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MALADAPTIVE BELIEFS AND ANTISOCIAL BEHAVIOR IN YOUNG ADULTS: WHAT RELATIONSHIP?

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The authors are not interested in what can be interpreted as influencing the investigation. The study will be conducted in accordance with the ethical standards of the EPA.

Abstract: Antisocial behavior (AB) encompasses several disruptive behaviors, characterized by disrespect for the law and social norms, and contempt for the rights of others. The phenomenon can manifest itself early, and continue throughout life. The literature has emphasized the existence of multiple risk factors, namely gender, age or education. Beliefs or psychopathology or psychopathy are also pointed as factors that may increase the severity of the phenomenon. This study aimed to understand how maladaptive beliefs and psychopathy impact the behavior of young adults, namely their involvement in AB. In addition, we sought to identify predictors and a predictive model of AB in a sample of 1,083 participants, mostly women (n = 625, 57.7%), students (n = 458, 42.3%), caucasian (n = 1,033, 95.4%), with a mean age of 24.3 years (SD = 4.77; extension = 18–35) and 13.6 years (SD = 2.41, extension = 9–23) of schooling. The results suggest differences in the beliefs of both sexes, with men presenting more maladaptive beliefs. Differences in the adjustment of beliefs were also identified in different populations, namely, substance users, victims and aggressors, among others. Predictors and a predictive model of AB with good adjustment indices were also identified. These results emphasize, once again, the importance of identifying young people's beliefs to provide them appropriate responses to their needs.

Keywords: maladaptive beliefs, young adults, antisocial behavior, risk factors.

Over the last few decades, antisocial behavior (AB) among the young population has received increasing attention, due to the negative consequences it entails, both for individuals themselves and for society in general (López-Romero et al., 2019). According to Carroll et al. (2023), AB encompasses a wide range of disruptive behaviors, marked by disrespect for social rules and/or violation of the rights of others. These behaviors can range from minor actions, such as lying, insult, or the use of legal psychoactive substances (e.g., tobacco, alcohol), to more serious offenses (e.g., robbery, assault, arson, abuse or trafficking of illegal substances), which can place young people under the jurisdiction of the justice system (Araújo et al., 2022).

Antisocial behavior (AB) is a phenomenon that tends to manifest itself early, albeit in more subtle forms, and to increase in quantity and severity with age. Thus, and according to Malti and Averdijk (2017), there is a relationship between inappropriate behavior in childhood and violent behavior among young people, which can culminate in an escalation to more serious and persistent criminal behavior over time. Thus, AB, deviant or criminal, tends to reach a peak in late adolescence. This peak, in prevalence and incidence, suggests that this developmental stage is the one where it is possible to observe a higher number of individuals (i.e., young people) involved in disruptive or criminal behaviors (Carroll et al., 2023).

However, there is a lot of evidence that when antisocial behavior manifests itself only during adolescence or early adulthood, it tends to be limited to this developmental stage (Moffitt, 2017). Therefore, and with age, young people will tend to adopt more normative and prosocial behaviors (e.g., Rijo et al., 2017). This evidence suggests that age is a good predictor of antisocial behavior. This relationship between age and criminal behavior was identified by scholars of criminal phenomena during the nineteenth century, and is considered one of the most important discoveries in the field of Criminology (Quetelet, 1984).

PSYCHOACTIVE SUBSTANCES

Psychoactive substances (PAS), frequently known as drugs, encompasses all substances, natural or synthetic, whose consumption significantly interferes with the normal functioning of the central nervous system (CNS; Shafi et al., 2020). These substances can be legal (e.g., tobacco, alcohol) or illegal (e.g., cocaine, heroin) (e.g., Backe et al., 2022).

Regardless of the legality, PAS can be divided into categories according to their effects on the functioning of the CNS, namely: (i) psycholeptic drugs, which slows, relax, or depress the CNS (e.g., alcohol, opiates, and derivatives) (Gandarinho & Cruz, 2017); (ii) psychodysletic drugs, which disrupt the functioning of the CNS (e.g., Lysergic Acid Diethylamide [LSD], magic mushrooms) (Rodrigues, 2019); and (iii) psychoanaleptic drugs, which stimulate the functioning of the CNS (e.g., cocaine and derivatives) (Araújo, 2022). Cannabis is an exception, because depending on the content of *Tetrahydrocannabinol* (THC) and *Canabidiol* (CBD) it can have a depressive effect (i.e., low THC and high CBD [e.g., marijuana) or a disruptive effect (i.e., high THC and low CBD [e.g., oil] (Sarne, 2019).

Whatever the type of substance, consumption can have a negative impact on physical and mental health and, consequently, on the well-being of individuals and society in general (Dinis-Oliveira & Magalhães, 2020). In addition, the association between PAS consumption and violent, antisocial and/or criminal behavior has been widely demonstrated and described (e.g., Walters, 2022).

Alcohol is another problematic substance, although its legality. According to some authors (e.g., Araújo et al., 2022), alcohol consumption rates among young people may exceed 75%. In addition, about one-third of all young alcohol consumers meet criteria for alcohol use disorder, and about 14% meet criteria for substance use disorder, a rate that is 10 times higher than that of the rest of the adult population (Reynolds et al., 2019; Serviço de Intervenção nos Comportamentos Aditivos e Dependências [SICAD], 2022).

RISK OF ANTISOCIAL BEHAVIOR

Notwithstanding the variation in the levels of AB and/or criminal behaviour, the age-crime relationship tends to remain when other important variables (i.e., risk factors) are analyzed, such as the individual's gender, ethnicity, level of education, socioeconomic status, area and housing conditions, culture, historical moment, or even the typology of the crime (Cunneen, 2020). However, there are other risk factors for engaging in deviant and AB (e.g., Carroll et al., 2023; Reynolds et al., 2019), as well as in risky activities.

According to Reyna and Huettel (2014), risk-taking can be defined as the propensity to engage in activities that can offer rewards and simultaneously an exacerbated risk of potential losses. Young people tend to overestimate the value of the reward despite the possible adverse consequences of their actions. In this way, they respond more easily to the possibility of an immediate reward, neglecting the likelihood of negative or adverse consequences in the medium and/or long term. In short, late adolescence and early adulthood is the developmental period in which there is a greater tendency to engage in behaviors with increased risk potential, as for example the use and abuse of psychoactive substances, and violent interactions (e.g., Williams, 2020).

RISK FACTORS OF ANTISOCIAL BEHAVIOR

The specialized literature has identified several factors that may negatively influence the involvement in AB (Rijo et al., 2017). One relates to PAS (ab)use (Walters, 2022). Another important risk factor, in addition to age, is the individual's gender (Araújo et al., 2021). Steffensmeier et al. (2021) suggest that gender is the best predictor of deviant or criminal behavior, regardless of the context analyzed (e.g., society, culture, historical moment), with men being more likely to engage in AB and criminal activities than women. Although there is agreement that gender and age are good predictors of involvement in this type of activity, the same is not true of their joint effects. While some authors (e.g., Mobarake, 2015) suggest that there are no age differences between both sexes, others (e.g., Simpson et al., 2016) highlight that the age distribution varies according to gender, with women showing a different peak of activities than men (i.e., earlier, or later).

In addition to the factors mentioned above, it is also important to mention that AB may be exacerbated by other factors, such as: (i) psychopathology, namely depressive and anxiogenic symptoms (Auerbach et al., 2016; Wu et al., 2020), psychotic, obsessive-compulsive, or personality disorders (e.g., borderline, antisocial; American Psychiatric Association [APA], 2023); (ii) neurological impairments and deficits, which may impair executive functions (i.e., critical judgment, impulse control and inhibition, problem-solving skills) (Reynolds et al., 2019); (iii) early traumatic experiences and/or victimization (e.g., physical or sexual violence) (Guerra et al., 2022); (iv) psychopathic traits, which can be defined as a set of disruptive personality traits, marked by difficulty or inability to empathize and/or impulsive and irresponsible behavior (Paiva et al., 2020; Patrick et al., 2009); and (v)

MB, which are rigid and inflexible beliefs that constrain the ability to process the available information, and may lead to hasty and/or violent reactions; MB underlie and legitimize violent behavior, and contribute indelibly to the disruption of young adults' interpersonal relationships (Araújo et al., 2021).

YOUNG ADULTS

Notwithstanding the diversity of conceptions regarding its limits, it can be considered that the age group of young adults encompasses all individuals aged between 18 and 35 years (e.g., Krahé et al., 2022). This developmental stage is characterized by late adolescence and entry into adulthood (Erikson, 1963). It is also marked by enormous inter- and intra-individual differences in terms of the degree of biological and neurological maturation (e.g., Kalat, 2015), Therefore, it is normal and expected that during the first years of adulthood many young people still manifest behaviors typical of adolescence (e.g., involvement in risky activities, driving under the influence of PAS, involvement in gangs) (Araújo et al., 2023; Maneiro et al., 2019).

It should also be noted that modern western societies, particularly those that are more developed, are by nature very competitive (Rovny & Edwards, 2012), so they raise, perhaps too high, expectations regarding the future and success of young people (Luijks et al., 2017). For some young people, the beginning of adulthood coincides with the entry into university, and so they find themselves in the contingency of opting for a degree and a future professional career in line with social and parental expectations (Araújo, 2021). All this, combined with the fear of failure (which is not an option for society) tend to create too much pressure on young people, and some of them may not be prepared to respond adequately. Thus, it is

expected that some young people will present difficulties (Arnez & Condry, 2021), and end up developing psychopathological symptoms (e.g., depressive or anxiogenic) (APA, 2013), and/or engaging in deviant behaviors (e.g., violent behaviors, use and abuse of PAS) (Bo et al., 2021). This may help to explain the high rates of deviant or antisocial behavior in this population. However, most young people end up abandoning these behaviors and embarking on a normative life trajectory, more or less quickly (Carroll et al., 2023).

In view of the above, it is expected that Portuguese young adults will face the same type of difficulties. These difficulties can negatively impact the well-being of young people and society at large (Carroll et al., 2023). Therefore, it is important to better understand the respective consequences, namely the possible involvement of young people in reprehensible and/or anti-social behavior (Araújo, 2021).

The main objective of this study is to better understand the relationship between beliefs, specifically the most maladaptive ones, and the behavior of young people, namely the most problematic, deviant or antisocial. In addition, some specific objectives were defined: (i) to perceive the existence of differences between sexes in the manifestation of AB and MB; (ii) verify the relationship between risk and AB; (iii) identify the relationship between CD, AB, and risk; (iv) understand the relationship between risk, AB and indexes of the Beliefs in Interpersonal Relationships Questionnaire (BIRQ); (v) identify the same type of correlations, but between specific populations (e.g., victims, aggressors, forensic, etc.); (vi) verify the relationship between the BIRQ indexes and the (ab)use of PAS; (vii) identify predictors of AB; and (viii) identify a predictive model of AB.

As a result, it is expected to find that: (i) men are more likely to be involved in AB; (ii) men are at increased risk of involvement in AB; (iii) there are differences between the sexes in the manifestation of beliefs; (iv) there are significant correlations between: 1) risk and AB; and 2); AB and BIRQ indexes, regardless of the population analyzed; (iv) there are differences in beliefs among PAS users; and (v) there are significant predictors of AB, including: 1) all BIRQ indexes; 2) sociodemographic characteristics such as sex, age, and education; and 3) the most maladaptive dimensions of the TriPM (i.e., *Disinhibition* and *Meanness*).

METHOD

PARTICIPANTS

The initial sample included 1,136 individuals. However, 16 of them showed very high desirability values (EDS > 17; Almiro et al., 2017), 28 were multiple *outliers* (i.e., *probability Mahalanovis* < .0001), and nine were "non-binary", and so they were excluded. Consequently, the final sample ($N =$ 1,083) was mostly composed of women ($n =$ 625, 57.7%), students ($n = $ 458, 42.3%)*,* and caucasians ($n = $ 1,033*,* 95.4%). The mean age was 24.3 years ($SD =$ 4.77; range = 18–35) and the mean years of schooling was 13.6 ($SD =$ 2.41, range = 9–23) (see Table 1).

INSTRUMENTS

SOCIODEMOGRAPHIC QUESTIONNAIRE

Sociodemographic Questionnaire (SQ) consists of 22 items that aim to identify sociodemographic characteristics of the participants (e.g., sex/gender, age, years of schooling, living conditions, area of residence). It also comprises more specific questions to, among others: (i) identify participants who have had contacts with the justice system; (ii) identify those who have engaged in, or

witnessed, violent behavior; (iii) detect use of licit (e.g., alcohol, medicine) or illicit (e.g., cannabis, cocaine, heroin) substances; and (iv) detect psychopathological symptoms.

BELIEFS IN INTERPERSONAL RELATIONSHIPS QUESTIONNAIRE

Beliefs in Interpersonal Relationships Questionnaire (BIRQ), developed by Araújo et al. (2023), is a self-report questionnaire, which aims to assess the adjustment of participants' beliefs. BIRQ consists of 30 items, evaluated by the participants on a five-point Likert scale, from 1 (strongly *disagree*) to 5 (*strongly agree*), and distributed over four subscales: (i) *Violence*, composed of seven items, related to legitimizing beliefs of violent and/or antisocial behaviors; (ii) *Diversion*, composed of five items, related to beliefs associated to leisure and fun behaviors; (iii) *Blaming*, composed of seven items, related to beliefs that legitimize the lack of responsibility and the attribution of responsibility to others; and (iv) *Assertiveness*, composed of 11 items, related to legitimizing beliefs of prosocial attitudes. The subscales, on the other hand, are distributed over two indexes. *The Maladaptive Beliefs Index* (MBI) is the arithmetic mean of the sum of the values of *Violence*, *Diversion* and *Blaming*. *Adaptive Beliefs Index* (ABI) corresponds to *Assertiveness*. Finally, *Belief Index* (BI) is obtained by subtracting the values of the MBI from those of the ABI (i.e., BI = ABI-MBI). BIRQ showed adequate psychometric qualities (i.e., = .77 [*Violence*], = .85 [*Diversion*], = .87 [*Blaming*] and = .87 [*Assertiveness*]). Likewise, in this study, adequate values of internal consistency were observed (= .73 [*Violence*], = .84 [*Diversion*], = .85 [*Blaming*], and = .82 [*Assertiveness*]) (> .70; Pestana & Gageiro, 2014).

TRIARCHIC PSYCHOPATHY MEASURE

Triarchic Psychopathy Measure (TriPM) was developed by Patrick et al. (2009) to assess personality dimensions, namely the most disruptive ones, such as psychopathic traits. TriPM was adapted by Vieira et al. (2014) for the Portuguese population and, later, validated by Paiva et al. (2020), who found a similar composition and factorial structure. This is a self-report questionnaire, consisting of 58 items, distributed over three subscales: (i) *Meanness*, composed of 19 items, which aim to assess the tendency to offense, aggression, cruelty and/or disrespect for the others; (ii) *Boldness*, composed of 20 items, which represents the adaptive dimension of the model and is related to the appetite for adventure, social dominance, courage, tolerance to anxiety, or immunity to stress; (iii) *Disinhibition*, composed of 20 items, considered the most maladaptive facet of the model, and related to anger, impulsivity, oppositional behaviors and/or irresponsibility (Patrick, 2010). Items are evaluated by the participants on a four-point *Likert* scale, ranging from 0 (*false*) to 3 (*true*). Research has shown that the TriPM has adequate psychometric qualities, namely good internal consistency (α = .89 [*Boldness*], α =.90 [*Meanness*] and *α =.89* [*Disinhibition*]), good fidelity and construct quality (Paiva et al., 2020). In this study, adequate values of internal consistency were also observed (α = .84 [*Boldness*], α = .88 [*Meanness*], α =.85 [*Disinhibition*], and α =.87 [Total scale]) (> .70; Pestana & Gageiro, 2014).

SOCIAL DESIRABILITY SCALE

Social Desirability Scale (SDS-20) is a self-report questionnaire developed by Almiro et al. (2017) to assess whether participants respond according to their convictions or to what is socially desirable. SDS-20 consists

of 20 items rated by the participants on a dichotomous scale (i.e., *yes* or *no*). Research has demonstrated the good psychometric qualities of SDS-20 (α = .75) (Almiro et al., 2017). In this study, adequate values of internal consistency were also observed (α =. 75) (α > .70; Pestana & Gageiro, 2014).

PROCEDURES

This study complies with all the ethical and deontological assumptions and standards required by the *American Psychological Association* (APA) to this type of investigations, and therefore received the approval of the Ethics Committee of the University of Maia. The study was publicized, and the questionnaires were posted online on social networks (e.g., *Facebook*). Some restrictions were also placed in order to reach the target population and meet the predefined inclusion criteria: (i) be a native speaker of the language and have Portuguese nationality; (ii) ages between 18 and 35; (iii) possess adequate reading and writing skills; and (iv) be female or male. All information related to the present study (e.g., objectives, method and procedures, confidentiality and anonymity) was also made available to potential participants). Thus, and after giving their consent (i.e., by answering a specific question [i.e., yes or no]), the participants answered the questionnaires, without any compensation involved. Subsequently, the data were processed and analyzed using appropriate statistical software.

ANALYTIC PLAN

Detailed analyses (e.g., frequencies and descriptive statistics) were performed to characterize the sample. Cronbach's alpha (a) was used to evaluate internal consistency, according to the following criteria: (i) adequate: > .70; (ii) good > .80; (iii) very good: > .90 (Pestana & Gageiro, 2014). According to

the Central Limit Theorem (cf. Marôco, 2021), data from large samples ($N > 30$) tend towards normality. Also, according to the same Theorem, parametric tests are sufficiently robust to possible violations of normality, as long as the samples are sufficiently extensive, as is the case of the present study. Therefore, parametric tests and coefficients were preferred since they are more robust and reliable.

Thus, Pearson's correlation coefficient (*r*) was used to assess correlations according to the following criteria: weak: (i) $r < |.25|$; (ii) moderate: r |.25| and < |.50|; (iii) strong: r |.50| and < |.75|; and (iv) very strong: r |.75| (Marôco, 2021). To evaluate associations between nominal and other variables, chi-square test (^{2}) was used. *The* intensity of the effect was evaluated using the coefficients of *Phi* () and *Cramer's V*, according to the following criteria: (i) low: .10; (ii) medium: > .10 and .25; (iii) strong: > .25 and .50; and (iv) very strong: > .50. *Cohen's d* was also used to assess the size of the effect, according to the following criteria: (i) low: 0.20; (ii) medium: > |0.20| and |0.50|; (iii) strong: < |0.50| and |1.0|; and (iv) very strong: > |1.0| (Maroco, 2021). Linear regressions, simple and multiple, were performed to identify predictors. To compare groups, *t-tests* for independent samples and analysis of variance (*ANOVA*) were used if the presupposed were fulfilled. The level of statistical significance was set at $p = .05$, with 95% of confidence. Whenever necessary, some variables were recoded, or new variables were created from the pre-existing ones.

For example, to create the variables "*risk of AB*" (risk) and "*AB*" it took some recoding and the creation of new variables. So: 1) "*contacts with the justice system*" and the condition "*accused*" gave rise to the new variable called "*transgressor*"; 2) condition "*offended*" gave rise to a variable of the same name; 3) "*involvement in violence*" and the "*aggressor*"

condition gave rise to the new variable called "*agressor_IV*"; 4) aggressed condition gave rise to the new variable "*victim_IV*"; 5) "*both*" condition gave rise to the new variable "*Viol_bi*"; 6) "*involvement in violence with a partner*" and the "*aggressor*" condition gave rise to the new variable designated "*agress_IPV*"; 7) condition "aggressed" originated the new variable "*victim_IPV*"; 8) condition "*both*" originated the new variable named de "*IPV_bi*". 9) "*Involvement in violence*" and the condition "aggressed" gave rise to the new variable called "*victims*" (all nominal dichotomous [i.e., no = 0; yes = 1]). Next: a) the *sum of the variable's victim_IV, Victim_IPV, IVI_bi, Viol_bi* was performed to create the scalar variable "*victimization*"; b) subsequently, this variable was dichotomized (condition: have suffered at least one form of victimization) in a new one called "*victims_2*".

The scalar variable "*aggressors*" was also created, adding the "*aggressor*", "*agress_IPV*", "*viol_bi*", and "*IPV_bi*" variables. Similarly, and according to the same criteria used for the previous case, this variable was dichotomized into a new variable called "*agressores_1*". The "*freq_cons_alc*" was dichotomized into the variable "*Ab_Alc*".

The nominal variable "*illicit substances*" was also created, *adding the variables* "*cannabis*", "*psycholeptic*", "*psychodysletic*", *and* "*psychoanaletic*", *and* "*illicit substances*".

Next, 1) "*low schooling*" included those who reported less than 12 years of schooling; 2) "*unemployment*" was created from those who reported neither studying nor working; 3) "*cohabitation*" was created from the variable "*number of cohabitants*", including those who answered one or more; 4) "*habitation*" was dichotomized into a new one called "*quality of habitation*" (i.e., luxurious + comfortable = good = 0; modest + no conditions = bad = 1); 5) the same occurred with "*area of residence*, dichotomized into a

new one called "*neighborhood*" (i.e., luxurious + acceptable = good = 0; degraded = poor = 1); 6) "*contacts with the justice system*" and the condition "*accused*", and "*both*" gave rise to the variable "transgressors". Thus, "*AB*" results from the sum of the variables "*transgressors*", "*agres_IV*", "agr_IPV", "*viol_bi*", "*IPV_bi*", "*low schooling*", "*unemployment*", "*Ab_Alc, and "illicit substances*". The variable "*risk*" was obtained from the sum of the variable's "*transgressors*", "*low schooling*", "*unemployment*", "*cohabitation*", "*quality of habitation*", "*neighborhood*", "*witnessing violence*", "*involvement in violence*", "*involvement in partner violence*", "*mental illness*", "*illicit substances*", "*alcohol consumption*", and "*alcohol abuse*". Finally, the variable "*normative population*" represents the non-involvement in violence, nor in illicit substance (ab)use, nor in contacts with the justice system. The "*non-normative*" population represents those that have been involved in at least one of these types of behaviors.

RESULTS

SAMPLE CHARACTERIZATION

Initially, the necessary analyses (i.e., descriptive and frequency) were performed to characterize the sample. It was found that 448 (42.30%) participants were men. A descriptive analysis of their age and education was also carried out, and the respective data are presented in Table1.

	Sex	M	Min	Max	SD	95% CI
Age	**Men**	24.78	18	35	4.96	24.32 – 25.23
	Women	23.97	18	35	4.61	23.60 – 24.33
	Total	24.31	18	35	4.77	24.02 – 24.59
Schooling	**Men**	13.45	9	23	2.49	13.22 – 13.68
	Women	13.66	9	23	2.35	13.47 – 13.84
	Total	13.57	9	23	5.80	13.43 – 13.71

Table 1 *Participants' Age and Years of Schooling*

Note. *CI*: confidence interval; *M*: mean; *Max*: maximum; *Min*: minimum; *SD*: standard deviation.

To assess differences in age and schooling between sexes, *t-tests* to independent samples were carried out. Regarding age, results suggest the existence of significative differences, $t(942.619) = 2.733$, $p = .003$, $mdif = 0.809$, 95% *CI* (0.230–1.390), $d = .170$ (low effect). These results are consistent with the ones obtained from descriptive statistics indicating that men have a higher mean age (24.78) than women (23.97) (*Levene*, $p = .018$). Conversely, regarding results related to schooling, no differences were observed, $t(1,081) = -1,362$, $p = .173$, $mdif = -0.202$, 95% *IC* (-0.496–0.092), $d = .084$ (low effect) (*Levene*, $p > .05$). Again, the results are consistent with the descriptive statistics that indicate that the educational averages of both sexes are similar. For example, it was found that only a minority ($n = 418$, 38.6%) of the participants had completed at least one bachelor's degree. However, this result is not associated with gender, $^2 (1) = 2.212$, $p = .137$, *Phi* = .045.

INSTRUMENTAL EVALUATION

Descriptive analyses of the results of the instruments used were performed. Regarding the BIRQ and its subscales and indexes, the mean values obtained were of: 1.62 to *Violence* (*SD* = 0.61, 95% *CI* = 1.58–1.66, extension = 1.00–4.14); 1.76 to *Diversion* (*SD* = 0.77, 95% *CI* = 1.81–1.66, *extension* = 1.00–4.40); 4.59 to Assertiveness (*SD* = 0.45, 95% *CI* = 4.45–4.61, extension = 2.18–5.00); 1.53 to *MBI* (*SD* = 0.49, 95% *CI* = 1.50–1.56, *extension* = 1.00–3.67); 4.49 to ABI (*SD* = 0.45, 95% *CI* = 4.56–4.61, *extension* = 2.18–5.00); and 3.06 to BI (*SD* = 0.83, 95% *CI* = 3.00–3.10, *extension* = -1.18–4.00).

Regarding the subscales of the TriPM, the following mean values were obtained: 25.61 to *Boldness* (*SD* = 9.20, 95% *CI* = 25.06– 26.15, *extension* = 0 – 54); 9.41 to *Meanness* (*SD* = 7.44, 95% *CI* = 8.87 – 9.85, *extension* = 0 – 47); and 16.63 to *Disinhibition* (*SD* = 7.44, 95% *CI* = 16.10 – 17.16, *extension* = 1 – 55). Regarding SDS-20, the mean value was of 8.42 (*SD* = 3.78, 95% *CI* = 8.19–8.64, *extension* = 0–17).

RISK FACTORS AND ANTISOCIAL BEHAVIOR

The results indicated that participants have an average score of 0.83 to AB (*SD* = 1.09, 95% *CI* = 0.76 – 0.89, *extension* = 0–7), and 5.46 to risk (*SD* = 2.06, 95% *CI* = 5.34–5.59, *extension* = 1–13). The analysis of the descriptive results only indicates the existence of differences between genders in relation to AB. However, *t-tests* for independent samples were carried out to confirm, or not, these indications. Regarding risk, the results suggested that there were no differences, $t(1,081) = 0.653$, $p = .514$, $mdif = 0.082$, 95% *CI* (-0.165–0.332), $d = 0.040$ (weak effect) (*Levene, p* = .138). Conversely, in relation to AB, significant differences were observed, $t(847.736) = 5.961$, $p < .001$, $mdif = 0.406$, 95% *CI* (0.272–0.539),

$d = 0.379$ (strong effect) (*Levene*, $p = .003$). This is fully consistent with the descriptive statistics, which suggest that men have higher mean values (1.06) than women (0.66).

CORRELATIONS BETWEEN RISK, ANTISOCIAL BEHAVIOR, AND BIRQ INDEXES

Several correlation analyses were performed. A moderate positive correlation, close to the threshold of strong, was observed between "risk" and AB, $r = .49$, $p < .001$. Regarding "risk", irrelevant and non-significant correlations were observed with all the BIRQ indexes (r |.04|, $p > .05$). Regarding AB, significative and moderate negative correlations were found with BI, $r = -.29$, and ABI, $r = -.26$, and moderately positive with MBI, $r = .25$ (all $p < .001$). We also tried to understand the correlations between these last variables, but with restrictions to certain subgroups, such as: "victims", "aggressors", "normative population" and "non-normative", "involved and not involved in violence" , "forensic population" and "non-forensic population". Table 2 shows all the results.

Population		n	BIRQ Indexes		
			Maladaptive Beliefs	Adaptive Beliefs	Beliefs Index
Victims	AB	440	.30**	-.36**	-.21**
Aggressors	AB	211	.28**	-.34**	-.34**
Non normative	AB	668	.29**	-.30**	-.33**
Normative	AB	415	.06	-.10*	-.09
EV	AB	461	.32**	-.37**	-.38**
NEV	AB	622	.14**	-.10**	.-140**
Forensic	AB	159	.41**	-.51**	-.50**
Non Forensic	AB	924	.14**	-.18**	-.15**

Table 2 *Correlations restricted to certain subgroups*

Note. ***p** < .05; ****p** < .001; **AB**: Antissocial behavior; **EV**: Involved in violence; **NEV**: Not involved in violence

GROUP DIFFERENCES

BIRQ INDEXES BY SEX

Independent sample *t-tests* were performed to identify sex differences in the BIRQ indexes. The results point to the existence of differences in all dimensions analyzed, namely in: MBI, $t(731.207) = 11.898$, $p < .001$, *mdif* = 0.357, 95% *CI* (0.298–0.416), $d = 0.779$ (strong effect), with men ($n = 458$) having higher values ($M = 1.74$) than women ($n = 625$, $M = 1.38$); ABI, $t(724.270) = -7.764$, $p < .001$, *mdif* = -0.222, 95% *IC* (-0.279–0.166), $d = 0.510$ (strong effect), with men showing lower values ($M = 4.46$) than women ($M = 4.68$); and BI, $t(699.607) = -11.210$, $p < .001$, *mdif* = -0.580, 95% *CI* (-0.681–0.478), $d = 0.741$ (strong effect), with men presenting lower values ($M = 2.72$) than women ($M = 3.30$) (all *Levene*, $p < .001$).

BIRQ INDEXES, SPECIFIC POPULATIONS, AND VIOLENCE

Identical tests were carried out to assess possible differences in the BIRQ indexes in certain populations or as a function of violent and/or antisocial behaviour. Significative differences were observed in all dimensions under analysis (i.e., ABI, MBI, and BI), between the forensic and general population, between the normative and non-normative population, between aggressors and non-aggressors, and between those involved and those not involved in violence. As regards victims and non-victims, no significant differences were observed. The data of the observed differences are presented in Table 3.

Population	Index	t	df	p	Mdif	95% CI	d
Forensic	MBI	-3.615	189.859*	<.001	-0.185	-0.285 – -0.084	0.379[b]
	ABI	3.566	181.908*	<.001	0.183	0.082 – 0.284	0.410[b]
	BI	3.898	182.296*	<.001	0.367	0.181 – 0.553	0.446[b]
Non normative	MBI	-2.209	966.509*	.027	-0.066	-0.124 – -0.007	0.134[a]
	ABI	2.203	1,038.996*	.016	-0.063	0.112 – 0.115	0.141[a]
	BI	3.898	1,012.012*	.009	0.129	0.032 – 0.226	0.155[a]
Victims	MBI	-1.662	1,081	.097	-0.051	-0.110 – 0.009	0.103[a]
	ABI	0.855	1,081	.393	0.024	-0.031 – 0.078	0.053[a]
	BI	1.441	1,081	.150	0.129	0.032 – 0.226	0.155[a]
Aggressors	MBI	-4.468	274.644*	< .001	-0.194	0.279 – -0.108	0.103[a]
	ABI	5.357	262.940*	< .001	0.223	0.141 – 0.305	0.505[c]
	BI	5.458	264.900*	<.001	0.417	0.266 – 0.457	0.510[c]
Inv Violence	MBI	-2.395	943.194*	.017	0.073	-0.133 – -0.013	0.149[a]
	ABI	2.154	1,081	.031	0.059	0.005 – 0.114	0.132[a]
	BI	2.594	1,081	.010	0.133	0.032 – 0.233	0.216[a]

Table 3 *Differences in Groups of the BIRQ Indexes by Specific Populations and Violence*

Note.: *significative *Levene*; [a]: low effect; [b]: moderate effect; [c]: strong effect; **ABI**: Adaptive beliefs index; **BI**: Beliefs index; *d*: *Cohen's d*; **Inv**: involved; *df*: degrees of freedom; **MBI**: Maladaptive beliefs index; *Mdif*: mean of differences; *SD*: standard deviation; *p*: *p-value*; *t*: statistic test.

Population	Indexe	t	df	p	Mdif	95% CI	d
Forensic	ICD	4.796	154.295*	<.001	0.430	0.253 – 0.608	0.745c
	ICA	-3.155	145.481*	.002	-0.294	-0.479 – -0.110	0.485[b]
	ICr	4.328	145.497*	<.001	-0.725	-1.056 – -0.394	0.665[c]
No normative	ICD	9.443	483.328*	<.001	0.370	0.293 – 0.447	0.769[c]
	ICA	6.104	494.687*	<.001	-0.237	-0.313 – -0.161	0.497[b]
	ICr	-8.797	463.988*	<.001	-0.607	-0.742 – -0.471	0.720[c]
Victims	ICD	8.118	358.521*	<.001	0.370	0.280 – 0.460	0.783c
	ICA	-5.071	363.004*	<.001	0.220	-0.305 – -0.135	0.489[b]
	ICr	-7.507	345.077*	<.001	-0.590	-0.745 – -0.436	0.725[c]
Aggressors	ICD	7.237	208.159*	< .001	0.504	0.366 – 0.641	0.943[c]
	ICA	-3.862	208.414*	< .001	-0.285	-0.430 – -0.139	0.513[c]
	ICr	-6.193	208.683*	< .001	-0.788	-1.039 – -0.537	0.810[c]
Inv violence	ICD	8.565	381.903*	<.001	0.384	0.296 – 0.472	0.806[c]
	ICA	-4.984	389.513*	<.001	-0.221	-0.308 – -0.139	0.469[b]
	ICr	-7.670	369.085*	<.001	-0.605	-0.760 – -0.450	0.722[c]

Table 4 *Group Differences of BIRQ Indexes in Specific Populations and Violence, by Sex*

Note.: *significative *Levene*; [a]: low effect; [b]: moderate effect; [c]: strong effect; **ABI**: Adaptive beliefs index; **BI**: Beliefs index; *d*: *Cohen's d*; **Inv**: involved; *df*: degrees of freedom; **MBI**: Maladaptive beliefs index; *Mdif*: mean of differences; *SD*: standard deviation; *p*: *p-value*; *t*: statistic test.

BIRQ INDEXES AND VIOLENCE IN SPECIFIC POPULATIONS BY SEX

Differences by sex were also sought among participants with risk behaviors, and those who did not present such behaviors were eliminated from the analyses. For this purpose, *t-tests* for independent samples were carried out. The results suggest the existence of significative differences between sexes in the three dimensions (i.e., MBI, ABI, and BI) and in populations: forensic, non-normative, victims, aggressors, and those involved in some type of violence (i.e., as victim or aggressor). Table 4 shows the values for the differences found.

BIRQ INDEXES AND SUBSTANCE (AB)USE

Similar tests were carried out to assess the existence of differences in the same dimensions between users and non-users of psychoactive substances. Regarding alcohol, the results suggest the existence of differences, albeit marginal, in ABI, $t(1,081) = -2.017$, $p = .044$, $mdif = -0.064$, 95% CI (-0.125– -0.002), $d = 0.141$ (low effect) (*Levene*, $p = .141$), but not in MBI, $t(421.205) = -1.354$, $p = .151$, $mdif = 0.344$, 95% IC (-0.018– 0.117), $d = 0.101$ (low effect) (*Levene*, $p = .004$), nor BI, $t(422.346) = -1.829$, $p = .068$, $mdif = -0.113$, 95% CI (-0.234–0.008), $d = 0.136$ (low effect) (*Levene*, $p = .006$). When analyzing the use of all substances (i.e., licit and illicit), globally, the results suggest the existence of significative differences in: MBI, $t(307.040) = 2.107$, $p = .035$, $mdif = 0.079$, 95% CI (0.005–0.152), $d = 0.160$ (low effect) (*Levene*, $p = .017$); ABI, $t(1,081) = -2.326$, $p = .020$, $mdif = -0.080$, 95% CI (-0.147– -0.124), $d = 0.177$ (low effect) (*Levene*, $p = .213$); and BI, $t(306.841) = -2.356$, $p = .019$, $mdif = -0.158$, 95% CI (-0.291– -0.026), $d = 0.190$ (low effect) (*Levene*, $p = .028$).

Finally, an Analysis of Variances (*ANOVA*) was performed to assess the impact of different types of substance use (i.e., "no use", "legal PAS", "illegal PAS") in all BIRQ indexes. Given that there are deviations from normality and homogeneity of variances in the MBI ($p = .20$) and in BI ($p = .48$), the Welch test *and* the Games-Howell Post Hoc *test* were used to make the necessary corrections, respectively. Differences were observed in ICD, *Welch F*(2, 420.957) = 5.565, $p = .004$, $^2 = .010$ (low effect), ABI, *Welch F*(2, 429.534) = 3.352, $p = .036$, $^2 = .006$ (low effect), and BI, *Welch F*(2, 427.304) = 5.370, $p = .005$, $^2 = .010$ (medium effect). *Games*-Howell's *Post Hoc tests* suggest that, relatively to MBI, there are differences between "no use" and "legal PAS", $mdif = 0.104$, 95% CI (0.008 –0.200), $p = .029$; and between "legal PAS and illegal PAS", $mdif = 0.101$, 95% CI (0.119–0.189), $p = .022$. No differences were observed between "no use" and "illegal PAS", $mdif = 0.004$, 95% IC (-0.111 –0.118), $p = .997$. Regarding BI, differences were observed, but only between "no use" and "illegal PAS", $mdif = -0.195$, 95% CI (-0.358– -0.032), $p = .014$. Between "no use" and "illegal PAS no differences were found, $mdif = -0.051$, 95% IC (-0.242–0.141), $p = .807$; nor between "illegal PAS" and "legal PAS", $mdif = 0.144$, 95% CI (-0.003–0.291), $p = .056$. Regarding BI, *Tukey's Post Hoc test* suggests that there are only differences between "no use" and "legal PAS", $mdif = -0.091$, 95% IC (-0.174–0.108), $p = .028$. Between "no use" and "illegal PAS", $mdif = -0.047$, 95% CI (-0.148– -0.054), $p = .517$, or "illegal PAS" and "legal PAS", $mdif = 0.043$, 95% CI (-0.125– -0.039), $p = .430$, no differences were found.

When the analysis was restricted to the "non-normative" population, the results differed substantially, and only marginal differences were found in the MBI, $F(2, 665) = 3.034$, $p = .049$, $^2 = .009$ (low effect), contrary to ABI, $F(2, 665) = 1.718$, $p = .180$, $^2 = .005$ (low effect), and BI, $F(2, 665) = 2.618$, $p =$

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.074, ^{2} = .008 (low effect), where no differences were observed. Notwithstanding the marginal difference observed in the MBI, the Post Hoc studies of *Tukey, Scheffe* and *Duncan* did not detect these differences.

BIRQ INDEXES AND ALCOHOL USE BY SEX

Differences were observed in alcohol users (N = 812) in: MBI, $t(510.680)$ = 10.538, p < .001, *mdif* = 0.356, 95% *CI* (0.290–0.423), d = 0.807 (strong effect), with men (n = 345) showing higher scores (M = 1.72) compared to women (n = 467, M = 1.37); ABI, $t(542.140)$ = -6.460, p < .001, *mdif* = -0.211, 95% *CI* (-0.275– -0.147), d = 0.489 (medium effect), with men scoring lower (M = 4.48) than women (M = 4.69); and BI, $t(494.801)$ = -9.731, p < .001, *mdif* = -0.567, 95% *CI* (-0.682– -0.453), d = 0.749 (strong effect), with men scoring lower (M = 2.76) than women (M = 3.33) (all *Levene, p* < .001).

BIRQ INDEXES AND OTHER SUBSTANCE USE BY SEX

Users of any type of PAS (i.e., legal or illegal) (N = 868) also showed differences in: ICD, $t(557.078)$ = 11.017, p < .001, *mdif* = 0.362, 95% *CI* (0.298–0.427), d = 0.812 (strong effect), with men (n = 370), once again, showing higher scores (M = 1.724) than women (n = 498, M = 1.36); ABI, $t(578.525)$ = -6.767, p < .001, *mdif* = -0.214, 95% *CI* (-0.277– -0.152), d = 0.495 (moderate effect), with men scoring lower (M = 4.48) than women (M = 4.70); and BI, $t(537.449)$ = -10.186, p < .001, *mdif* = -0.577, 95% *IC* (-0.689– -0.465), d = 0.756 (strong effect), with men scoring lower (M = 2.76) than women (M = 3.33) (all *Levene, p* < .001).

Regarding the use of legal substances (N = 856), differences were observed in all indexes, namely in: MBI, $t(541.024)$ = 11.154, p < .001, *mdif* = 0.367, 95% *CI* (0.303–0.432), d = 0.830 (strong effect), with men (n = 365), scoring higher (M = 1.72) compared to women (n = 491, M = 1.36); ABI, $t(569.527)$ = -6.787, p = .005, *mdif* = -0.216, 95% *IC* (-0.278– -0.153), d = 0.500 (strong effects), with men showing lower values (M = 4.48) than women (M = 4.70); and BI, $t(523.584)$ = -10.304, p < .001, *mdif* = -0.582, 95% *CI* (-0.693– -0.471), d = 0.771 (low effect), with men showing lower values (M = 2.76) compared to women (M = 3.34) (all *Levene, p* < .001).

In relation to the use of illegal substances (N = 220), differences were also observed in the three dimensions, namely in: MBI, $t(209.759)$ = 4.849, p < .001, *mdif* = 0.291, 95% *CI* (0.173–0.409), d = 0.626 (strong effect), with men (n = 123) having higher scores (1.72) than women (n = 97, M = 1.43); ABI, $t(205.169)$ = -2.862, p = .005, *mdif* = -0.161, 95% *IC* (-0.272– -0.050), d = 0.368 (moderate effect), with men scoring lower (M = 4.50) compared to women (M = 4.66); and BI, $t(197.272)$ = -4.649, p < .001, *mdif* = -0.452, 95% *CI* (-0.644– -0.260), d = 0.593 (strong effect), with men presenting lower values (M = 2.78) than women (M = 3.23) (all *Levene, p* < .001).

PREDICTORS OF ANTISOCIAL BEHAVIOR

SIMPLE LINEAR REGRESSION ANALYSES

Several simple linear regressions were performed to identify predictors of AB. A number of significative predictors have been identified, namely, the "risk", r = .485, = 0.258, p < .001, "*schooling*, r = .112, = -0.050, p < .001, "*illegal PAS*", r = .52, = -0.788, p < .001, "*all PAS*", r = .48, = 0.387, p < .001, "*Victimization*", r = .37, = 0.639, p < .001, "*Aggressors*", r = .74, = 1.372, p < .001, "*MBI*", r = .25, = 1.372, p < .001, "*ABI*", r = .26, = -0.663, p < .001, "*BI*", r = .29, = -0.374, p < .001, or "*no normative population*", r = .53, = 0.665, p < .001 (scalar

variables). The *"age"* and the TriPM subscales did not reveal any predictive power of AB. Some nominal variables with predictive power were also identified, namely, *"sex"*, = -0.406, *p* < .001, *"alcohol abuse"*, = 1.432, *p* < .001, *"unemployment"*, = 1.256, *p* < .001, or *"low schooling"*, = 0.953, *p* < .001.

MULTIPLE LINEAR REGRESSION ANALYSES

Several multiple linear regressions were performed to identify a predictive model of AB. In the first regression (model 1), the *"enter"* method was followed and all previously identified variables were used. Notwithstanding the fact that the resulting model reveals adequate explicative power (*adjusted R^2* = .76), we observed that *"schooling"* (*p* = .606), *"alcohol abuse"* (*p* = .347), and the *"constant"* (*p* = .213), had no significant power. Moreover, the *"BI"* was automatically excluded, as there was evidence of multicollinearity. The model was re-estimated, excluding *"schooling"* and *"alcohol abuse"*. The resulting model (model 2) continued to show good explicative power (*adjusted R^2* = .76), and the *"constant"* remained as not being significant, so it was also excluded. In the new model (model 3), there was an increase in the explicative power (*adjusted R^2* = .85), but the *"ABI"* was deleted and the *"BI"* was automatically re-included. Evidence of multicollinearity was also observed in *"risk"* (i.e., *Variance Inflation Factor* [VIF] = 14.941; *Tolerance Collinearity* [CT]= .067), which therefore has been excluded. The resulting model (model 4) had an improved explicative power (*adjusted R^2* = .85). However, it included three nominal variables. The variable *"sex"* was, among all, the one that presented the least weight in the model (*Standardized* = -.082). Therefore, it was also excluded, and the analysis was repeated (model 5).

The resulting model (model 5) showed good explicative power, *r* = .92, *R^2* = .85, adjusted *R^2* = .84, and was validated by *the ANOVA test*, *$F_{(8)}$* = 731.958, *p* < .001. The values from VIF (< 10) and TC (> 0.1) indicated the absence of multicollinearity. The value of the *Durbin-Watson Statistic* (DW = 1,996) suggested that the errors were self-correlated (DW 2). Model 5 was also re-estimated using the *Forward* and *Backward methods,* but no significative change was observed. Therefore, the final model was constituted by the *"illegal PAS"*, *"all PAS"*, *"victimization"*, *"Aggressors"*, *"MBI"*, *"BI"*, *"unemployment"*, and *"low schooling"*. Table 5 shows the respective coefficients.

DISCUSSION

The main objective of this study was to deepen the understanding of the relationship between beliefs, especially those that are more maladaptive, and the behavior of young people, more specifically with regard to disruptive and/or antisocial behavior. Despite the robustness of the sample, it was mostly composed of women and Caucasian ethnicity. Gradually, in developed societies such as the Portuguese one, women have been acquiring a natural and deserved relevance, their level of education has increased consistently, and, in this way, increasing their influence (Saidova, 2023). The fact that the university population is also mostly made up of women may be a consequence of this fact (Rodríguez-Hidalgo et al., 2020). As such, women will also be more aware of the importance of participating in these types of studies, which may help to better understand these results. However, it is noteworthy that the sample is mostly composed of individuals of caucasian ethnicity, something that does not meet the Portuguese social reality, which is a society in which the various ethnicities (e.g., gypsy, black), or citizens of other nationalities (e.g., Brazilian, Ukrainian) (Guerra et al.,

	NSC	SC				Collinearity	
Variable		SE	Beta	t	p	TC	VIF
Illegal PAS	.357	.035	.204	10.188	<.001	.358	2.790
All PAS	.181	.019	.324	9.745	<.001	.131	7.644
Victimization	-.242	.035	-.140	-6.869	<.001	.348	2.875
Aggressors	1.180	.037	.586	31.657	<.001	.421	2.378
MBI	.121	.022	.143	5.530	<.001	.216	4.621
BI	-.059	.012	-.137	-4.974	<.001	.191	5.232
Unemployment	1.054	.090	.144	11.745	<.001	.954	1.048
Low schooling	1.003	.078	.164	12.851	<.001	.889	1.125

Table 5 *Regression Coefficients, Model 5*

Note. **BI**: Beliefs index; **MBI**: maladaptive beliefs index; **NSC**: Non standardized coefficients; p: *p value*
SC: standardized coefficients; **SE**: standard error; **t:** *statistic test*; **TC**: *Tolerance collinearity*; **VIF**: *Variance Inflation Factor.*

2020) and religious beliefs (e.g., Catholic, Muslim, Jewish) live together in relative harmony (Vasta, 2013). However, it is also known that Portugal is not immune to the harmful effects of the increased influence of more conservative political currents, and of consequent political parties, extremist, xenophobic and manichean (i.e., good vs. bad) (Prior, 2022). Their representatives, cloaked in the political struggle and protected by the immunity that the political positions (e.g., deputies) offer them (Zielinski, 2020), aim only to spread hatred and discrimination against non-Caucasian populations and other nationalities (Wenger & Lantz, 2022). Thus, it is reasonable to assume that, to protect themselves from the growing threats non-caucasians tend not to speak out, and not to participate in these studies.

Cook et al. (2015) warned that boys or men tend to be more likely to engage in antisocial behaviour. In line with these and other authors results (e.g., Cunneen, 2020), the results observed in the present study also show that men engage more in disruptive and/ or antisocial behaviors, thus confirming the hypothesis previously formulated. Regarding risk, no differences were observed between the sexes, contrary to what is suggested by Brindle et al. (2019), namely, that men have

an increased risk of engaging in antisocial behaviour. Thus, the results observed in the present study contradict the hypothesis formulated, which may have been due to the fact that the risk was not properly assessed (i.e., through a specific scale), or even to issues related to the idiosyncrasies of the Portuguese culture (e.g., educational practices, equality and equity between sexes; level of education) (Rosa & Clavero, 2022).

Also regarding to risk and antisocial behavior, and as predicted, there was a significant correlation between both variables. In line with this result, Rijo et al. (2017) also suggest that a risk is, in fact, associated with AB which corroborates the stated result. It was also observed that risk is not associated with beliefs, something that is consistent with the theoretical model underlying the elaboration of the BIRQ (Araújo et al., 2023), according to which maladaptive beliefs are associated with, and legitimize, disruptive and antisocial behavior. On the other hand, and as stated by Agulhas and Anciães (2017), presenting risk factors for antisocial behavior does not necessarily imply involvement in it. In the present study, it was also observed that correlations intensified when the analysis was restricted to specific populations (e.g., forensic, non-normative, aggressors). Once

again, the results are consistent with the theoretical model of the BIRQ (Araújo et al., 2023). Specifically, and according to the same theoretical rationale, it is expected that any individual involved in disruptive behavior will present more maladaptive beliefs. These results, in line with what was expected, contribute to confirm the validity and usefulness of the BIRQ.

Regarding the level of adjustment of beliefs, it was observed that men have more maladaptive beliefs than women. This result is in line with those obtained in a previous study (i.e., Araújo et al., 2022). Moreover, and to some degree, it can be related to the existence of some remnants of conservatism still evident in the Portuguese society, according to which men will have a higher hierarchical level than women, so that women owe them "servility and obedience" (i.e., hypermasculinity [Parent & Cooper, 2020] and patriarchy [Acheson, 2019]). The aforementioned negative influence of the advent of ultra-conservative currents may also be enhancing these results (Jylhä & Hellmer, 2020). Thus, the hypothesis initially formulated was confirmed.

Regarding alcohol use, only a marginally significant difference was found in the Adaptive Beliefs Index. Several authors (e.g., Skrzynski & Creswell, 2020) have warned that alcohol use is increasing and is becoming more widespread, especially among young people. In a recent study (i.e., Araújo et al., 2022) it was found that the overwhelming majority (i.e., about two-thirds) of young adults reported alcohol use (i.e., current or in the past). Therefore, alcohol use seems to be transversal to the entire population, including the young population. Notwithstanding, and given the generalization and social acceptance of alcohol use, it is not possible to infer that maladaptive beliefs underlie them. Taken together, these facts may help to understand and frame these results.

Regarding the global use of illicit psychoactive substances, Gandarinho and Cruz (2017) warn that these consumptions can be considered as law infractions. Therefore, the use of this type of PAS may constitute a non-normative and socially undesirable behavior (Kadic-Maglajlic et al., 2019). In this way, it is legitimate to assume that the use of this type of substance is being "legitimized" by the presence of maladaptive beliefs (Araújo et al., 2021). Together, these facts help to understand the differences found, with users of psychoactive substances presenting higher levels of maladaptive beliefs than those of the non-user population, so the formulated hypothesis was confirmed.

Finally, Rijo et al. (2017) suggest that several sociodemographic variables (e.g., age, gender), or history of past behaviors (e.g., PAS use, victimization, perpetration, or exposure to offenses) may help predict antisocial behavior in the future. The authors' suggestions (i.e., Rijo et al., 2017) are in line with the results. Specifically, several predictors were identified (e.g., gender, unemployment, low schooling), as well as a predictive model with good explicative power. In this regard, it should also be noted that, contrary to what was expected, the more maladaptive dimensions of the *Triarchic Psychopathic Measure* (Patrick et al., 2009) (i.e., *Meanness* and *Disinhibition)* did not predict AB. This may have been due to the fact that the participants included in the sample had low psychopathic traits (Moreira et al., 2014). It is also important to mention that "*Victimization*" is a negative predictor. There is multiple evidence that many aggressors were victimized themselves at some point in their past (e.g., Estévez et al., 2019), so it would be expected that victimization would positively predict AB, something that, according to this result, does not happen. Therefore, it is possible to presume that, as stated by Demirel (2023), the suffering caused by a victimization

process raises awareness of its unacceptability, something that may have happened to the participants of this study. Also, the possibility that the way in which antisocial behavior was assessed biased the results cannot be ruled out, and therefore the results should be interpreted with due caution.

LIMITATIONS AND POTENTIALITIES

This study has some limitations, such as the fact that no adapted and validated scale was used to assess the risk of AB or for AB itself, which may have contributed to bias the results observed. Moreover, the sample was entirely collected in a non-face-to-face manner (i.e., *online*, through social networks). Therefore, it was not possible to guarantee the authenticity and identity of the participants, nor the veracity of the answers.

However, this study also has several potentialities. It is important to highlight the robustness of the sample, which, on the one hand, would have made it possible to circumvent potential problems inherent to the way it was collected (e.g., possible bias). On the other hand, the robustness of the sample will have contributed to ensuring the quality and validity of the results obtained (Abulela & Harwell, 2020). Additionally, it offers a perspective of the most prevalent behaviors and beliefs in Portuguese young adults, pointing to the fact that the behavior of Portuguese young adults is not always the most appropriate and that some of them tend to repeatedly engage in reprehensible behaviour. This may be due to the natural irreverence of young people (Bandosz, 2022), but it may also be a more or less direct consequence of the difficulties that these young people tend to face (e.g., finding jobs compatible with their training, low wages, lack of housing) and which, naturally, will have repercussions on their future in the medium or long term (Robinson et al., 2020).

Furthermore, these results seem to confirm, once again, the usefulness and validity of the BIRQ in assessing the beliefs of young people.

IMPLICATIONS FOR CLINICAL PRACTICE

Following what was mentioned in the previous section, it is important to understand that the current generation of young adults, perhaps the best prepared ever (e.g., level of education), faces seemingly insurmountable obstacles, resulting from the difficulties imposed by the economic and social situation, at a global scale as well as in Portugal (Pinho & Pinho, 2022), and which may negatively impact their behaviors (Luijks et al., 2017; Robinson et al., 2020). Therefore, it is important that health professionals are especially attentive to the maladaptive?!?!?! behavioral manifestations of these young people, even if subtle, which may result from unmet needs or concerns. It is also important to understand that any behaviors, even if objectionable (e.g., conflicts, PAS use, violent behavior), may result from the young people dissatisfaction with future prospects, which may not be the most desirable. While it is true that professionals can do little to overcome the objective difficulties faced by these young people (e.g., earn an adequate salary), much can be done to help them find more assertive coping strategies (e.g., Bhandarker & Rai, 2019). If this is done, it could help them return to a more appropriate life path, and thus avoid the negative consequences (e.g., legal) of certain behaviors.

IMPLICATIONS FOR FUTURE INVESTIGATIONS

It would be of enormous scientific and social relevance if the study of the behavior of these young people, particularly the most maladaptive, was to be further deepened. Therefore, it would be important to deepen the research to better understand the underlying causes of certain behaviors (e.g., use and abuse of PAS), could contribute to reducing levels of violence or crime. It would also be important to produce more studies on these issues, but using adapted and validated measures for the assessment of risk and AB. It is known that the practice of Forensic Psychology in Portugal struggles with the lack of validated instruments adapted to the Portuguese population (Agulhas & Anciães, 2017; Cruz & Cunha, 2018). It would therefore be of enormous relevance to develop, adapt or validate new instruments, especially for these dimensions (i.e., risk and AB).

REFERENCES

Abulela, M., & Harwell, M. (2020). Data analysis: Strengthening inferences in quantitative education studies conducted by novice researchers. *Educational Sciences: Theory & Practice*, *20*(1), 59–78. http://doi.org/10.12738/jestp.2020.1.005

Agulhas, R., & Anciães, A. (2015). *Casos Práticos em Psicologia Forense: Enquadramento Legal e Avaliação Pericial* (2.ª ed). Edições Sílabo.

Almiro, P., Almeida, D., Ferraz, A., Ferreira, R., Silvestre, M., Perdiz, C., Dias, I., Gonçalves, S., Sousa, L., & Simões, M. (2017). *Escala de Desejabilidade Social de 20 itens*. In Simões, M., Almeida, L., & Gonçalves M. (2017). *Psicologia Forense: Instrumentos de Avaliação*. Pactor.

American Psychiatric Association (APA) (2013). *The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5). Editors.

Acheson, R. (2019). The nuclear ban and the patriarchy: a feminist analysis of opposition to prohibiting nuclear weapons. *Critical Studies on Security*, *7*(1), 78-82. http://doi.org/10.1080/21624887.2018.1468127

Araújo, E., Moreira, D., & Souza-Cruz, O. (2021). Maladaptive beliefs of young adults interpersonal and intimate relationships: A systematic review. *Trauma, Violence, & Abuse*, *18,* 1–6. http://doi.org/10.1177/15248380211038684

Araújo, E., Moreira, D., & Cruz, O. (2023). Development and validation of a Beliefs in Interpersonal Relationships Questionnaire (BIRQ) in young adults. *International Journal of Human Sciences Research, 3*(36), 1–17. http://dx.doi.org/10.22533/at.ed.5583362329093

Araújo, E., Souza-Cruz, O., & Moreira, D. (2022). Portuguese young adults: Who are they and what are they like? *Unpublished manuscript.*

Arnez, J., & Condry, R., (2021). Criminological perspectives on school exclusion and youth offending. *Emotional and Behavioral Difficulties, 26*(1), 87–100. http://dx.doi.org/10.1080/13632752.2021.1905233

Auerbach, R., Alonso, J., Axinn, W., Cuijpers, P., Ebert, D., Green, J., Hwang, I., Kessler, R., Liu, H., Mortier, P., Nock, M., Pinder-Amaker, S., Sampson, N., Aguilar-Gaxiola, S., Al-Hamzawi, A., Andrade, L., Benjet, C., Caldas-de-Almeida, J., Demyttenaere, K., … & Bruffaerts, R. (2016). Mental disorders among college students in the World Health Organization world mental health surveys. *Psychological Medicine, 46*(14), 2955–2970. http://dx.doi.org/10.1017/S0033291716001665

Backe, E., Bosire, E., & Mendenhal, E. (2022). "Drinking too much, fighting too much": The dual "disasters" of intimate partner violence and alcohol use in South Africa. *Violence Against Women, 28*(10), 2312–2333. http://doi.org/10.1177/10778012211034206

Bandosz, B. (2022). Neoromantic myths, modernist irreverence, and the Gombrowiczean turn in Polish hip hop. *Canadian Slavonic Papers*, *64*(1), 20–4. http://doi.org/10.1080/00085006.2022.2035203

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Bhandarker, A., & Rai, S. (2019). Toxic leadership: Emotional distress and coping strategy. *International Journal of Organization Theory & Behavior*, *22*(1), 65–78. http://dx.doi.org/10.1108/IJOTB-03-2018-0027

Bo, S., Abu-Akel, A., Kongerslev, M., & Kongerslev, E. (2021). Predictors of criminal offending in a clinical sample of patients diagnosed with schizophrenia: A 6-year follow-up study. *Personality Disorders: Theory, Research, and Treatment, 12*(3), 216–227. http://doi.org/10.1037/per0000401

Brindle, K., Bowles, T., & Freeman, E. (2019). Gender, education and engagement in antisocial and risk-taking behaviours and emotional dysregulation. *Issues in Educational Research*, *29*(3), 633–648. http://search.informit.org/doi/10.3316/informit.641128979868732

Carroll, S., Mikhail, M., & Burt, S. (2023). The development of youth antisocial behavior across time and context: A systematic review and integration of person-centered and variable-centered research. *Clinical Psychology Review*, 102253. http://dx.doi.org/10.1016/j.cpr.2023.102253

Cook, E., Pflieger, J., Connell, A., & Connell, C. (2015). Do specific transitional patterns of antisocial behavior during adolescence increase risk for problems in young adulthood? *Journal of Abnormal Child Psychology*, *43*(1), 95–106. http://dx.doi.org/10.1007/s10802-014-9880-y

Cunneen, C. (2020). Youth justice and racialization: Comparative reflections. *Theoretical Criminology*, *24*(3), 521–539. http://dx.doi.org/10.1177/1362480619889039

Cruz, O., & Cunha, O. (2018). *Vítimas com Incapacidades Intelectuais: Motivos para a sua Maior Vulnerabilidade e Cuidados na sua Avaliação Psicológica Forense* In M. Paulino, M., & Alho, L. (Coords.). *Comportamento Criminal e Avaliação Forense*. (pp. 89-100). Pactor. ISBN: 9789896930790

Demirel, C. (2023). Exploring inclusive victimhood narratives: The case of Bosnia-Herzegovina. *Third World Quarterly*, 1–20. http://doi.org/10.1080/01436597.2023.2205579

Dinis-Oliveira, R., & Magalhães, T. (2020). Abuse of licit and illicit psychoactive substances in the workplace: Medical, toxicological, and forensic aspects. *Journal of Clinical Medicine, 9*(3), 770–788. http://dx.doi.org/10.3390/jcm9030770

Erikson, E. (1963). *Youth: Change and Challenge*. Basic Books.

Estévez, E., Estévez, J., Segura, L., & Suárez, C. (2019). The influence of bullying and cyberbullying in the psychological adjustment of victims and aggressors in adolescence. *International journal of environmental research and public health*, *16*(12), 2080. http://doi.org/10.3390/ijerph16122080

Gandarinho, D., & Cruz, O. (2017). Perceções de jovens consumidores "ocultos" de canábis sobre a lei da droga em Portugal: Um estudo qualitativo. *Psiquiatria, Psicologia & Justiça, 11*, 1–29. http://hdl.handle.net/1822/49588

Guerra, J., Prata, L., & Schmidt, L. (2023). Environmental education in Portuguese Speaking Nations: A survey of current practices and priorities. *Environmental Education Research*, *29*(3), 376–391. http://doi.org/10.1080/13504622.2022.2136363

Jylhä, K., & Hellmer, K. (2020). Right-wing populism and climate change denial: The roles of exclusionary and anti-egalitarian preferences, conservative ideology, and antiestablishment attitudes. *Analyses of Social Issues and Public Policy*, *20*(1), 315–335. http://doi.org/10.1111/asap.12203

Kadic-Maglajlic, S., Arslanagic-Kalajdzic, M., Micevski, M., Dlacic, J., & Zabkar, V. (2019). Being engaged is a good thing: Understanding sustainable consumption behavior among young adults. *Journal of Business Research*, *104*, 644–654. http://dx.doi.org/10.1016/j.jbusres.2019.02.040

Kalat, J. (2015*). Biological Psychology* (12th Ed.). Cengage Learning EMEA.

Krahé, B., Tomaszewska, P., & Schuster, I. (2022). Links of perceived pornography realism with sexual aggression via sexual scripts, sexual behavior, and acceptance of sexual coercion: A study with German university students. *International Journal of Environmental Research and Public Health, 19*(63), 1–15. http://doi.org/10.3390/ijerph19010063

López-Romero, L., Maneiro, L., Cutrín, O., Gómez-Fraguela, J., Villar, P., Luengo, M. Á., Sobral, J., & Romero, E. (2019). Identifying risk profiles for antisocial behavior in a Spanish sample of young offenders. *International journal of offender therapy and comparative criminology*, *63*(10), 1896–1913. http://dx.doi.org/10.1177/0306624X19842032

Luijks, M., Bevaart, F., Zijlmans, J., Van Duin, L., Marhe, R., Doreleijers, T., Tiemeier, H., Asscher, J., & Popma, A. (2017). A multimodal day treatment program for multi-problem young adults: Study protocol for a randomized controlled trial. *Trials*, *18*(225), 1–15. http://pubmed.ncbi.nlm.nih.gov/28526087/

Malti, T., & Averdijk, M. (2017). Severe youth violence: Developmental perspectives introduction to the special section. *Child Development*, *88*(1), 5–15. http://dx.doi.org/10.1111/cdev.12694

Mobarake, R. (2015). Age and gender difference in antisocial behavior among adolescents' school students. *Mediterranean Journal of Social Sciences*, *6*(4), 194–200. http://dx.doi.org/10.5901/mjss.2015.v6n4s2p194

Maneiro, L., Gómez-Fraguela, J., López-Romero, L., Cutrín, O., & Sobral, J. (2019). Risk profiles for antisocial behavior in adolescents placed in residential care. *Children and Youth Services Review*, *103*, 278–286. http://dx.doi.org/10.1016/j.childyouth.2019.06.012

Marôco, J. (2021). *Análise Estatística com o SPSS Statistics* (8ª ed). ReportNumber.

Moffitt, T. (2017). The new look of behavioral genetics in developmental psychopathology: Gene-environment interplay in antisocial behaviors. *Biosocial Theories of Crime*, *131*(4), 533–554. http://dx.doi.org/10.1037/0033-2909.131.4.533

Moreira, D., Almeida, F., Pinto, M., & Fávero, M. (2014). Psychopathy: Comprehensive review of its assessment and intervention. *Aggression and Violent Behavior, 19*(3), 191–195. http://doi.org/10.1016/j.avb.2014.04.008

Quetelet, A. (1984). *Research on the Propensity for Crime at Different Ages.* Anderson.

Paiva, T., Pasion, R., Patrick, C., Moreira, D., Almeida, F., & Barbosa, F. (2022). Further evaluation of the Triarchic Psychopathy Measure: Evidence from community adult and prisoner samples from Portugal. *Psychological Assessment, 32*(3), e1–e14. http://dx.doi.org/10.1037/pas0000797

Parent, M., & Cooper, C. (2020). Masculinity threats influence evaluation of hypermasculine advertisements. *The Journal of Social Psychology*, *160*(3), 282-292. http://doi.org/10.1080/00224545.2019.1644281

Patrick, C. (2010). Operationalizing the triarchic conceptualization of psychopathy: Preliminary description of brief scales for assessment of Boldness, Meanness, and Disinhibition. Unpublished manual. http://patrickcnslab.psy.fsu.edu/wiki/images/b/b2/TPMmanual.pdf

Patrick, C., Fowles, D., & Krueger, R. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology, 21*(3)*,* 913–938. http://dx.doi.org/10.1017/S0954579409000492

Pestana, M., & Gageiro, J. (2014). *Análise de Dados para Ciências Sociais: A Complementaridade do SPSS* (6ª ed). Edições Sílabo.

Pinho, M., & Pinho, M. (2022). The 2011-2014 economic adjustment programme for Portugal: A plausible counterfactual scenario. *Notas Económicas*, *22*, 67–96. http://doi.org/10.14195/2183-203X_55_3

Prior, H. (2022). Populismo de direita radical em Portugal: Enquadramentos informativos nas eleições presidenciais de 2021. *Media & Jornalismo*, *22*(40), 161–177. http://impactum-journals.uc.pt/mj/article/view/10278

Robinson, O., Inglis, G., & Egan, J. (2020). The health, well-being and future opportunities of young carers: A population approach. *Public Health, 185*, 139–143. http://doi.org/10.1016/j.puhe.2020.05.002

Reyna, V., & Huettel, S. (2014). *Reward, representation, and impulsivity: A theoretical framework for the neuroscience of risky decision making*. In V. F. Reyna & V. Zayas (Eds.). *The Neuroscience of Risky Decision Making* (pp. 11–42). American Psychological Association. http://dx.doi.org/10.1037/14322-

Reynolds, B., Basso, M., Miller, A., Whiteside, D., & Combs, D. (2019). Executive function, impulsivity, and risky behaviors in young adults. *Neuropsychology, 33*(2), 212–221. http://doi.org/10.1037/neu0000510

Rijo, D., Brazão, N., Silva, D., & Vagos, P. (2017). *Intervenção Psicológica com Jovens Agressores.* Pactor.

Rodrigues, S. (2019). *Introdução ao uso de Psicodisléticos em psicoterapia.* Associação Psicodislética do Brasil. Disponível em: file:///Users/eduardoaraujo/Desktop/Introducao_ao_uso_de_psicodelicos_em_psi.pdf

Rodríguez-Hidalgo, A., Pantaleón, Y., Dios, I., & Falla, D. (2020). Fear of COVID-19, stress, and anxiety in university undergraduate students: A predictive model for depression. *Frontiers in Psychology*, *11*, 591797. http://doi.org/10.3389/fpsyg.2020.591797

Rosa, R., & Clavero, S. (2022). Gender equality in higher education and research. *Journal of Gender Studies*, *31*(1), 1–7. http://doi.org/10.1080/09589236.2022.2007446

Rovny, J., & Edwards, E. (2012). Struggle over dimensionality: Party competition in Western and Eastern Europe. *East European Politics and Societies*, *26*(1), 56–74. http://dx.doi.org/10.5901/mjss.2015.v6n4s2p194

Saidova, B. (2023). The image of female: Yesterday and today. *Science and Innovation*, *2*(3), 19–25. http://doi.org/10.5281/zenodo.7698775

Sarne, Y. (2019). Beneficial and deleterious effects of cannabinoids in the brain: The case of ultra-low dose THC. *The American Journal of Drug and Alcohol Abuse* 45(6) 551 –562. http://dx.doi.org/10.1080/00952990.2019.1578366

Shafi, A., Berry, A., Sumnall, H., Wood. D., & Tracy, D. (2020). New psychoactive substances: A review and updates. *Therapeutic Advances in Psychopharmacology*, *10*, 1–21. http://dx.doi.org/10.1177/2045125320967197

Skrzynski, C., & Creswell, K. (2020). Associations between solitary drinking and increased alcohol consumption, alcohol problems, and drinking to cope motives in adolescents and young adults: A systematic review and meta-analysis. *Addiction*, *115*(11), 1989–2007. http://doi.org/10.1111/add.15055

Simpson, S., Alper, M., Dugan, L., Horney, J., Kruttschnitt, C., & Gartner, R. (2016). Age-graded pathways into crime: Evidence from a multi-site retrospective study of incarcerated women. *Journal of Developmental and Life-Course Criminology, 2*(3), 296–320. http://dx.doi.org/10.1007/s40865-016-0042-5

Steffensmeier, D., Lu, Y., & Schwartz, J. (2021). Gender Variation in the age-crime relation in cross-national context: Taiwan-US comparison. *Journal of Developmental and Life-Course Criminology*, 1–26. http://doi.org/10.1007/s40865-021-00176-6

Walters, G. (2022). Does adolescent drug use belong on the antisocial spectrum? Mediating the drug–crime connection with cognitive impulsivity. *International Journal of Law and Psychiatry, 80*, 101761. http://dx.doi.org/10.1016/j.ijlp.2021.101761

Wenger, M., & Lantz, B. (2022). Generalized hate: Bias victimization against non-Asian racial/ethnic minorities during the COVID-19 pandemic. *Victims & Offenders*, *17*(6), 848-871. http://dx.doi.org/10.1080/15564886.2021.1974136

Williams, A. (2020). Early childhood trauma impact on adolescent brain development, decision making abilities, and delinquent behaviors: Policy implications for juveniles tried in adult court systems. *Juvenile and Family Court Journal*, *71*(1), 5–17. http://dx.doi.org/10.5901/mjss.2015.v6n4s2p194

Wu, S., Marsiglia, F. F., Ayers, S., Cutrín, O., & Vega-López, S. (2020). Familial acculturative stress and adolescent internalizing and externalizing behaviors in Latinx immigrant families of the Southwest. *Journal of Immigrant and Minority Health*, *22*(6), 1193–1199. http://dx.doi.org/10.1007/s10903-020-01084-5

Vasta, E. (2013). Do we need social cohesion in the 21st century? Multiple languages of belonging in the metropolis. *Journal of Intercultural studies*, *34*(2), 196–213. http://doi.org/10.1080/07256868.2013.781983

Vieira, J., Almeida, P., Ferreira-Santos, F., Moreira, P., Barbosa, F., & Marques-Teixeira, J. (2014). *The Triarchic Psychopathy Measure (TriPM): Translation and adaptation to European Portuguese (LabReport n.º 6).* University of Porto. Porto. Portugal. Available in: http://core.ac.uk/download/pdf/143411971.pdf

Zielinski, M. (2021). What are the ultimate sources for privileges and immunities of the European Union? Comment on the judgement of the court of justice, Case C-502/19 *Polish Review of International and European Law*, *10*, 139. http://orcid.org/0000-0003-2950-9073