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DEVELOPMENT AND VALIDATION OF A BELIEFS IN INTERPERSONAL RELATIONSHIPS QUESTIONNAIRE (BIRQ) IN YOUNG ADULTS

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Abstract: Beliefs are information processing structures developed over time. Previous adverse experiences or psychopathic traits may contribute to create maladaptive beliefs (MB) and their crystallization in cognitive schemes. MB can negatively impact behavior and enhance conflicts and violence, particularly against women, so their early identification is important. The age of young adults marks the entry into adulthood and is a phase characterized by several challenges, whose overtaking can be constrained by MB. The aim of this study was to develop the Beliefs in Interpersonal Relationships Questionnaire, initially composed of 42 items, which aims to identify MB in young adults. The study included 1,193 individuals of both sexes; notwithstanding, 22 of them showed high scores of Social Desirability Scale (i.e., > 17), and were eliminated. The final sample was, then, composed by a total of 1,161 individuals with an average of 22.9 years of age and of 13.5 years of schooling. The analyses allowed to identify a structure of 30 items distributed by four Factors (Diversion, Violence, Blaming, and Assertiveness), with satisfactory adjustment rates (GFI = .985, AGFI = .979, NNFI = .981), CFI = .986, e RMSEA = .054), and good internal consistency (= .941). There was also significant negative, weak to moderate correlations between the TriPM subscales and adaptive beliefs, and positive correlations with maladaptive beliefs. This new measure can help to improve the results of clinical practice and research in the forensic area. This study makes a significant contribution to helping fill an existing gap in Forensic Psychology: the lack of validated instruments for the Portuguese population.

Keywords: maladaptive beliefs, young adults, violence, elaboration and validation, assessment instruments

DEVELOPMENT AND VALIDATION OF A BELIEFS IN INTERPERSONAL RELATIONSHIPS QUESTIONNAIRE (BIRQ) IN YOUNG ADULTS

Beliefs are information processing structures, developed over time, and constrained by previous experiences that, once formed, allow the subject to be in the world or obtain relevant information (Beck, 2005). Thus, in his/her interactions the subject creates knowledge that allows to perceive the world and to know himself/herself. Furthermore, this allows to anticipate consequences, or what is expected to happen in identical future circumstances (Neelapaijit et al., 2017). With development, these beliefs tend to "rigidification", and to organize themselves in cognitive schemes. According to Beck (2005), cognitive schemes are inflexible structures of information processing that allows subjects to respond, anticipate, or orient themselves in the world. This ability is probably a consequence of the ontogenetic and phylogenetic mechanisms of Mankind' development (Motter & Frison, 2018). It is important to understand that Humanity has always evolved in scarcity of resources, so its homeostatic processes have forced the saving of energy (Damásio, 2017). Thus, to save energy, the individual acquired the ability to respond to any type of event, only in the presence of small clues (Motter & Frison, 2018), something that, in evolutionary terms, was crucial for the species' survival (Damásio, 2017). However, this has disadvantages, mainly in the modern societies. Thus, it is possible that the subject responds in an inadequate manner to the nature of the context with which he is confronted, something that may be enhanced by MB (Rijo et al., 2017).

MB are dysfunctional thought patterns, usually arising from adverse experiences,

or unmet developmental needs (e.g., lack of affection) (Neelapaijit et al., 2017), or cognitive distortions developed over time (Beck, 2005). Thus, they are dysfunctional concepts that can interfere with the subject's functioning (Pellerone et al., 2017). MB may be associated with psychopathology, like anxiety, mood disorders, impulsivity, or personality disorders. Additionally, several evidence suggests that psychopathic traits (i.e., disruptive personality traits, marked by the absence of empathy, lack of responsibility, manipulation and lying, and emotional processing difficulties, antisocial behavior), can negatively interfere with the adjustment of the individuals' beliefs (e.g., Araújo et al., 2021; Moreira et al., 2014). All this can make it difficult to establish interpersonal relationships (Dimaggio et al., 2017). MB interfere with relationships, so it is still expected to be associated with conflicts and/or violence. Violence can be conceived as all acts that, (in)voluntarily, actively, or passively, aims to harm third parties. Thus, MB are responsible for numerous situations of violence, namely against women (Slootmaeckers & Migerode, 2018).

The exercise of violence may result from the desire of power and control over others, considered more fragile (e.g., partner), or from the escalation of interactions that may culminate in mutual aggressions (i.e., bidirectionality) (Slootmaeckers & Migerode, 2018). Underlying many violent acts, there are often gender prejudices and stereotypes, according to which women are considered to being the weakest sex, so they should behave kindly, and submissively. Men, for their part, are considered the strong sex, and better prepared for leadership (Drake et al., 2018). Thus, gender stereotypes, aided by MB, can help maintaining the male's power (i.e., patriarchy) (Lelaurain et al., 2017), or contribute to influence the perception

of oneself, enhancing the MB in a vicious circle that tends to perpetuate itself, thus contributing to the maintenance of the *status quo* (Araújo et al., 2021). In a way, a stereotyped, and subordinate society with well-defined gender roles may impact on the maintenance, or increase of misfit interactions (e.g., sexual violence), especially against women (D'Urso et al., 2019).

In addition to gender, age is another distinctive individual characteristic. Despite the lack of consensus, young adults may be conceptualized as those aged between 18 and 31 years (Rodrigues & Deuskar, 2018). According to Luijks et al. (2017), in this is phase is expected that the subject begins to autonomize; develop its own identity; acquire financial independence; and establish an appropriate intimate relationship. This is a demanding period in which young's face multiple challenges (e.g., academics, professionals). Often, these goals are difficult to achieve, so the competition is very high. Thus, limits tend to be tested, which may enhance conflicts (e.g., *bullying*). In sum, the increase in demands, associated with involvement in misadjusted behaviors, may generate psychological and emotional imbalances. As a result, and as a coping strategy, individuals may be involved in risk behaviors, like the use of psychoactive substances (Drake et al., 2018). Thus, and once again, adjusted beliefs are fundamental to the success of this phase (Rijo et al., 2017).

BELIEFS ASSESSMENT

By definition, belief is a construct that cannot be measured or accessed directly. Thus, attitudes or behaviors, allows to suppose their existence. It is therefore permissible to consider that beliefs, adaptive or not, are latent to these manifestations (Dobson, 2010). Beliefs of young adults do not escape this rule, so their identification and evaluation,

particularly MB, being relevant, is largely constrained by the difficulties of their identification. This impacts negatively in the quality of the available treatments. Thus, the proper assessment of the most MB could contribute to alter and improve intervention programs for this population (Araújo et al., 2021).

The literature has identified legitimizing MB of interpersonal, domestic, gender or intimate and sexual violence (Mennicke et al., 2018; Pascual-Leone et al., 2011), and unaccountability or blaming third parties (Brazão et al., 2017). However, some beliefs, which, sometimes, are inaccessible to the conscience, are difficult to identify. Therefore, it is important to have appropriate measures (Araújo et al., 2021). It is also important to mention the existence of instruments for assessing beliefs in dating (e.g., Inventory of Conflicts in Teenage Dating Relationships) or conjugal relationships (e.g., Beliefs on Conjugal Violence Scale; Araújo et al., 2021), but not for this specific issue. In fact, over the past few years, the intimate relationships of young adults have acquired sporadic character (e.g., a single night). As a result, some of these individuals do not consider the existence of a well-established intimate relationship (Bertoldo & Barbara, 2006). Therefore, the expression "*friends with benefits*" to refer to this type of intimate involvements is increasingly common (Alvarez et al., 2019).

Moreover, an intimate relationship is also an interpersonal relationship, which makes it difficult to distinguish them, whether in the young people's perception or from the community's perspective (Reis, 1990). In this way, pre-existing instruments may not adapt to the convictions of young (Rijo et al., 2017). In addition, a systematic literature review (SLR) on this issue, recently carried out by Araújo et al. (2021), did not identify any specific instrument for the evaluation of beliefs in interpersonal relationships in a broader sense. The same SLR also confirmed the existence of MB related to misadjusted behaviors already mentioned. Furthermore, according to Agulhas and Anciães (2015), Portuguese Forensic Psychology faces the lack of measures, validated, and adapted to the Portuguese's idiosyncrasies. To contribute to overcome this gap, it is intended to build, and validate, the Beliefs in Interpersonal Relationships Questionnaire (BIRQ), which aims to identify MB that may enhance violence and/or disruptive behaviors in the interpersonal relationships of young adults.

Specifically, the central aims of this study are: to build and validate a scale, called BIRQ; to perceive its usefulness in identifying MB, potentially legitimizing devious and/or violent behaviors; to understand MB, potentially legitimizing devious or violent behaviors, of young adults; and to understand if there is any relationship between psychopathic traits and maladaptive beliefs.

Thus, it was expected: (i) by the number and content of the items, the BIRQ presents a structure composed of Factors related to violence, blaming third parties and adaptive behavior; (ii) that BIRQ is valid to identify MB; (iii) to identify a Factor relating to adaptive beliefs; (iv) that this same Factor presents negative correlations with the others BIRQ's Factors; (v) Factors related to maladaptive beliefs present positive correlations psychopathy traits (namely, with meanness and disinhibition).

METHOD

PARTICIPANTS

A total of 1,193 individuals of both sexes participated in this study. However, 22 of them scored too high in Social Desirability Scale (i.e., > 17) (M = 10.61, SD = 3.60, *extension* = 0-17), and they were excluded. So, a final sample was constituted by 1,161 young

adults, 1,084 (93.4%) of them were Caucasian, and 665 (57.3%) were female. Their average age was 22.86 years (*extension* = 18-31, *SD* = 3.58), and they presented an average of 13.51 years of schooling (*extension* = 4- 23, *SD* = 2.32). Participants were recruited through several networks according to the inclusion criteria defined (e.g., ages between 18 and 31 years, adequate reading and writing skills). After giving their consent, the participants answered the questionnaires, without any compensation involved.

INSTRUMENTS

SOCIODEMOGRAPHIC QUESTIONNAIRE (SQ)

The SQ contains 10 questions that allow the assessment of participants' sociodemographic characteristics (e.g., gender, age).

BELIEFS IN INTERPERSONAL RELATIONSHIPS QUESTIONNAIRE (BIRQ)

BIRQ is a self-report questionnaire, composed of 42 statements that aim to assess the (dis)adjustment of beliefs. Thus, it contains items related to adaptive beliefs in interpersonal relationships, and MB related to physical and sexual violence and blaming for the committed acts. Items are evaluated in a five-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). Because it is a new instrument, the factorial structure, and psychometric properties still unknowns.

TRIARCHIC PSYCHOPATHY MEASURE (TRIPM)

The TriPM, developed by Patrick et al. (2009), is a self-report questionnaire that assesses personality dimensions. It consists of 58 items, distributed over three subscales: (i) meanness (19 items), which assesses the tendency towards cruelty and/or aggression; (ii) boldness (20 items), which reflects the relationship between social dominance, low anxiety and adventure seeking; (iii) disinhibition (20 items), which relates to anger, opposition impulsiveness, or irresponsibility (Patrick, 2010). Items are rated by participants on a four-point Likert scale, from 0 (false) to 3 (true) (Dotterer et al., 2018). Research has shown that TriPM has good psychometric qualities, namely good internal consistency (Cronbach's α = .89 [boldness], .90 [meanness] and .89 [disinhibition]), good fidelity and good construct quality (Evans & Tully , 2016). The Portuguese version of TriPM, adapted by Vieira et al., (2014), and posteriorly validated by Paiva et al., (2020), found the same composition and factorial structure, with good internal consistency (α ranging from .81 to .86). In this study, we also obtained good internal consistency (α = .77 [boldness], .85 [meanness], and .84 [disinhibition], and .89 [total TriPM]).

SOCIAL DESIRABILITY SCALE (EDS-20)

The EDS-20, developed by Almiro et al. (2017), aims to assess the veracity of the participants' responses, or whether they responded accordioning the social desirability. It is a self-report questionnaire, composed of 20 items, answered by the participant in a dichotomous way (yes = 0; no = 1). The total score is obtained through the arithmetic sum of the items. According to the author, a score greater than 17 indicates a very high level of social desirability. The EDS-20 has good psychometric qualities (α = .85) (Almiro et al., 2017). In this study we also obtained good internal consistency (α = .77) (> .70).

PROCEDURES

To develop this measure, an exhaustive analysis of the literature on the subject was carried out, which culminated in the elaboration of a SLR (Araújo et al., 2021).

This SLR did not allowed to identify any instruments for beliefs in interpersonal relationships, as conceptualized by the authors. Additionally, the contents of some questionnaires were also analyzed (e.g., Beliefs on Conjugal Violence Scale, Machado et al., 2006), as well as the Growing Pro-Social Program (GPS). Additionally, interviews were conducted with some individuals of this age group and of both sexes, to try to identify some existing beliefs. The investigators have clinical practice, something that contributed to the prior identification of some beliefs. Additionally, the specialized literature was consulted. These procedures have contributed to elaborate the items to be included. The items were formulated in the form of statements, thus meeting the trend revealed by recent scales (Krafft et al., 2017). Statements formulated relate to adaptive beliefs (e.g., "Hurting someone is unacceptable"), MB legitimizing violence (e.g., "Some aggressivity is acceptable"), blaming third parties (e.g., "If you don't want trouble, stay home"), or MB relating to social interactions (e.g., "If they look at me, they want something"). To identify gender differences, several statements have been made for both genders (e.g., "Girls must obey, unconditionally, the boys", and "Boys must obey unconditionally the girls"). In total, 45 statements were made. Regarding the type of measurement scale, the Likert scale was adopted, which uses the item analysis approach, as well as the degree to which it is evaluated by the participants. Thus, a five-point scale was adopted (i.e., "I totally disagree" to "I totally agree"), which seeks to assess how well the participant is reviewed in the respective item (Wisdom IT Services India Unip. Ltd, 2020).

Next, a pilot administration was carried out. We used the spoken reflection method, with 20 individuals of both sexes, with a similar characteristics to the population to be included. The aim of these procedures was to test the adequacy and intelligibility of the items (Shafique et al., 2017), and to enlighten the investigator about the difficulties and/ or perception of individuals regarding the questionnaire. We aimed to verify if the language used in the instructions and the content of the items were appropriate. The participants expressed doubts about some statements and made suggestions for the possible improvement of the items. Additionally, it was found that three of the items ("I can assault my partner if he annoys me", "I can assault my partner if she annoys me", and "involvement with adolescents is legitimate") have motivated some doubts regarding its content. Thus, after a meeting with a senior expert in Forensic Clinical Psychology, they were withdrawn. Thus, the preliminary BIRQ's version was reduced to 42 items, having obtained the approval of the group of participants. All these procedures aimed to test the semantic validity of the questionnaire (Medeiros et al., 2019). Special care was also taken in standardizing the procedures (Shafique et al., 2017). The final version resulting from this phase was subsequently administered to the participants together with the SQ. The investigators used their contacts' network and went to specific locations to invite people to participate. The objectives of this study were duly explained to all participants, as well the meaning of some items, to all those who expressed doubts about them. All participants were informed of the voluntary nature of the participation and the possibility of withdrawal at any time, if they wished so. Additionally, both questionnaires were *posted online* on social networks (e.g., Facebook). In this case, to ensure that the questionnaires reached the desired target population, some precautions have been taken, placing some restrictions (e.g., residence in Portuguese territory, age).

DATA ANALYSIS

For the analysis, the following procedures were used: descriptive statistics (e.g., means, standard deviations, confidence intervals), carried out through appropriate software; Exploratory Factor Analysis (AFA) and semi-Confirmatory (SCA), carried out in the Factor 10.10.01 software (Fernando & Lorenzo-Seva, 2018), following the method Unweighted Least Squares (ULS) and Promin direct rotation; number of Factors to be extracted, determined through the Parallel Analysis method (PA) (Timmerman & Lorenzo-Seva, 2011); analysis of frequency and distribution of items to lose aberrant values, suggestive of coding errors; global adjustment indices, assessed through: Goodness of Fit Index (GFI); Adjusted Goodness of Fit Index (AGFI) (> .95); Comparative Fit Index (CFI); Adjusted Comparative Fit Index (ACFI) (> .95) (Ferrando & Lorenzo-Seva, 2018); Non-Normed Fit Index (NNFI; Tucker & Lewis, 1973); (f) Root Mean Square Error of Approximation (RMSEA) (< .05); internal consistency, assessed through the Cronbach' . (< .80); correlations assessed through the Pearson's coefficient (r); and independent samples t test to assess differences between groups (e.g., gender). The sample, composed of 1,161 participants, and with a ratio of participants per item of 27.6, was adequate (Velicer & Fava, 1998).

RESULTS
EXPLORATORY FACTOR ANALYSIS

Univariate skewness and kurtosis's deviations were verified (> |1.96|), and as well as multivariate kurtosis (< .05), which indicates the violation of the criteria of univariate and multivariate normality. However, since they were ordinal's variables, the analysis continued with the estimation of polycoric matrices. Four Factors were extracted, as suggested by PA method. However, the items 8 ("Girls don't tease boys"), 9 ("Boys don't tease girls"), 33 ("If I want something, I'll do anything to get it"), and 41 ("Masturbation is an unacceptable form of relief") showed low commonalities (< .30) (Osborne, 2014). Likewise, items 1 ("Girls must unconditionally obey the boys"), 2 ("Boys must unconditionally obey the girls"), 6 ("A boy needs to ease his impulses and desires"), 7 ("A girl needs to ease her impulses and desires."), 22 ("A serious boy dominates the girls"), 23 ("A serious girl dominates the boys"), 29 ("In a relationship, having sex with you, it's not violence"), and 31 ("I can't control myself in front of a beautiful person"), revealed evidence of cross-saturation (difference < |.20|). As a result, all these 12 items were excluded. Table 1 presents the frequencies and normality coefficients of the items of the factorial solution.

SEMI-CONFIRMATORY FACTOR ANALYSIS (SCFA)

Then, the sCFA was carried out. Bartlett's tests, $c^2(435) = 13, 230.3$, $p < .001$, and Kaiser–Meyer–Olkin (KMO = .893), suggested that it was an array of correlations and an adequate sampling, respectively (Ferrando & Lorenzo-Seva, 2018). Adequate values were observed of GFI (.985, 95% *IC BCa* [.982 – .988]), AGFI (.979, 95% *IC BCa* [.976 – .984]), NNFI (.981, 95% *IC BCa* [.977 – .987]), CFI (.986, 95% *IC BCa* [.983 – .990]), and ACFI (.975, 95% *IC BCa* [.971 – .981]) (< .95). The value of RMSEA was close to the adequate (.054, 95% *IC BCa* [.495 – .060]). The commonalities were also appropriate (> .300) (Osborne, 2014). Overall, these results suggested a good adjustment of the factorial solution to the data (Pallant, 2010). The evaluation of factorial simplicity, using Bentler's Simplicity Index (S) (.988, 95% *IC BCa* [.982 – .996]) and the Loading Simplicity Index (LS) (.562, 95% *IC BCa* [.523 – .626]), indicated that this is a good factorial solution (Ferrando & Lorenzo-

	M (95% IC BCa)	SD	% Min	% Max	Skewness	Kurtosis
3. Some aggressivity is acceptable.	1.48 (1.41 - 1.55)	0.79	0.60	71.40	1.938	2.905
4. Despite claiming otherwise, girls love to be dominated.	1.71 (1.63 - 1.78)	1.06	0.90	61.80	1.217	0.280
5. Despite claiming otherwise, boys love to be dominated.	1.63 (1.56 - 1.71)	0.93	0.90	63.80	1.369	0.864
10. If you girls don't want to be raped, don't get in the way.	1.37 (1.30 - 1.44)	0.84	1.90	82.60	2.536	5.415
11. If you boys don't want to be raped, don't get in the way.	1.36 (1.29 - 1.42)	0.81	1.80	83.20	2.605	5.846
12. When she says "no", it's to stop.	4.50 (4.44 - 4.56)	0.69	2.20	63.30	-2.323	6.179
13. When he says "no", it's to stop.	4.51 (4.45 - 4.57)	0.67	2.20	63.40	-2.389	6.703
14. Girls are raped because they can't resist enough.	1.17 (1.12 - 1.21)	0.36	0.50	90.80	3.992	16.433
15. Boys are raped because they can't resist enough.	1.19 (1.14 - 1.23)	0.40	0.60	90.40	3.784	14.480
16. Girls go out at night to get a partner.	1.92 (1.84 - 2.00)	1.14	1.00	49.10	0.814	-0.484
17. Boys go out at night to get a partner.	2.13 (2.04 - 2.21)	1.37	2.20	42.50	0.602	-0.862
18. If the girls take a drink, it's because they want involvement.	1.65 (1.58 - 1.72)	0.96	0.60	62.10	1.385	0.846
19. If the boys take a drink, it's because they want involvement.	1.72 (1.64 - 1.79)	1.08	0.90	60.00	1.290	0.502
20. If they look at me, they want something.	1.66 (1.58 - 1.73)	0.88	0.60	60.90	1.236	0.531
21. Hitting someone is unacceptable.	3.92 (3.82 - 4.01)	1.75	10.20	44.60	-1.118	-0.015
24. A girl can take pleasure from forced sex.	1.48 (1.41 - 1.55)	0.90	1.30	75.70	1.906	2.591
25. A boy can take pleasure from forced sex.	1.52 (1.45 - 1.60)	0.95	1.10	73.60	1.753	1.927
26. If you walk around with half your body on display, you can't complain.	1.38 (1.32 - 1.45)	0.75	1.60	79.40	2.469	5.550
27. If you accept a kiss or a caress, you may not want anything else.	4.16 (4.07 - 4.24)	1.22	5.30	49.40	-1.467	1.480
28. After the beginning, if you say no, I must not insist.	4.23 (4.14 - 4.32)	1.37	7.10	56.60	-1.697	1.901
30. If you don't want trouble, stay home.	1.36 (1.29 - 1.42)	0.75	1.90	81.90	2.594	6.158
32. A little violence, it really excites me.	1.56 (1.48 - 1.64)	1.06	1.60	71.80	1.741	1.842
34. A snarly in the face, it's acceptable.	1.43 (1.36 - 1.50)	0.82	1.60	77.00	2.177	3.992
35. Prostitute's girls are worthy of respect.	4.10 (4.02 - 4.19)	1.21	5.30	46.10	-1.351	1.247
36. Prostitute's boys are worthy of respect.	4.08 (4.00 - 4.17)	1.25	5.60	45.60	-1.324	1.117
37. If you like to show your body, you can't complain.	1.40 (1.33 - 1.47)	0.82	1.80	79.80	2.350	4.746
38. I worry about the consequences of my deeds.	4.39 (4.32 - 4.45)	0.76	2.80	54.40	-2.049	4.933
39. Hurting someone is unacceptable.	1.84 (1.76 - 1.93)	1.29	6.30	49.40	1.641	1.555
40. There is no problem taking a no as an answer.	1.90 (1.82 - 1.98)	1.10	4.60	41.20	1.440	1.698
42. A person can dress as he pleases, without being bothered by it.	4.22 (4.14 - 4.30)	1.11	4.50	50.50	-1.625	2.134

Table 1 - *Frequencies and Coefficients of Normality of Items*

Seva, 2018). Table 2 presents the factorial structure, with the respective Factor loadings and commonalities.

The observed Unidimensional Congruence's values (.896, 95% *IC BCa* [.886-.917]) (< .95), Explained Common Variance (.721, 95% IC BCa [.702 –.764]) (< .85), and Mean of Item Residual Absolute Loadings (.352, 95% *IC BCa* [.328 – .369]) (> .300), are not adequate, suggesting unidimensionality deviations.

The factorial solution explains 66.2% of the variance (Factor [F]1 = 37.9%, F2 = 15.6%, F3 = 6.9%, and F4 = 5.8%). Regarding the quality and effectiveness of the scores assigned by the participants to the Factors extracted, these revealed a good quality, Factor Determinacy Index (FDI > .90; F1 = .928; F2 = .960; F3 = .980; F4 = .979), Marginal Reliabilities (ORION > .80; F1 = .862; F2 = .921; F3 = .961; F4 = .958), *Sensitivity Ratio* (SR > 2; F1 = 2.500; F2 = 3.418; F3 = 4.965; F4 = .4756, and Expected Percentage of True Differences (EPTD > 90%; F1 = 90.8%; F2 = 93.6%; F3 = 96.1%, F4 = 95.9%). All values *p* < .01 (Fernando & Lorenzo-Seva, 2018).

They were also found values of H-observed (i.e., H1 = .649, H2 = .783, H3 = .664, and H4 = .891), that indicated that Factor 2 presented replicability close to acceptable, and that Factor 4 presented good Factorial replicability (> .800) (Ferrando & Lorenzo-Seva, 2018). Regarding the inter factorial correlations found, these were close to moderate and moderate (> .30). Internal consistency, on the other hand, was also adequate (> .80) (Pallant, 2010). All these values are shown in Table 3 and 4.

GROUP DIFFERENCES

Independent samples t tests were performed to verify the effect of sex on the four BIRQ Factors. The results suggested that there were differences in all Factors, namely in Violence, $t(854.237) = 12.521$, $p < .001$, *mdif* = 3.185, 95% *CI* (2.579 – 3.503), $d = .778$; in Diversion, $t(945.726) = 12.219$, $p < .001$, *mdif* = 3.041, 95% *CI* (2.579 – 3.503), $d = .788$; in Blaming, $t(774.735) = 8.459$, $p < .001$, *mdif* = 2.203, 95% *CI* (1.771 – 2.835), $d = .537$; and in Assertiveness, $t(993.533) = -5.884$, $p < .001$, *mdif* = -2.719, 95% *CI* (-3.626 – -1.812), $d = .375$. These results are congruent with the analysis of the average scores obtained that suggest that men have higher scores of violence, diversion and blaming and lower assertiveness, when compared to women. The descriptive statistics relating to these analyzes are presented in Table 5.

BELIEF INDEX

The Factors obtained are constituted by a set of a very discrepant items (i.e., 5 to 11), which, to some degree, makes the necessary comparisons difficult. To overcome this difficulty, it was decided to calculate the arithmetic mean of the values obtained for each Factor. Additionally, the BIRQ is composed of a Factor that reflects adaptive beliefs (AB) (i.e., Assertiveness) and three Factors related to maladaptive beliefs (i.e., Violence, Diversion, and Blaming). Consequently, and to obtain an overall value, it was decided to group these last three factors into a single factor, called "Maladaptive Beliefs" (MB), which corresponds to the arithmetic mean of the sum of the three (i.e., [Violence + Diversion + Blaming]/3). This procedure, important for research purposes, makes it possible to obtain a value, called the Belief Index (BI). The BI is obtained by subtracting the MB from the assertiveness (i.e., BI = AB – MB).

CORRELATIONS OF BIRQ AND TRIPM SUBSCALES

Pearson's coefficient (*r*) was used to evaluate the correlations between BIRQ and TriPM subscales. Regarding Assertiveness, negative

	F1	F2	F3	F4	Commonalities
3. Some aggressivity is acceptable.	.555				.413
4. Despite claiming otherwise, girls love to be dominated.	.530				.548
5. Despite claiming otherwise, boys love to be dominated.	.452				.382
10. If you girls don't want to be raped, don't get in the way.			.972		.847
11. If you boys don't want to be raped, don't get in the way.			.998		.842
12. When she says "no", it's to stop.				.974	.832
13. When he says "no", it's to stop.				.965	.821
14. Girls are raped because they can't resist enough.			.598		.686
15. Boys are raped because they can't resist enough.			.595		.640
16. Girls go out at night to get a partner.		.841			.632
17. Boys go out at night to get a partner.		.840			.636
18. If the girls take a drink, it's because they want involvement.		.846			.767
19. If the boys take a drink, it's because they want involvement.		.858			.751
20. If they look at me, they want something.		.523			.453
21. Hitting someone is unacceptable.				.626	.372
24. A girl can take pleasure from forced sex.	.739				.609
25. A boy can take pleasure from forced sex.	.740				.604
26. If you walk around with half your body on display, you can't complain.			.856		.737
27. If you accept a kiss or a caress, you may not want anything else.				.666	.541
28. After the beginning, if you say no, I must not insist.				.808	.624
30. If you don't want trouble, stay home.			.615		.553
32. A little violence, it really excites me.	.632				.381
34. A snarly in the face, it's acceptable.	.424				.343
35. Prostitute's girls are worthy of respect.				.633	.593
36. Prostitute's boys are worthy of respect.				.621	.594
37. If you like to show your body, you can't complain.			.910		.796
38. I worry about the consequences of my deeds.				.872	.682
39. Hurting someone is unacceptable.				.794	.611
40. There is no problem taking a no as an answer.				.695	.521
42. A person can dress as he pleases, without being bothered by it.				.662	.590

Note. F1: Violence; F2: Diversion; F3: Blaming; F4: Assertiveness.

Table 2 - *Structure, Factor Loadings and Commonalities*

	F1	F2	F3	F4
FDI	.928	.960	.980	.979
ORION	.862	.921	.961	.958
SR	2.500	3.418	4.965	
EPTD	90.8%	93.6%	96.1%	95.9%

Note. **F1**: Diversion; **F2**: Violence; **F3**: Blaming; **F4**: Assertiveness.

Table 3 - *Quality and Effectiveness of Factors*

	F1	F2	F3	F4	Total
F1	-				
F2	.473	-			
F3	.497	.595	-		
F4	-.259	-.267	-.480	-	
Alfa	.900	.846	.949	.938	.941
Omega	.903	.848	.949	.939	.938

Note. **F1**: Diversion; **F2**: Violence; **F3:** Blaming; **F4**: Assertiveness.

Table 4 - *Inter Factorial Correlations and Internal Consistency*

		Sex	*N*	*Mean*	*SD*
Sex	**Violence** *	Men	496	12.64	4.815
		Women	665	9.45	3.455
	Diversion *	Men	496	10.81	4.265
		Women	665	7.77	3.529
	Blaming *	Men	496	10.54	5.318
		Women	665	8.24	3.313
	Assertiveness *	Men	496	44.81	8.163
		Women	665	47.53	7.260

Note. *: *Levene'test* significant al the level $p < .05$.

Table 5 - *Average Means by Sex and by Type of Participation*

	Diversion	Violence	Blaming	Assertiv	MB	BI	Boldness	Meanness
Violence	.426**							
Blaming	.443**	.424**						
Assertiv	-.220**	-.255**	-.387**					
MB	.834**	.756**	.767**	-.355**				
BI	-.591**	-.574**	-.670**	.869**	-.772**			
Boldness	.171**	.205**	.083**	-.138**	.195**	-.197**		
Meanness	.255**	.387**	.233**	-.375**	.364**	-.448**	.367**	
Disinhibition	.101**	.235**	.109**	-.235**	.182**	-.256**	.111**	.594**

Note. **Assert**: Assertiveness; **BI**: Beliefs index; **MB**: Maladaptive beliefs; **$p < .001$.

Table 6 - Correlations of BIRQ and TriPM Subscales

correlations were observed, weak ($r < |.30|$) to moderate ($r < |.70|$), with the remaining BIRQ subscales (e.g., $r = -.387$ [Blaming]), with the MB ($r = -.355$), and with the TriPM subscales (e.g., $r = -.375$ [Meanness]). The MB, showed positive, weak to moderate, correlations with the TriPM subscales (e.g., $r = .364$ [Meanness]). Regarding BI, it showed negative, weak to moderate, correlations with the TriPM subscales (e.g., $r = -.448$ [Meanness]). Strong correlations ($r > |.70|$) were also found between MB and Diversion ($r = .834$), MB and Violence ($r = .756$), and Blaming ($r = .869$). Assertiveness showed a strong correlation with BI ($r = .869$). The correlations found, all significant, are presented in table 6.

DISCUSSION

The central aim of this study was to construct and validate a scale, the BIRQ, which aims to assess the level of (dis)adjustment of the beliefs of Portuguese young adults regarding interpersonal relationships. It was also intended to understand what kind of beliefs were more prevalent in this population.

The initial analysis allowed the identification of items with low commonalities (8 ["Girls don't tease boys."], 9 ["Boys don't tease girls"], 33 ["If I want something, I'll do anything to get it"], and 41 ["Masturbation is an unacceptable form of relief"], which suggests that these do not relate to the rest. Items whose saturation indices did not allow attributing them to any of the Factors (i.e., cross-saturation) have also been identified (1 ["Girls must unconditionally obey the boys"], 2 ["Boys must unconditionally obey the girls"], 6 ["A boy needs to ease his impulses and desires"], 7 ["A girl needs to ease her impulses and desires"], 22 ["A serious boy dominates the girls"], 23 ["A serious girl, dominates the boys"], 29 ["In a relationship, having sex with you, it's not violence"], and 31

["I can't control myself in front of a beautiful person"] (Osborne, 2014). Thus, these 12 items were eliminated, and the BIRQ was reduced to 30 items. Consequently, the sCFA was performed, according to the mentioned methods, which allowed the distribution of these items by four Factors (Ferrando & Lorenzo-Seva, 2018).

The values from internal consistency suggest a set of coherent responses. Additionally, the adjustment indices obtained indicate that the Factorial structure fits relatively well to the data. The values of quality and effectiveness of the Factors, indicate the usefulness of BIRQ for the evaluation of young people beliefs in interpersonal relationships (Ferrando & Lorenzo-Seva, 2018). Thus, the data tend to confirm hypothesis two, according to which the usefulness of BIRQ for individual evaluation was foreseen.

A set of items related to violence and its legitimization was identified. These results are in line with what is suggested by the literature (Brazão et al., 2017), who have identified MB that legitimize the violence to conflict's resolution or the exercise of social dominance, whether with the peer group (interpersonal violence), or in intimate relationships (Pascual-Leone et al., 2011). Therefore, and according to what is suggested by the literature, this set of items, grouped in Factor 1, received the designation of "Violence".

We also identified a set of items related to the social interactions of young people (e.g., search for intimacy) (Rijo et al., 2017). According to Alvarez et al. (2019), young people tend to present beliefs related to social interactions, according to which they need to go out to have fun or find an intimate partner. Therefore, this set of items, grouped in Factor 2, received the designation of "Diversion".

According to some authors (e.g., Amir, 1971), defenders of a set of explanatory theories of victimization, generically designated as

"*Blaming the Victims*", the inappropriate behavior of some victims, such as the way of dressing, drives the aggressor to engage in violent acts, whether physical or sexual (e.g., harassment). Therefore, and according to the same authors, the victim would be the main responsible for his/her own victimization (Thornberg & Wänström, 2018). Despite the social changes that have been observed over the last few decades, resulting from legislative changes, criminalization of certain acts (e.g., domestic violence) or awareness campaigns, many individuals continue to perpetrate violent acts (Neves & Fávero, 2010). However, they persist in blaming victims, rather than assuming their responsibilities (Thornberg & Wänström, 2018). This is particularly evidenced by the set of items grouped in the third Factor, called "Blaming". Thus, these results demonstrate the existence of MB related to the legitimization of violence, and blaming the victims, which tends to confirm the previously formulated hypothesis, according to which a structure would be identified with Factors related to the legitimacy of violence given the actions of third parties or blaming others.

Nevertheless, in the last decades, we have also observed positive changes in social perceptions of the phenomenon, namely in Portugal and in other developed countries. Many of them are the result of the legislative changes, like a criminalization of some behaviors (e.g., domestic, and sexual violence), but also from increased levels of education (Cunha-Oliveira et al., 2021). As a result, social intolerance to the phenomenon has also increased (Singh, 2017), as evidenced by the growing and sustained increase in complaints of this type of behavior (i.e., violence) (Internal Security System [ISI], 2019). All this is corroborated by the identification of a set of items grouped in Factor 4, which received the designation of "Assertiveness". It is also important to highlight that "Assertiveness" presents negative correlations with the other Factors. Thus, the third and fourth hypotheses were confirmed, according to which, respectively, it was expected to identify a Factor related to adaptive behaviors, and that it would present negative correlations with the others.

In sum, according to the structure identified, the first hypothesis, according to which it was expected that the items of the BIRQ were distributed by Factors related to violence, blaming of third parties, and adaptive behavior, was partially confirmed, since it was not expected the identification of a Factor related to "Diversion". However, as widely discussed in the literature (e.g., Luijks et al., 2017), young adults tend to engage in recreational behaviors, which sometimes result in reprehensible, not necessarily criminal attitudes. This may explain the emergence of the "Diversion" Factor.

The unidimensionality values obtained indicate some deviations, so the sum of the scores should be made with some caution (Ferrando & Lorenzo-Seva, 2018). However, the use of BIRQ as a risk evaluation tool, does not have this purpose. Rather, it intends to identify problematic areas that need to be worked on in psychotherapy (Miller & Rollnick, 2012). Additionally, the early identification of MB may provide important clues to adapt the intervention to the specific needs of each person. On the other hand, the inclusion of MB in intervention programs may contribute to increase their success rates (Araújo et al., 2021).

The results also suggest that men have more MB than women. These results corroborate what is suggested by some authors (e.g., Rijo et al., 2017)., according to which men tend to be more violent, and that MB may be underlying these acts. This may explain the fact, widely described in the literature (e.g., Heron et al.,

2022), that women are the main victims of violence (e.g., physical, and sexual).

Consistent with the formulated hypothesis, negative correlations were observed between Assertiveness and the remaining BIRQ subscales, which is consistent with the theoretical rationale underlying the elaboration of the BIRQ, according to which the first reflects adaptive beliefs, and the others reflect the MB.

According to Moreira et al. (2014), Meanness and Disinibithion reflect the dark side of the TriPM, which negatively impacts the behavior of these individuals (e.g., impulsiveness, lack of accountability, cruelty, violence). This can explain the negative correlations that, as expected, were found between Assertiveness and these TriPM subscales.

In the opposite direction was the positive correlation between Assertiveness and TriPM subscale Boldness. Some young adults also tend to exhibit some typical adolescent behaviors (e.g., oppositional, irresponsible behavior), which may be exacerbated by the difficulties caused by entry into adulthood (Luijks et al., 2017) These facts may help to explain this result. Thus, the hypothesis formulated was partially confirmed.

LIMITATIONS AND POTENTIALITIES

This study has several potentialities: (i) provides a new psychological assessment instrument, focused on the beliefs of young adults regarding interpersonal relationships, with appropriate psychometric qualities; (ii) BIRQ is useful for individual assessment but also for the investigation (Ferrando & Lorenzo-Seva, 2018); and (iii) BIRQ helps address the lack of validated instruments for Forensic Psychology (Agulhas & Anciães, 2017).

However, it also has some limitations: the sample consists of participants from the general community, not including forensic populations (Pascual-Leone et al., 2011); according to Teixeira and Dias (2016) Portugal is a multi-ethnic country. Nonetheless, the sample, being essentially composed of Caucasian individuals, does not reflect it. Due to this fact, the possibility of bias in the results should not be ruled out.

IMPLICATIONS FOR FUTURE INVESTIGATIONS

As mentioned, this study used a general community sample. As is widely suggested in the literature, the forensic population tends to present a set of more rigid and maladaptive beliefs, which are more resistant to change (Pascual-Leone et al., 2011). Thus, in an additional effort to improve the state of the art, additional studies should be carried out with this population to identify and, if possible, restructure their maladaptive beliefs. It is also known that there are gender differences in the manifestation of beliefs (Rijo et al., 2017), so it would be important to deepen their study. In sum, other studies could help to adapt the available treatments to the specific needs of these populations. To be done, the whole community (academic included) would reap broad benefits.

IMPLICATIONS FOR PRACTICE, CLINICAL, AND FORENSIC

Clinical practice, or existing intervention programs, tend to focus on observable behaviors, or disorders, instead of their underlying causes (e.g., MB), something that may explain the low success rates of treatments, particularly in forensic contexts. As suggested by Rijo et al. (2017) it is important to understand the impact of MB on deviant and violent behavior. Moreover, as observed by Araújo et al. (2021), underlying much of the violence perpetrated are MB.

Therefore, it would be important to consider and include MB in existing or future intervention programs. In this assumption, the use of BIRQ in the evaluation of all types of individuals, from the community or from the forensic area, would be a powerful tool. By identifying MB, it could contribute to change the way intervention or prevention programs are implemented, assuring their alignment with the individual needs.

The results of the application of multiple intervention programs seem to indicate difficulties in changing behaviors (e.g., violent) (e.g., Araújo et al., 2021), without changing what promotes or reinforces them (e.g., MB). Therefore, the division of individuals by therapeutic groups could be done according to the MB present, instead of doing it by the behaviors. Hence, it would open a new and vast field of research and scientific production.

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16

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