing alternative models in which the pathways among variables are reversed. Following this suggestion, we tested an alternative model in which the pathway among variables are reversed. The model fit dramatically worsened, suggesting that the model presented in the paper is correct:  $\chi^2(252) = 849.37, p < .001, CFI = .84, TLI = .81, RMSEA = .067$  (90% CL = .062 .072).

## References

Alati, R., Kinner, S., Najman, J. M., Fowler, G., Watt, K., & Green, D. (2004). Gender differences in the relationships between alcohol, tobacco and mental health in patients attending an emergency department. *Alcohol and Alcoholism, 39*(5), 463–469.

Atwell, K., Abraham, C., & Duka, T. (2011). A parsimonious, integrative model of key psychological correlates of UK university students' alcohol consumption. *Alcohol and Alcoholism, 46* (3), 253-260.

Bagozzi, R. P. (1993). Assessing construct validity in personality research: Application to measures of self-esteem. *Journal of Research in Personality, 27*, 49–87.

Bagozzi, R. P., & Edwards, J. R. (1998). A general approach for representing constructs in organizational research. *Organizational Research Methods, 1*, 45–87.

Barrett, A.E. (2000). Marital Trajectories and Mental Health. *Journal of Health and Social Behavior, 41*, 451–64.

- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238–246.
- Browne, M. W. (1990). *Mutnum PC: User's guide*. Ohio State University, Department of Psychology: Columbus, OH.
- Caldwell, T. M., Rodgers, B., Jorm, A. F., Christensen, H., Jacomb, P. A., & Korten, A. E. (2002). Patterns of association between alcohol consumption and symptoms of depression and anxiety in young adults. *Addiction*, *97*(5), 583–594.
- Capozza D., Brown R., Aharpour S., Falvo R. (2006). A comparison of motivational theories of identification. In Brown R., Capozza D. (Eds.), *Social identities: Motivational, emotional and cultural influences* (pp. 51-72). Hove, UK: Psychology Press/Taylor & Francis.
- Chatterton, P., & Hollands, R. (2002). Theorising urban playscapes: producing, regulating and consuming youthful nightlife city spaces. *Urban studies*, *39*(1), 95-116.
- Cox, W. M., & Klinger, E. (1988). A motivational model of alcohol use. *Journal of Abnormal Psychology*, *97*(2), 168–180.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, *49*(1), 71-75.
- Diulio, A. R., Cero, I., Witte, T. K., & Correia, C. J. (2014). Alcohol-related problems and life satisfaction predict motivation to change among mandated college students. *Addictive behaviors*, *39*(4), 811-817.
- Ennett, S.T., Foshee, V.A., Bauman, K.E., Hussong, A., Cai, L., Reyes, H.L.M., . . . Durant, R. (2008). The social ecology of adolescent alcohol misuse: An integration of social ecology, social learning, and social control theories. *Child Development*, *79*, 1777–1791.
- Fox, C. L., Towe, S. L., Stephens, R. S., Walker, D. D., & Roffman, R. A. (2011). Motives for cannabis use in high-risk adolescent users. *Psychology of addictive behaviors*, *25*(3), 492.
- Ham, L.S. & Hope, D.A. (2003). College students and problematic drinking: A review of the literature. *Clinical Psychology Review*, *23*(5), 719-759.

Haslam, S. A., Jetten, J., Postmes, T., & Haslam, C. (2009). Social identity, health and well-being: an emerging agenda for applied psychology. *Applied Psychology*, *58*(1), 1-23.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Holmila, M., & Raitasalo, K. (2005). Gender differences in drinking: why do they still exist? *Addiction*, *100*(12), 1763-1769.

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, *3*, 424–453.

Kroger, J. (2000). Ego identity status research in the new millennium. *International Journal of Behavioral Development*, *24*(2), 145-148.

Kuntsche, E., & Kuntsche, S. (2009). Development and Validation of the Drinking Motive Questionnaire Revised Short Form (DMQ-R SF). *Journal of Clinical Child & Adolescent Psychology*, *38*, 899–908.

Levy, A.B., Bell, R. A., & Lin, E. (1980). Life satisfaction: Aspirations and alcohol use: A preliminary report. *Social Indicators Research*, *8*(4), 441–452.

Lipton, R. I. (1994). The effect of moderate alcohol use on the relationship between stress and depression. *American Journal of Public Health*, *84*(12), 1913–1917.

Maggs, J.L., Frome, P.M., Eccles, J.S., & Barber, B.L. (1997). Psychosocial resources, adolescent risk behaviour and young adult adjustment: Is risk taking more dangerous for some than others? *Journal of Adolescence*, *20*(1), 103-119.

Massin S., & Kopp, P. (2014). Is life satisfaction hump-shaped with alcohol consumption? Evidence from Russian panel data. *Addictive behaviors*, *39*(4), 803-810.

Mazzardis, S., Vieno, A., Kuntsche, E., & Santinello, M. (2010). Italian validation of the Drinking Motives Questionnaire Revised Short Form (DMQ-R SF). *Addictive Behaviors*, *35*, 905–908.

Meirer, A., & Allen, (2008). Intimate Relationship Development during the Transition to

Adulthood: Differences by Social Class. *New Directions for Child and Adolescent Development*, 119, 25–39.

Montgomery, M. (2005). Psychosocial Intimacy and Identity: From Early Adolescence to Emerging Adulthood. *Journal of Adolescent Research*, 20, 346–74.

Murphy, J. G., McDevitt-Murphy, M. E., & Barnett, N. P. (2005). Drink and be merry? Gender, life satisfaction, and alcohol consumption among college students. *Psychology of Addictive Behaviors*, 19(2), 184.

O'Malley, P.M., & Johnston, L.D. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol and Drugs*, 14, 23–39.

Oberle, E., Schonert-Reichl, K. A., & Zumbo, B. D. (2011). Life satisfaction in early adolescence: Personal, neighborhood, school, family, and peer influences. *Journal of youth and adolescence*, 40(7), 889-901.

Proctor, C. L., Linley, P. A., & Maltby, J. (2009). Youth life satisfaction: A review of the literature. *Journal of happiness studies*, 10(5), 583-630.

Rodgers, B., Korten, A. E., Jorm, A. F., Jacomb, P. A., Christensen, H., & Henderson, A. S. (2000).

Non-linear relationships in associations of depression and anxiety with alcohol use. *Psychological Medicine*, 30(2), 421-432.

Schaap, M. M., Kunst, A. E., Leinsalu, M., Regidor, E., Espelt, A., Ekholm, O., ... & Mackenbach, J. P.

(2009). Female ever-smoking, education, emancipation and economic development in 19 European countries. *Social science & medicine*, 68(7), 1271-1278.

Simon, R. W., & Barrett, A. E. (2010). Nonmarital Romantic Relationships and Mental Health in Early Adulthood Does the Association Differ for Women and Men?. *Journal of Health and Social Behavior*, 51(2), 168-182.

Skogen, J. C., Harvey, S. B., Henderson, M., Stordal, E., & Mykletun, A. (2009). Anxiety and depression among abstainers and low-level alcohol consumers. *The Nord-Trøndelag Health Study. Addiction*, 104(9), 1519–1529.

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation

approach. *Multivariate behavioral research*, 25(2), 173–180.

Swain, N. R., Gibb, S. J., Horwood, L., & Fergusson, D. M. (2012). Alcohol and cannabis abuse/dependence symptoms and life satisfaction in young adulthood. *Drug and alcohol review*, 31(3), 327-333.

Tartaglia, S. (2013). Different predictors of quality of life in urban environment. *Social Indicators Research*, 113, 1045–1053.

Tartaglia, S. (2014). Alcohol consumption among young adults in Italy: The interplay of individual and social factors. *Drugs: education, prevention and policy*, 21(1), 65–71.

Tartaglia, S., Fedi, A., & Miglietta, A. (2017). Family or friends: what counts more for drinking behaviour of young adults?, *Revista de Psicología Social*, 32(1), 1-22.

Tartaglia, S., Miglietta, A., & Gattino, S. (2016). Life Satisfaction and Cannabis Use: A Study on Young Adults. *Journal of Happiness Studies*, 1-10.

Tartaglia, S., & Rollero, C. (2015). Gender Stereotyping in Newspaper Advertisements A Cross- Cultural Study. *Journal of Cross-Cultural Psychology*, 46(8), 1103-1109. DOI:10.1177/0022022115597068

Træen, B. & Nordlund, S. (1993). Visiting public drinking places in Oslo: An application of the theory of planned behaviour. *Addiction*, 88(9), 1215-1224.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1–10.

Ventegodt, S. (1995). *Liskvalitet I Danmark [quality of life in Denmark]*. Copenhagen, Denmark: Forskningscentrets Forlag.

Zhan,W., Shaboltas, A. V., Skochilov, R. V., Kozlov, A. P., Krasnoselskikh, T. V., & Abdala, N. (2012). Gender differences in the relationship between alcohol use and depressive

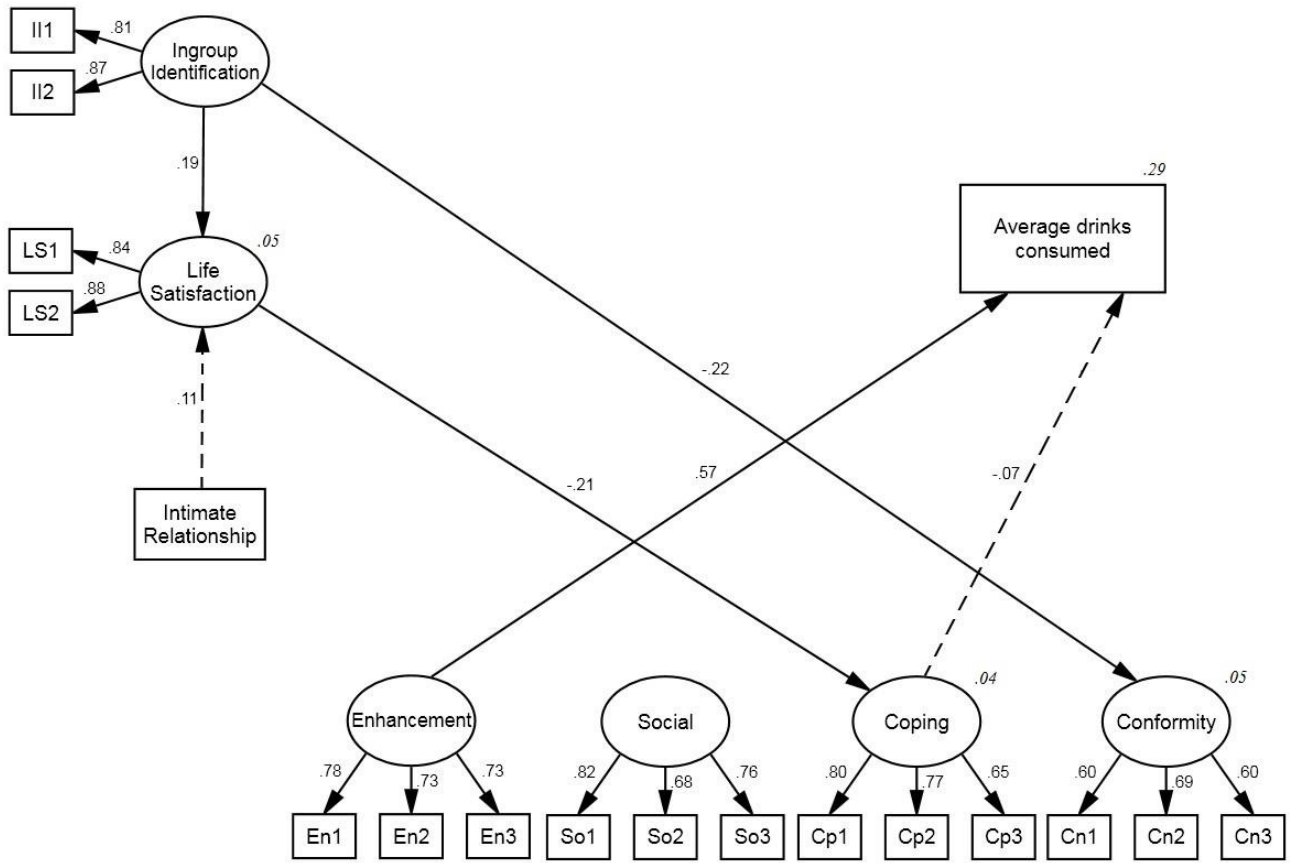


symptoms in St. Petersburg, Russia. *Journal of Addiction Research & Therapy*, 3(2). 1-5.

Zullig, K. J., Valois, R. F., Huebner, E. S., Oeltmann, J. E., & Drane, J. W. (2001). Relationship between perceived life satisfaction and adolescents' substance abuse. *Journal of Adolescent Health*, 29(4), 279-288.

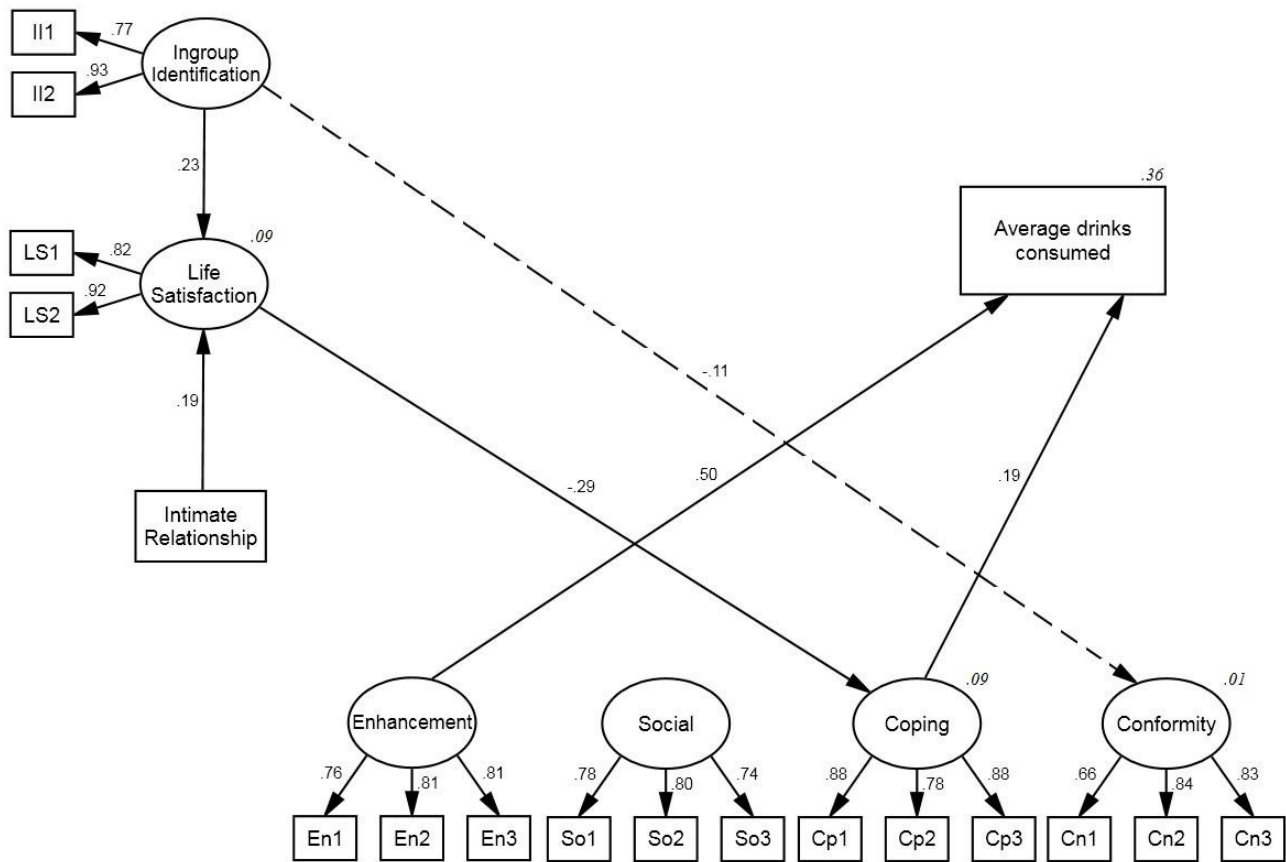
## FIGURES

Figure 1. Estimated parameters on male group: standardized regression weights and variances.



Errors of the indicators and latent variables and correlations among drinking motives were omitted from the figure in order to make it easier to view.

Figure 2. Estimated parameters on female group: standardized regression weights and variances.



Errors of the indicators and latent variables and correlations among drinking motives were omitted from the figure in order to make it easier to view.

TABLES

Table 1. Scale scores for Males (n=319) and Females (n=217): Mean scores and T values.

	Mean scores		T
	Males	Females	
<b>Ingroup identification</b>	4.70	4.52	1.99*
<b>Life Satisfaction</b>	4.85	4.50	3.39**
<b>Drinking motives</b>			
Enhancement	2.91	2.79	1.27
Social	3.06	2.78	2.96**
Coping	1.70	1.88	-2.22*
Conformity	1.32	1.39	-1.53

\*\* p<.01; \* p<.05

Table 2. Correlations among scales.

	<b>Drinking motives</b>				
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>1. Ingroup identification</b>					
<b>2. Life satisfaction</b>	.18**				
<b>Drinking motives</b>					
3. Enhancement	.03	-.08			
4. Social	.07	-.07	.70**		
5. Coping	-.08	-.25**	.38**	.37**	
6. Conformity	-.11*	-.12**	.25**	.32**	.33**

\*\*  $p < .01$  ; \*  $p < .05$