The Relationship between Childhood Experiences of Submissiveness, External shame and Paranoia in a Portuguese Student Sample

Paranoia and Shame in a Portuguese Student Sample

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Abstract- **Paranoia has been conceptualised as a form of defence against perceived threat that is associated to internal shame, issues of rank and history of trauma in clinical populations. We aimed to explore whether a student sample would show external and internal shame with paranoid ideation and if this is related to childhood experiences of threat. A total of 165 college students were given a battery of scales measuring non-clinical paranoid ideation and experiences of paranoia, submission, external and internal shame, forms of self-blame vs. blame others and childhood memories of a threatening family environment. Results supported our hypotheses. Portuguese students acknowledge experiences of paranoia and those that acknowledged paranoid experiences presented statistically significantly more shame and childhood experiences of threat and submissiveness towards significant others than the ones that do not acknowledge having paranoia. A linear regression with a LASSO model also showed that external shame was the only significant predictor of paranoia which supports new literature about the importance of shame memories in shaping paranoia. Clinical implications are inferred suggesting the importance of teaching students to manage feelings of shame as a way of preventing the onset of paranoid ideation.**

Keywords- Paranoia; Shame; Submissiveness; Threat

I. INTRODUCTION

Evolutionary theory has been arguing that the earliest forms of 'social anxiety' probably evolved to detect and cope with social threats e.g. threats to one's status and social attractiveness, either by avoiding the fear evoking stimuli or by escaping confrontation and undermining the possibility of harm from others by showing yourself as non-competitive and non-threatening e.g. via flight and/or submissive behaviour [1,2,3,4]. However, human anxieties that are focused externally, on what others may do (that is, on the hostile intent or power of others), are commonly thought of as paranoid. Paranoia anxieties can focus on a range of fears and these are common, e.g. the fear of deception, disloyalty, defection and/or exploitation (suspiciousness and low trust) [3]. Paranoid anxieties can be specific to roles, for example people that are low rank and fulfil less powerful roles may develop paranoia, e.g. as in a subordinate's fear of a dominant or authority figure (e.g. "the boss is out to get me"). Paranoia also can be focused on out-groups and gangs (e.g. the police, Mafia or religious groups); can be generalized as a trait (as in a paranoid personality disorder), and can operate at the level of a

delusion and psychosis [5].Thus, paranoia in a non-clinical population is believed to be basically the fear of being maliciously mistreated by others and hence the preoccupation with how one is perceived by significant others [5]. This preoccupation is also seen in social anxiety [1]. Both paranoia and social anxiety are concerned with how one looks like in other people's minds, whether they are perceived as "defective" and as inferior[1]. Since paranoia has been conceptualised as sharing features with social anxiety, which has been observed in non-clinical populations [1], studies have tried explore if this is the case for paranoia and have been reporting forms of non-clinical paranoid anxieties in samples of students [6].

Paranoid fears are fears of other people's malicious intent towards oneself, as for example the fear that others' are purposively thwarting our chances of success and making us fail. These fears, according to evolutionary theories of paranoia lie with the hierarchical nature of human societies and the relationship between powerful individuals and their subordinates [3]. Social hierarchies are conceptualised as inducing adaptive challenges that if unresolved are seen to be predisposing the onset of mental health disorders [1, 22]. For example, social hierarchies lead to social rivalry and competition for resources [1], to the presence of social stressors, e.g. unemployment that also is seen to lead to more mental health problems e .g. depression [3]. It is argued that paranoia is a result of competition and allocation of resources in human hierarchies. Indeed it has been argued that depending on the perceived social status, the individual may feel paranoia because he/she is a high powerful individual that needs to control others or he/she is a low rank individual that shows paranoia because this is a form of defence against the harm of powerful others. Usually these low rank individuals also show submissiveness and tend to avoid conflict [3,4]. These two different roles and positions in the social hierarchy lead to different paranoid cognitive styles that have yet to be studied in detail.

Although there are two different forms of paranoia that are related to different social roles, our study decided to focus on one particular paranoid style: the lower rank paranoid anxiety that is commonly related to feelings of submissiveness towards others. Usually people display submissiveness towards individuals that perceived to be

more important and to possess a higher rank, more power and control than the paranoid individual, e.g. one's parents.

Research in non-clinical paranoia has been supporting the link between paranoia, low rank and submission [5]. Submission is conceptualised as a defensive strategy adopted by humans to inhibit one's own threat-eliciting behaviour (e.g. challenging others) and thus deactivate actual or possible aggression from another. Submission is seen to be related to interpersonal sensitivities (the accuracy and/or appropriateness of perceptions, judgments, and responses we have with respect to one another) that people with paranoid beliefs tend to show inappropriately, as for example the high sensitivity to deception [2]. One example of a study that found a link between submission and paranoia is the study by Freeman *et al.* (2005a) [5]. Freeman *et al* (2005a) found in a large student sample that paranoia was significantly associated with the display of submissive behaviours. This supports evolutionary theories of paranoia as people who have difficulties asserting themselves –which is conceptualised within an evolutionary framework as having low dominance and an inferior social rank – can be vulnerable to a number of psychological problems, including paranoia [6]. According to Freeman *et al.* (2005 a) submission allows people to avoid conflict and prevent potential harm from others that are seen to be threatening, however, because people do not actively engage and confront other people their paranoia persists because they cannot disconfirm the belief that other people are actively trying to harm them. Although submissive behaviours can be quite effective and adaptive in the short term because they avoid immediate harm from other people, they will lead to paranoia as individuals do not engage with other people and assert themselves, thus developing feelings of inadequacy, anger and resentment towards others [1]. Paranoia thus is associated with submissiveness and both are used to solve adaptive challenges posed by social hierarchies e.g. competition for resources.

Literature in clinical paranoia has also been suggesting that apart from submission, shame, another variable of ranking related to interpersonal sensitivities, is characterized by feelings of being inferior to others and is commonly associated with submissive behaviours and paranoid ideation [2,7,8].Shame can go from a moderate level to a very intense level and is also extremely related with feelings of loss of status, social attraction and lovability [9]. It is conceptualised that individuals that feel shame, brood on their personal shortcomings and character flaws and feel that they have lost status or the ability to be accepted and loved by others. For example, feelings of shame that are related to perceived negative physical aspects lead to a feeling of loss of lovability [9]. Shame is related as well with a greater self-consciousness and an extreme desire of hiding personal flaws [10]. Shame has been conceptualised in two different types: external shame, which is directed to the external environment (for example: when people think that others are looking down on them, see them as defective and inferior and do not think highly of them so they try to put them down) and internal shame where attention if focused on one's "Self" (negative self-evaluations) [11] or to several aspects of the Self, such as character flaws, bad or ineffective behaviour and bodily shame [12]. Both types of

shame are seen to be related however on one hand the internal shame is more concerned with internal aspects of the self, in the other hand external shame is more concerned how the self looks like in the mind of others [12]. Research has found that internal shame was related to depression [7] and that external shame was related to submissive behaviours [10] however these studies did not investigate the relationship between internal and external shame and paranoia in the general population. We intend to address this in this study.

The literature has also been suggesting that many individuals from a non-clinical population that have mood and social anxiety problems come from neglectful and abusive backgrounds [1]. Often these individuals have good grounds for believing that others pose serious threats, because indeed they have been victimized and harmed by others [13]. Hence, researchers have been arguing that socially anxious individuals and non-clinical paranoid individuals can acquire a submissive and self-monitoring coping style and a self or other blaming style, because as children this was the best way to defend themselves against hostile parents [13]. Furthermore, when getting older they may develop feelings of bitterness, resentment and hostility towards the people surrounding them[1]. Defending oneself against hostile others and defending oneself early in life is thought to raise important issues to do with the family environment and to peer bullying [1,13,14]

Evolutionary social ranking theory suggested that child-parent relationships are power relationships [14, 15]. Thus, children who are frightened of their parents and feel forced to unwanted and involuntary subordinate positions may adopt various submissive, low rank, defensive behaviours. Hence a child that has to be overly attentive to threats (rather than rely on parents for safety, emotional regulation and secure attachment) may be more prone to develop paranoid ideation. Since to our knowledge there aren't many studies that addressed this relationship in a non-clinical population we intend to explore whether paranoia is associated with childhood experiences of a threatening environment at home.

Finally, research also found that self-blame for social put downs is associated to depression, shame and social anxiety [16]. Thus, we intend to explore whether non-clinical paranoid individuals will show defensive styles against perceived social put down that can be directed internally (self-blame) or externally (blame others or personalising bias). Both can co-exist and research has been showing that they are fluctuating in both clinical and non-clinical populations that show paranoia [17].

A. Rationale and Hypotheses:

The literature is finding that non-clinical paranoid experiences are very common in the general population. For example, non-clinical paranoid experiences are common in students in the UK [6]. Also there is research suggesting that variables of ranking, shame and threatening experiences in the family environment and submissiveness towards perceived threatening parents may be related to feelings of paranoia [10,13,14]. Hence we hypothesise that:

1. A Portuguese sample of college students will acknowledge experiences of non-clinical paranoias in a similar way to what was observed with a college sample in the UK. We did not expect for experiences to be different as the social hierarchies in Portugal are similar to those in the UK since both are Western Societies with similar values and norms.

2. The experiences of external shame and submissiveness towards parents should be the main predictors of non-clinical paranoia in a Portuguese sample of students.

II. METHOD

A. Participants:

A total of 165 Portuguese students (123 women and 42 men) that were not in therapy or took medication for psychological disturbances completed a battery of self-report measures. 61 students attended the Secondary School of the City of Penafiel, while the other 94 university students attended the Polytechnic Institute of the University of Oporto, the Faculty of Engineering of the University of Oporto and the Faculty of Psychology and Educational Sciences and the Faculty of Nursing of the University of Coimbra. The age range was 16 to 29 years (M=19.86; SD=2.40). Thus this sample comprised a fairly large range of ages given that it is a sample of convenience constituted by students. 62 participants attended the 12th grade of the Secondary School; 4 participants attended the Second year of their University; 75 participants attended the Third year of their University and 24 participants attended the Fourth year of their university.

B. Instruments:

We point out that all the instruments used in this study, were translated into Portuguese by a bilingual translator and the compatibility of content was verified through stringent back-translation procedures. The Cronbach alphas for the translated instruments are reported to vouch for internal reliability.

C. General Paranoia Scale (GPS) [18]

The 20-item self-report Paranoia Scale was developed to measure paranoia in college students. The scale measures general paranoia. Each item is rated on a five-point scale (1-5; not at all applicable – extremely applicable). Scores can range from 20 to 100, with higher scores indicating greater paranoid ideation. It is the most widely used dimensional measure of paranoia [5]. Our study presented a Cronbach's alpha value of $\alpha = 0.90$ for n=165.

D. Personal Experience Paranoia Scale (PEPS) [6,19]

This questionnaire was designed by the Ellet, Lopes & Chadwick (2003) [6] with the aim of examining both the incidence and phenomenology of paranoia within a normal population. The 14 items assess key cognitive, behavioural and affective dimensions of paranoia. The PEPS defines paranoia, with a particular example, as a perception of intention to harm by others.

In the original study an analysis of variance ($F (2,321) = 17.89$, $p<. 0005$), showed the PEPS paranoia group scoring significantly higher than both the ambiguous and no paranoia groups in the General Paranoia Scale. This finding suggested concurrent validity between the two measures of paranoia [6]. In this study an ANOVA reported a statistically significant difference between the PEPS groups in their scores in the General Paranoia Scale ($F (2,164) =23. 59$, $p<. 0005$). Therefore the Portuguese version of the PEPS also demonstrated concurrent validity with the General Paranoia Scale.

E. Submissive Behaviour Scale (SBS) [7]

This scale measures submissive behaviours e.g. " I agreed I was wrong even though I knew I wasn't". Participants respond by giving their estimated frequency of those behaviours on a five-point likert scale from 0-4. The minimum score for this scale is 0 and the maximum 64. This scale has been shown to have high internal consistency and test-retest reliability [7]. This scale has shown a Cronbach alpha of 0.85 in our study.

F. Other As Shamer Scale (OAS) [20]

This scale was devised by Goss, Gilbert & Allan (1994) to measure external shame (how an individual thinks others view him/her) [20]. The scale consists of 18 items asking respondents to indicate the frequency of their feelings and experiences to items such as "I feel insecure about others opinions of me" and "Other people see me as small and insignificant" on a 5-Point Likert Scale (0= never to 4= always). The minimum score for this scale is 0 and the maximum is 72. Goss et al. (2004) presented an alpha of Cronbach of 0.92 for this scale showing good internal reliability [20]. We obtained also a high Cronbach alpha $\alpha = 0.92$.

G. Experience of Shame Scale (ESS) [12]

This questionnaire consists of twenty five items that measure three types of shame. The first type is "Characterological Shame, which concerned with personal characteristics and traits. The second type of Shame is "Behavioural Shame" that is related to the embarrassment of doing something wrong or saying something incredibly stupid. The last type is "Bodily shame" and is concerned with the embarrassment of one's physical appearance that is, with the shame of one's body or parts of it. Participants respond to how much they have felt that these statements applied to them, i.e. in terms of experiencing, feeling or avoiding the situations that were described. The response measure was a Likert Type scale from "0=not at all to 4= very much". The minimum score for this scale is of 0 and the maximum score is of 100. In this study the ESS showed good internal consistency, presenting a Cronbach alpha for the total of the items of the ESS of $\alpha = 0.93$ for n=165 ($\alpha = 0.92$ for the original study) and for the three dimensions: "Charactereological Shame" ($\alpha = 0.89$ for n=165; $\alpha = 0.90$ for the original study), "Behavioural Shame" ($\alpha = 0.88$ for n=165; $\alpha = 0.87$ for the original study) and "Bodily Shame" ($\alpha = 0.80$ for n=165; $\alpha = 0.86$ for the original study).

H. The Early Life Experiences Scale (ELES) [8]

This questionnaire was devised with the goal to measure memories from the childhood, where the adult now reports as a child from then whether she/he perceived threat within the family, or felt subordinate in relation to family members [8].

The ELES is composed of three sub-scales: "Threat", "Submissiveness" and "(Un)valued". Gilbert *et al.* (2003) argued that the third factor tapped into experiences that revealed a more co-operative and affiliate relational style [8]. The response measure consisted of a *Likert* type scale with participants required to answer how true was the statement to them in their childhood from "0= completely untrue to 5 = very true". Three items were reversed in order to minimize response bias and a standard type of responses. The minimum score for this scale was of 16 and the maximum of 80. The original study presented evidence for internal consistency (Cronbach's alphas: total .92; "threat" .84; "submissiveness".86 and "unvalued" .71) [8]. In our study this scale also showed good internal consistency with Cronbach alphas for the total of the ELES (.89) and subscales of "threat" (.86); "submissiveness" (.76) and (Un)valued .(71) respectively.

I. Sensitivity to Put Down Scale (SPD) [16]

The SPD is a scale that was designed to measure people's experience of being put down, criticised, and ridiculed (Gilbert & Miles, 2000) [16]. The scale is divided in two parts. In each part there are two sub-scales with 20 items. The first part presents the sub-scale of Anxiety and Anger (Irritation) the second part presents the sub-scale of Blame –Self versus Blame Others. Participants have to answer in a Likert type scale from 0 (not at all) to 5 (extremely) how much they feel anxious or angry in a certain type of negative situation and how much they blame themselves or others from 0 (not at all) to 5 (completely). The minimum score is 20 and the maximum is 100. In this study all sub-scales presented good internal consistency, hence the Cronbach Alphas for each sub-scale were the following: Anxiety α = 0.94 (0.92 for the original study), Anger α = 0.93 (0.91 for the original study); Blame self α = 0.94 (0.91for the original study) and Blame Others α = 0. 95 (=.90 for the original study).

III. RESULTS

Data were screened for normality of distribution. Preliminary analysis revealed a largely and normally distributed sample.

TABLE 1. MEANS AND SDS FOR THE VARIABLES.

Variables	Mean n=165	SD
Total GPS	44.14	9.69
Total SBS	21.07	8.72
Total OAS	20.49	10.55
ESS-Characterological Shame	19.39	5.85
ESS- Behavioural Shame	17.92	5.23
ESS-Bodily Shame	7.56	2.78
Total ESS	44.87	12.00
SPD – Anxiety	55.14	21.14
SPD-Anger	62.86	15.83
SPD- Blame Self	39.81	18.10
SPD – Blame Others	60.39	19.80
ELES – Threat	11.09	4.75
ELES - Submissiveness	11.82	4.31
ELES – (Un)valued	7.33	2.78
Total ELES	30.25	9.9

GPS "General Paranoia Scale"; SBS "Submission Behaviour Scale"; OAS "Other As Shamer Scale" (External Shame); ESS "Experience of Shame Scale" (Internal Shame);SPD (Sensitivity to Put Down); ELES "Early Life Experiences Scale".

A. Gender differences

We compared the genders using the Bootstrap method for significant differences. There were no statistically significant differences between males and females for age *t* (163)=-0.93, *p*=.35 and for the level of education *t* (163)=0.86, *p*=.38.

On the other hand, there were statistically significant differences between males and females for internal shame. Females seemed to show statistically significantly more internal shame than males *t*(163)=2.462, *p*=.015. Females consistently showed statistically significantly more behavioural shame *t* (163)=2.99, *p*=.003 and more bodily shame than males *t* (163)=2.92, *p*=.004. Moreover concerning the emotional reactions to criticism of the SPD, females showed both statistically significantly more anxiety *t* (152)=2.921, *p*=.004 and anger *t* (163)=2.752, *p*=.007 than males. Finally there were also statistically significant differences between the genders for the SPD dimension of attributing blame for criticism. Females statistically significantly blamed others more for social put down and criticism when compared to males *(t* (159)=2.55, *p*=.012) (see table 2). Although we had both teenagers and younger adults in our sample, the responses of teenagers were similar to college students. Both teenagers and college students acknowledge paranoid experiences that have to do with

thwarting or rejection from the social group and their means for external shame and submissive experiences at home are similar $M=20.48$, $M=11.08$ and $M=19.50$ and $M=11.00$ respectively).

TABLE 2. GENDER DIFFERENCES

Variables	Males n=42		Females n=123		t-test	p
	Mean	SD	Mean	SD		
Age	20.16	3.22	19.76	2.05	-0.93	n.s.
Schooling Status	2.80	1.74	3.02	1.54	.86	n.s.
Total GPS	45.80	10.19	43.57	9.49	-1.29	n.s.
Total SBS	21.02	7.68	21.09	9.07	0.04	n.s.
Total OAS	20.71	10.59	20.42	10.57	-0.15	n.s.
ESS - Characterological	18.61	5.27	19.65	6.04	0.99	n.s.
ESS – Behavioural	15.88	4.87	18.61	5.18	2.99	.003*
ESS – Bodily	6.50	2.79	7.92	2.70	2.92	.004*
Total ESS	41.0	11.35	46.20	11.98	2.46	.015**
SPD – Anxiety	46.65	22.82	57.93	19.89	2.92	.004*
SPD-Anger	57.16	16.65	64.80	15.13	2.75	.007*
SPD- Blame Self	35.00	17.93	41.46	17.93	1.96	.051
SPD – Blame Others	53.57	19.11	62.64	19.58	2.55	.012**
Total ELES	30.42	8.06	30.19	10.55	-0.13	n.s.
ELES – Threat	11.02	4.01	11.12	4.99	0.11	n.s.
ELES - Submissiveness	11.50	3.87	11.93	4.46	0.56	n.s.
ELES – (Un)valued	7.90	2.62	7.13	2.82	-1.54	n.s.

GPS (General Paranoia Scale; OAS (Other as Shamer Scale);

SBS (Submissive Behaviour Scale); ESS (Experience of Shame Scale);

SPD (Sensitivity to Put Down); ELES (Early Life Experiences Scale)

**p=<.05, * p=<.005

B. Experiences of Non-Clinical Paranoia:

a) Paranoia Group vs. No Paranoia Group

In the original study of the PEPS by Ellet, Lopes & Chadwick (2003) [6] of 324 students aged between 18 and 49 from two British universities 77% were women. From the total sample of 324 participants, 47% (N = 153) reported an episode of paranoid ideation that included a clear statement of intention to harm from others, 23% (N = 73) reported an experience that they themselves identified as paranoia but which did not include an explicit statement of intention to harm from others, and 30 % (N = 98) reported not having an experience of paranoia.

In our study with a Portuguese version of the PEPS from the total of 165 individuals of this sample, 123 were women, so there were much more women than men as in the original study. Furthermore from the total sample, 63.6% reported not having experiences of paranoia and paranoid beliefs (n=105), therefore they were classified as "No Paranoia" (NP); 33.3% reported experiences of paranoia and the paranoid belief that other people were *intentionally trying to harm oneself* (n=55), hence they were classified as the Paranoia Group (GP). Very few individuals were classified in the Ambiguous group (only n=5, 3%) therefore we did not find this group to be useful and relevant for statistical analysis.

We compared the Paranoia Group *versus* the No Paranoia Group using the Bootstrap method. Results first revealed that there was a statistically significant difference between the two groups concerning external shame measured by the OAS. The Paranoia Group reported much more external shame than the No Paranoia Group t (158)=-4.27, $p<.001$.

There was also a statistically significant difference but less strong than the one described before between the two groups concerning Submissive behaviours. The Paranoia Group reported more submissive behaviours than the No Paranoia Group (t (158)=-2.39, $p=.018$). Furthermore, results revealed a statistical significant difference between groups for the total score of the Experience of Shame Scale (t (158)=-3.780 $p<.001$). The Paranoia Group presented significantly more internal shame than the No Paranoia Group. Indeed, results revealed that the Paranoia Group showed statistically significantly more Characterological shame, Behavioural shame and Bodily shame than the No-Paranoia Group (t(158)=-3.82, $p<.001$; (t (158)=-2.44, $p=.018$ and t (158)=-3.459, $p=.001$ respectively). Hence results suggested that the individuals that presented non-clinical paranoid experiences showed much more shame about their characteristics, behaviours and physical appearances than those who did not present paranoia.

Results further revealed that the Paranoia Group recalled statistically significantly more childhood experiences of Threatening family environments in the ELES than the No Paranoia Group (t (158)=-2.65, $p=.009$). Indeed, results showed that the Paranoia Group recalled statistically significantly more childhood experiences of threat and especially of Submissiveness towards their parents and

relatives than the No Paranoia Group (*t* (158)= -2.07, p=.040; *t* (158)=-3.33, *p*=.001 respectively). These results suggested therefore that individuals that reported non-clinical paranoid experiences were also reporting memories of childhood experiences of threatening family environments and especially of being submissive towards perceived authoritarian parents. There were no statistically significant differences between the Paranoia Group and the No Paranoia Group concerning sensitivity to criticism and blaming style for criticisms measured by the SPD.

TABLE 3. DIFFERENCES BETWEEN THE PARANOIA GROUP VERSUS THE NO PARANOIA GROUP OF THE PEPS CONCERNING VARIABLES OF SHAME (OAS AND ESS); SENSITIVITY TO PUT DOWN (SPD) AND EARLY LIFE EXPERIENCES (ELES)

Variables	Paranoia Group n=55		No-Paranoia Group n=105		*t-test*	*p*
	Mean	SD	Mean	SD		
External Shame (OAS)	25.69	11.29	18.11	9.27	-4.27	<.001
Submission (SBS)	23.43	8.07	20.09	8.96	-2.39	.018
Character Shame (ESS)	22.10	7.07	18.05	4.69	-3.82	<.001
Behavioural Shame (ESS)	19.40	5.90	17.14	4.77	-2.44	.010
Bodily Shame (ESS)	8.67	3.17	6.98	2.42	-3.45	.001
Total ESS	50.18	13.84	42.18	10.21	-3.78	<.001
SPD- Anxiety	57.14	20.98	54.54	20.65	-0.72	.880
SPD – Anger	65.60	15.36	61.44	15.83	-1.59	.677
SPD – Blame Self	41.55	20.97	39.45	16.44	-0.68	.876
SPD-Blame Others	60.03	21.55	60.95	18.73	0.27	.978
Total ELES	33.45	10.51	28.97	9.37	-2.65	.007
Threat (ELES)	12.25	5.35	10.61	4.39	-2.07	.040
Submissiveness (ELES)	13.49	4.36	11.11	4.11	-3.33	.001
(Un)Valued (ELES)	7.70	2.81	2.23	2.76	-1.01	.699

b) Correlations between variables

Paranoia measured by the GPS is positively and statistically significantly correlated with submissive behaviour (SBS) (r=0.42, p<0.001); external shame measured by the OAS (r=0.61, p<.001); "Characterological Shame" (r=0.33, p<.001); "Behavioural Shame" (r=0.20, p<.005); "Bodily Shame" (r=0.27, p<.005) measured by the ESS; childhood memories of "Threat" (r=0.27, p<.005); "Submissiveness" (r=0.27, p<.005) and feelings of being "(Un)valued" at home measured by the ELES (r=0.18, p<.005). Hence it appears that paranoia was related to a greater extent with external shame and with submission and also to internal shame and to the recall of threatening environments at home, submissive displays at home and to feelings of being (un)valued by others. This being the case external shame, submissive behaviours and early life experiences of threat will be used later as independent variables as predictors of paranoia.

Correlations also revealed that the variables of ranking presented strong and statistically significant associations between them. External shame measured by the OAS correlated positively and statistically significantly with submissive behaviours (SBS) (r=0.68, p<.001); with all the dimensions of internal shame: "Characterological Shame" (r=0.66, p<.001); "Behavioural Shame" (r=0.46, p<.005); "Bodily Shame" (r=0.44, p<.001) and less significantly with the dimensions of the ELES concerning childhood memories of "Threat" (r=0.22, p<.005); "Submissiveness" (r=0.37, p<.005) and with feeling "(Un)valued" at home (r=0.19, p<.005) and with a tendency to "Blame self" for put downs (SPD) (r=0.31, p<.005).

Hence, results suggested that external shame is associated to a greater extent to submissive behaviours and to internal shame and this was to be expected since all of these are variables are concerned with ranking and social position. Moreover, external shame was also related to childhood memories of threatening family environments, especially of being submissive towards parents and to an attributional style characterized by blaming oneself for negative events.

c) Prediction of Paranoia with the LASSO Model

We did a linear regression to analyse the contribution of variables of ranking such as external shame (OAS), submissive behaviours (SBS), and the recall of childhood threatening family environments and submissive behaviours (ELES) in predicting paranoia (GPS). We opted to use the LASSO shrinkage and selection method because we intended to minimise the usual sum of squared errors with a bound on the sum of the absolute values of the coefficients. Since our study had several independent variables that presented strong correlations between them (i.e. collinear) and a relatively small sample, the LASSO was a reliable method for prediction of variation by reducing the number of variables upon which the given solution is dependent.

To assess the contribution of the recall of childhood experiences of a threatening environment at home, the dimensions of "Threat", "Submissiveness "and "(Un)valued" of the ELES were entered first; then the variables of ranking: External shame (OAS) and Submissive behaviours (SBS) and finally the variables of an attributional style for criticism: "Blame self vs. Blame others" for criticisms (SPD). The linear regression with the LASSO model was specified as numerical and optimal scaling. This model presented a multiple R of .526 ; a R^2 = .277 with a Regulation R^2 error of .219. The linear regression was statistically significant F (2,164)=22.71,

p<.001. External shame (OAS) from all the predictors in the model, was the only statistically significant predictor of paranoia $F(1, 164)=10.58$ p=.00, presenting a β=0.25 with a bootstrap estimate of error of .076. Results thus suggested that external shame predicted about 25% of the variance of paranoia. Results also revealed that childhood memories of "Submissiveness" had an effect on the prediction of paranoia, but this was not strong enough to reach statistical significance $F(1, 164)=1.49$, p=.22) (β=.079 with a bootstrap estimate of error of .065). This meant that external shame was the only significant predictor of paranoia, and that childhood memories of "Submissiveness"also aided to the prediction of paranoia.. All the other variables were not predictors of the variance of paranoia.

A further linear regression analysis explored the relationship between childhood experiences of threat and shame. We inputted the dimensions of childhood memories of threat, submissiveness and (un)valued of the (ELES) as independent variables and the model revealed that external shame was only statistically significantly predicted by childhood experiences of submissiveness (t=4.12, p<.001) but not of threat in the family environment (t=-.31, p=.75). Indeed, childhood experiences of submissiveness accounted for roughly 95% of the variance of external shame. This suggested that individuals that presented childhood experiences of being submissive towards their parents were more likely to show external shame and hence they are likely to develop paranoia.
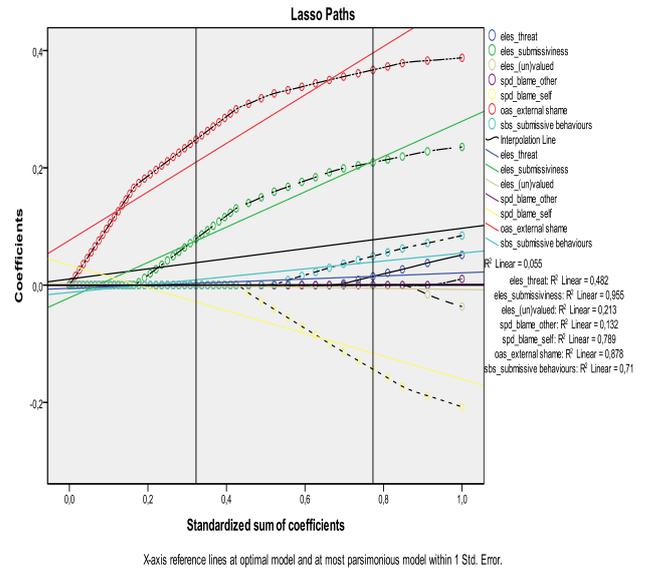

Figure 1. Lasso Paths with External Shames (OAS), "Threat" "Submissiveness" and (U)valued dimensions of Childhood memories of threatening family environment (ELES) and Internal Shame (ESS) and Blame for Criticisms (SPD) as predictors of paranoia

Table 4. Regression Analysis with the LASSO model for paranoia (dependent variable) and external shame (OAS); submission (SBS); childhood memories of "Threat", "Submissiveness" and "(un)valued" at home (ELES), and Blame self vs. Blame Others for criticisms (SPD) as predictors

Predictors	Standardized Coefficients□	Bootstrap Estimate Error	F	p
External shame (OAS)	.248	.076	10.58	.001
Submissive Behaviours (SBS)	.000	.035	.000	
"Threat" (ELES)	.000	.016	.000	
"Submissiveness" (ELES)	.079	.065	1.496	.223
"(Un)Valued" (ELES)	.000	.006	.000	
Blame_Self_SPD	.000	.010	.000	
Blame_Others_SPD	.000	.005	.000	

IV. DISCUSSION

One of the hypothesis of this study predicted that the experiences of paranoia in a sample of Portuguese students will be similar to the experiences reported by an UK sample of college students. To test for this we compared the acknowledgement and report of paranoid experiences of a sample of Portuguese students with English students. Our results found that 33.3% Portuguese students (n=55) from a total of 165 reported having an experience of paranoia in the PEPS while 47% English students from a total of 324 reported having an experience of paranoia in the PEPS [6]. Results of an English sample and a Portuguese sample of students were therefore very similar thus supporting our hypothesis; both showed that there is a group that is moderately high of young students that clearly experience paranoia. The English paranoid group was slightly bigger than the Portuguese paranoid group but then the sample of the original study was also bigger than the sample of this study. The only difference between the two samples was that the English sample presented much more individuals that were classified in the Ambiguous group; this can be explained by the fact that this sample was larger than the Portuguese sample, so it could easily encapsulate a wide variety of individuals including the ones that presented other types of psychological problems. Nevertheless, both samples were normally distributed, which meant that they were not skewed towards the abnormal end. Independent sample t-tests further revealed that the paranoid group showed statistically significantly more both external and internal shame (shame of one's character, behaviour and body) as well as much more childhood experiences of threatening family environments and of submissiveness towards family members. This results thus support social mentality theory that argues that paranoia is associated not only with forms of shame but with experiences of threat in childhood [1,19].

All in all, it can be argued that experiences and thoughts of paranoia bearing the belief of a clear intention of harm

from others are common experiences in students in spite of their nationality and cultural background and these experiences seem to be associated with forms of internal and external shame and with childhood experiences of threat in the family.

The second hypothesis predicted that paranoia should be predicted by external shame and threatening experiences in childhood, namely submissiveness towards parents. Results partially supported this hypothesis. We found that in a sample of 165 students Paranoia is best explained by external shame (shame of what others think of us). Also there is the influence although not significant of childhood memories of submissiveness towards parents in paranoia. This may be the result of a small sample size and of this variable presenting high multi-colinearity with other variables such as memories of threatening family environments that made it lose statistical power in the prediction.

Hence results suggested that preoccupation with how one "looks like" in the mind of others i.e. the shame that is associated to what others think about you is a main factor for paranoia. Being ashamed of what we think other people think of us is a key feature of paranoia and depression [1, 19]. This result brings important theoretical and practical implications. If shame is an important factor for the development and maintenance of a stable self-concept and is regulating behaviours towards others, then these feelings need to be tackled so that the onset of paranoia and resentment is prevented. It seems that shame activates memories of trauma, loss of lovability and feelings of inadequacy that are associated with a feeling of powerlessness and the fear of what others did or are going to do to oneself [2]. According to social mentalities' evolutionary theory, shame is the direct result of interpersonal sensitivities and of how we conceptualise ourselves in the mind of others [1]. Feeling exacerbated shame will trigger painful memories and feelings of inadequacy and these will in turn trigger paranoid feelings as a way of explaining shame and defending against potential harm. In other words, when an individual recalls a shameful experience where he felt undermined and teased by others he would trigger paranoid thoughts "e.g. other people are not to be trusted as they will hurt me" as a way of coping with shame and protecting the self against feelings of inadequacy. Social put downs and criticisms that lead to shame are a direct threat to the self hence paranoia may be a way of coping with these [1]. However, when there is an exaggerated worry about how we look in the mind of others and preoccupation with how we present ourselves to others this will eventually lead to feelings of resentment and paranoia, not only as a way of coping with these feelings but as a way of justifying any attacks towards the self that led to shameful experiences. Since these experiences of shame seem to be quite common in students, preventive measures could be taken to teach students to deal with these experiences and manage feelings of anger and resentment, thus avoiding the onset of non-clinical paranoia. For example students could learn how to accept feelings of shame and dissociate these feelings from beliefs of malevolence from others.

Further results highlighted the importance of shame and the experience of threatening environments in childhood to the understanding of non-clinical paranoia. A linear regression analysis showed that childhood memories of submissiveness towards family members statistically significantly explained the variance of external shame. Thus, this suggested that individuals behaved submissively towards their parents were more likely to show external shame. These results support our hypotheses and fit rather well with social mentality theory, especially with the argument that children-parents relationships are power relationships [1,8].Children who feel that they were subordinated within their families and are afraid of being rejected by their parents develop therefore a range of emotional and psychological problems, including paranoia[8]. Indeed children that perceive their parents as authoritarian and as a potential source of harm to themselves tend to behave submissively in order to avoid conflict. This behaviour is associated to the development of shame and preoccupation with what significant others think of us (if they perceive us as defective, inferior and incapable). This excessive preoccupation with what other people think about us is therefore an important component of paranoid ideation [1].

Since this study was cross-sectional we cannot argue however that having experiences in childhood that are potentially threatening, emotionally disrupting and dis empowering are antecedents to the development of paranoid beliefs. We can only state that both phenomena are related. Nevertheless, the experience of those traumatic experiences seem to shape one's behaviours and to be related to paranoid thoughts as a way to cope with other's perceived hostility, rejection and criticisms from others.

V. CONCLUSIONS

People with paranoid beliefs appear to live in a hostile, rather cold world, where a certain kind of affiliative emotion both from others and within the self may be constricted [5]. Our study wanted to explore whether paranoia is a common experience for Portuguese students and whether this can be explained by feelings of external shame and submissiveness. Our results supported our hypotheses. Paranoia seems to be a very common experience and an interpersonal phenomenon that is highly related to feelings of struggle for power and status in a social hierarchy which leads to the shame of what others think of us and to a self-critical style for the put down and rejection of others in the social arena. Paranoia may be the result of experiences of being submissive in childhood and attempting to defend oneself against others in adulthood by trying to hide perceived character flaws protecting the self against feelings of inadequacy [1,19].

A. Limitations and Clinical and Research Implications:

There are major concerns in extrapolating from a student (young and predominantly female), small sample to a clinical one. Having a sample that is predominantly female may have biased the results especially in terms of the effects of shame; however, we did not find significant differences

between females and males for external shame, which is the key variable in predicting paranoia or in trait paranoia. Another issue may have been the accuracy of the translation, sometimes even when the translation is accurate; there are cultural differences that may have influenced the responses. Nevertheless translated instruments provided good internal consistency and our sample did not have any questions concerning the statements and the feedback confirmed the accuracy of the translation. The results also suggested that paranoia is very much perceived under the light of a Western system of values and symbols and is not specific to a particular culture. The feelings of paranoia reported by the Portuguese sample tap into issues of social rejection and thwarting that are also observed in the UK. The same goes for early childhood experiences of threat at home. Another concern may have been the age differences in our sample. Some participants were teenagers and others were college students and this may have influenced their understanding and report of experiences. However we didn't observe any difference between the teenage sample and the college sample on the report of experiences of paranoia and shame or submissiveness during childhood. There were also major concerns with the way persecutory and paranoid beliefs are measured [20] however, this was the first study to our knowledge to show that paranoid beliefs are associated with external shame and with the recall of feelings of submission within one's family.

This study brings important clinical implications. For example, the clinical history of traumatic experiences of patients should be studied and individuals should be empowered and taught social skills in order not to maintain paranoid beliefs about others as a way to deal with their childhood experiences, criticisms and rejection from others and feelings of shame. Our results suggested therefore the importance of compassionate mind training to soothe one's negative views about oneself and others and to deactivate emotional memories of mistreatment from others as a preventive measure of paranoia and excessive shame in non-clinical populations [3,4]. Moreover preventive measures can be taken to promote student's well-being. Identifying experiences of shame and teaching students to deal with those experiences without developing paranoia will promote students' psychological well-being and self-efficacy.

Furthermore, in terms of research it would be interesting to examine in another study the type of attachment that paranoid individuals from the normal population show in relation to their parents. Indeed, we only examined retrospective experiences of threatening environments, thus feelings of being in a threatening environment and not really how the individual did relate to their parents. Thus we propose to examine paranoid individuals' negative relationships with their parents and their experiences of neglect and insecure attachment with their parents.

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