

Brexit Psychology and Personality:
Project Fear or Project Anxiety?

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Abstract

We examined the sociodemographic and personality factors associated with three variables related to the Brexit referendum on 23rd June 2016: actual vote, intended second vote, and satisfaction with the outcome. In a sample of 255 respondents, we applied individual differences factors from the neuropsychologically-based reinforcement sensitivity theory (RST) of personality and controlled for income comfortability, gender, age, and qualification level. We found that higher scores on the Behavioural Inhibition System (BIS) were related to voting Remain, the intention to vote Remain if a second referendum were called, and lower satisfaction with the outcome of the Referendum. There was also a trend for those scoring higher on a Fight factor of personality to have voted Leave, which was reflected in the second vote intention. In terms of feelings about the outcome of the referendum, less qualified respondents were most satisfied. We consider whether these personality associations served a causal or consequential role; in any event, our results suggest that personality is relevant to understanding the psychology of political debate and behaviour. We conclude that, as BIS-related anxiety and not Fight-Flight-Freeze (FFFS) related fear were statistically significant, “Project Anxiety” seems a more appropriate term than “Project Fear” to characterise the Brexit debate.

Introduction

Few national votes have the power to change the course of history and initiate a tumultuous period of uncertainty and debate. The referendum on Britain's future role in the European Union (EU) is one, very rare, such occasion. On Thursday 23rd June, 2016, the electorate voted (51.9%) in favour of withdrawing from the EU and, whatever the outcome, the political and economic fallout will continue for many years to come. Such is the contentious nature of Brexit – a portmanteau of 'British exit' – it has not only divided the nation but has also caused rifts in families and among friends. Little else in national political debate has proved so divisive.

There is now a fast growing literature on the political, sociological and public policy implications of Brexit (e.g., Jensen & Snaith, 2016; Oliver, 2016) and there has been much speculation regarding the demographics of Remain and Leave voters. It is generally accepted that younger people were more in favour of Remain, and it has also been speculated that less educated and those socioeconomically disadvantaged were more inclined to favour Leave. But, there is little data on these points and even less of a psychologically informative nature. In particular, virtually nothing has been produced on the relationship between personality and voting preference. However, there are good reasons for thinking personality factors are relevant. The purpose of this article is to throw light on this matter (for general comments on Brexit, see Supplementary Material).

Personality and Brexit

Of direct relevance to the personality of Brexit voters, there is some *aggregate* evidence, which associates regional differences in personality with Brexit voting, to support the view that Leave voters were less educated and also older than Remain voters, and even perhaps less open-minded (see BBC, 2016; Jaeger, 2016; Rentfrow, Jokela & Lamb, 2015). But, aggregate data can be only circumstantial evidence, at best.

The putative role of personality is further supported by Bakker and de Vreese (2016) who found that attitudes towards the EU are, at least to some extent, associated with Big Five personality traits, suggesting that an analysis of personality may further our understanding of citizens' support

of the EU (or lack thereof) in the referendum. What is missing in the literature is the direct study of the role personality played in Brexit at the *individual* level of analysis: relating personality scores to actual voting behaviour, second vote intention, and satisfaction with the outcome – these are three measures of interest in our study. In these respects, a number of psychological factors stand out as being relevant.

Fear and anxiety

There are important differences between fear and anxiety: they are functionally, behaviourally and pharmacologically distinct (Corr & McNaughton, 2012). This has now come to be seen to be crucial to understanding a range of behaviours, especially clinical disorder (McNaughton & Corr, 2016) but also everyday ones (e.g., occupational behaviour; Corr, McNaughton, Wilson, Burch & Poropat, 2017). In particular, anxiety is concerned with future-oriented concerns, worry and rumination, along with the subjective feeling that something bad may happen. In anticipation of the results of this study, it is possible that Brexit “Project Fear” should be more appropriately called “Project Anxiety”.

Approach and Avoidance Personality Factors

Unlike personality more generally (Lewis, 2016), individual differences in basic systems of emotion and motivation in political behaviour have not been extensively investigated; indeed, little if any work has been conducted and, in consequence, there is a paucity of knowledge. This state of affairs is nowhere more apparent than in relation to one major neuropsychological model of personality, namely the reinforcement sensitivity theory (RST) of personality (Gray & McNaughton, 2000; Corr & McNaughton, 2012; for a review of this literature, see Corr, 2008).

The RST of personality proposes three principal systems: one incentive motivation system, the *Behavioural Approach System* (BAS); and two defensive systems, the *Fight-Flight-Freeze System* (FFFS) and the *Behavioural Inhibition System* (BIS). The FFFS mediates reaction to immediate threat, and is related to the emotion of fear, while the BIS mediates reactions in the face of goal-conflict, and is related to the emotion of anxiety. In terms of measurement, the most

comprehensive model is the Reinforcement Sensitivity Theory Personality Questionnaire (RST-PQ; Corr & Cooper, 2016) which contains separate measures for the BIS and FFFS, as well as four BAS factors: Reward Interest (concerned with initial exploration of potentially rewarding stimuli, places, people, and so on; this is a ‘wanting’ factor); Goal-Drive Persistence (concerned with pursuing goals in the absence of immediate reinforcement and showing general drive in behaviour; this is a ‘striving factor’); Reward Reactivity (getting a thrill from receiving a reward, e.g., being praised; this is ‘incentive motivation’); and Impulsivity (nonplanning and rapid behaviour; this is a ‘liking’ factor) – in addition, there is a defensive Fight factor. (This literature is discussed further by Krupić, Corr, Ručević, Krizanić, & Gračanin, 2016; Krupić, Gračanin & Corr, 2016.)

Predictions

Contrary to the stress on “Project Fear” in the Brexit debate, we predict a role for BIS/anxiety, which we expect to find in addition to Remain voters being younger and holding higher qualifications. For added insight, we examined three variables: actual Brexit vote, intention to vote if a second referendum were called, and satisfaction with the outcome of the referendum vote. In particular, this allowed an examination of post voting behaviour and future intentions. The strategy of pitting FFFS-fear and BIS-anxiety against each other allowed the teasing apart of their putative separate functional roles. In addition, for completeness and exploratory analyses, we included the four BAS scales as well as the fight scale.

Method

Participants

Two hundred and fifty-five respondents (130 males, 125 females) were recruited online through Prolific Academic in early August 2016 and paid £2.67. To access the study from the Prolific Academic platform, respondents were provided with a link which directed them to Qualtrics, a secure online survey website. The final sample age ranged from 18 to 73 years old ($M = 36.66$; $SD = 12.43$). Although all respondents were eligible to vote in the EU referendum held in the UK the 23rd of June, 2016, 229 voted while 26 did not.

Ethics approval was granted by the Department of Psychology, City, University of London.

Demographic and Sociodemographic Variables

Initial newspaper reports after the referendum suggested that socioeconomic differences could largely predict voting preference and behaviour. We, therefore, included a number of indices of sociodemographic status in our analysis: income comfortability, gender, age and level of qualification - this is especially important as level of qualification and economic wellbeing are typically conflated, and these variables may well be conflated with personality scores.

Highest qualification: This was coded: 0 = none or GCSE (n = 26, 10%); 1 = A levels (n = 67, 26%); 2 = undergraduate degree (n = 114, 45%); 3 = Masters degree (n = 31, 12%); 4 = advanced degree, e.g. PhD (n = 9, 3.5%). (Missing data: n = 7, 3%.)

Income comfortability: Respondents had to indicate which of the following descriptions came closest to how they felt about their income: (1) Living comfortably on present income (n = 81, 32%); (2) coping on present income (n = 126, 50%); (3) difficult on present income (n = 32, 12.5%); (4) very difficult on present income (n = 14, 5.5%). (Missing data: n = 2, 1%.) This measure can be found in the European Social Survey (European Social Survey 2016), and reflects respondents' self-assessed financial situation rather than their actual income. With respect to the referendum, respondents' perception of their economic situation may matter more than their absolute income. For instance, studies have repeatedly shown that relative rather than absolute income matters most for subjective well-being (and thus maybe also for voting behaviour) due to social comparison (e.g., Easterlin, 201; Frank 1997).

Voting Measures

Three dependent variables were included.

Actual Brexit vote: Refers to how respondents voted in the EU referendum on 23rd June 2016 (Remain: n = 137, 54%; Leave: n = 88, 34.5%; prefer not to say: n = 4, 1.6%; did not vote: n = 26, 10.2% - coded 0 for Remain and 1 for Leave). In addition, we asked respondents to indicate the reason for their voting preferences (these validation qualitative responses are not presented in this

paper).

Second vote intention: How respondents would vote if a second EU referendum were held tomorrow (Remain: n = 149, 58%; Leave: n = 85, 33%; missing: n = 21, 8%). Of those who voted Remain, only two said they would change their vote to Leave; and only five who voted Leave would change their vote to Remain.

Satisfaction: “I am satisfied with the final result of the EU referendum”. There were seven categories, ranging from ‘not at all (1) to ‘a great deal’ (7).

Personality Measures

Reinforcement Sensitivity Theory of Personality (RST-PQ)

A short form of the RST-PQ questionnaire (Corr & Cooper, 2016) was used to measure personality traits. The items in this short form were selected as the highest loading ones on the long form (Corr & Cooper, 2016), ensuring that there was an adequate sampling of the psychological space for each construct. Respondents were asked how accurately each statement described them and responded on a scale from 1 (*not at all*) to 8 (*highly*).

This 18-item short-form RST-PQ measured three major systems. *Fight/Flight/Fear System* (FFFS) (4 items: “I would run fast if I knew someone was following me late at night”; “I would not hold a snake or spider”; “I am the sort of person who easily freezes-up when scared”; “I would instantly freeze if I opened the door to find a stranger in the houses”). *Behavioural Inhibition System* (BIS) (4 items: “When nervous, I find it hard to say the right words”; “I worry a lot”; “I am often preoccupied with unpleasant thoughts”; “I sometimes feel ‘blue’ for no good reason”). Four *Behavioural Approach System* (BAS) factors were measured. Reward Interest (2 items: “I am always finding new and interesting things to do”; “I regularly try new activities just to see if I enjoy them”). Goal-Drive Persistence (2 items: “I feel driven to succeed in my chosen career”; “I will actively put plans in place to accomplish goals in my life”). Reward Reactivity (2 items: “I get a special thrill when I am praised for something I’ve done well”; “I get very excited when I get what I want”). Impulsivity (2 items: “I find myself doing things on the spur of the moment”; “I often do

risky things without thinking of the consequences”). A measure of Fight was also included (2 items: “If I feel threatened I will fight back”; “I would not tolerate bullying behavior towards me”).

Results

Descriptive and correlational statistics for the personality variables are shown in Table 1 – RST-PQ correlations are broadly consistent with past research (Corr & Cooper, 2016). In order to test our hypotheses, we started by computing a two-step hierarchical binary logistic regression model for the vote variable and the second vote intention (Remain coded 0, Leave coded 1). At Step 1, we entered sociodemographic variables (i.e., income comfortability, qualification, age and gender). In Step 2, we entered the RST-PQ personality factors. This procedure allowed us to examine in a systematic manner the incremental validity of each set of discrete variables.

Brexit (Actual) Vote

The detailed binary logistic regression is shown in Table 2. The final model was significant $\chi^2(11) = 21.87, p < .05$ (Nagelkerke pseudo $R^2 = 0.13$), comprising one significant predictor: BIS ($B = -.17, Wald = 8.21, p < .01$). There was also a marginal effect for RST-PQ Fight ($B = .22, Wald = 3.10, p = .08$), indicating that respondents higher on this scale were more likely to have voted Leave. There was a weak association ($p = .10$) for Goal-Drive Persistence showing that higher scorers on this personality factor were more likely to have voted Remain. Age and level of qualification did not even approach statistical significance.

Brexit (Second Intention) Vote

The detailed binary logistic regression is shown in Table 3. The final model was significant $\chi^2(11) = 22.55, p < .05$ (Nagelkerke pseudo $R^2 = 0.13$), comprising one formally significant predictor: BIS ($B = -.12, Wald = 4.29, p < .05$). At best, there was weak evidence that older people would prefer Leave in a second vote, and there was a weak association with Fight, indicating that higher scores favoured Leave.

Satisfaction with Referendum Outcome

A hierarchical multiple regression was computed using the same entry structure as for the hierarchical binary logistic regression. As can be seen (Table 4), the Step 1 model was statistically significant, $F(4,241) = 2.69, p < .05$ (adjusted $R^2 = .03$), with Age ($\beta = .15, p < .05$) and Qualification significant ($\beta = -.15, p < .05$) significant, indicating that older and less qualified people were most satisfied with the outcome. Step 2 model was formally significant, $F(11,234) = 2.33, p < .01$ (adjusted $R^2 = .06$), with Qualification remaining significant ($\beta = -.14, p < .05$) but not Age significant ($\beta = .73, p > .10$), and an addition predictor: BIS significant ($\beta = -.17, p < .05$), showing that, in addition to higher qualified people being less satisfied with the outcome, so too were those higher on the BIS. Reflecting the weak association between actual voting and Goal-Drive Persistence noted above, those higher on this personality factor were less satisfied with the outcome of the referendum although this was, once again, a weak association ($p = .11$).

We conducted separate analysis for Remain and Leave voters (see Supplementary Material).

Discussion

Our results provide an intriguing picture of actual Brexit voting, second vote intention, and satisfaction with the outcome of the referendum. The most consistent finding was that, across all three measures, the personality factor of the Behavioural Inhibition System (BIS) was significant. Higher scores were related: to Remain actual vote; the intention to vote Remain if a second vote were called; and lower satisfaction with the outcome. The measure of the Fight-Flight-Freeze System (FFFS), which is related to fear, was not significant in any of the analyses. These findings suggest that, in psychological terms, the characterisation of the Brexit debate as “Project Fear” should be more appropriately termed “Project Anxiety”.

The personality measure of Fight was significant at less than the ten percent level, for both the actual vote and the intended second vote, suggesting that there was a higher degree of combative defensive orientation among those who voted, and would again vote, Leave – this accords with the general sentiment that anger among Leave voters with the political (“liberal”)

establishment, as represented by the EU, played a part in the referendum outcome, as it may also have done in the USA Presidential Election in November, 2016, with election of Donald Trump.

In contrast to this set of consistent BIS findings, the sociodemographic variables were of less importance, and were not significant for either of the voting variables. In terms of actual vote and intended second vote, gender, income comfortability and qualification were not significant, and evidence that older people favoured Leave was weak at best. Upon reflection, this outcome is not surprising, but it challenges the popular characterisations of Remain and Leave votes – we must assume that there is considerable heterogeneity in the reasons why people form political voting preference. Level of qualification was significant for the satisfaction variables, showing that higher levels of qualification were associated with lower levels of satisfaction with the outcome of the EU referendum. There was weaker evidence that older respondents favoured Leave if there were a second vote, and they were more satisfied with the outcome. A more detailed picture emerged when the multiple regression for satisfaction was broken down by voting category (see Supplementary Material). Even among the actual Remain voters, those who were older and more comfortable with their income were most satisfied with the referendum result.

Interpretation of BIS Findings

BIS findings were consistent with predictions. But, given the fact that our data were correlational, they are open to two possible interpretations. First, we might assume that preexisting differences in the BIS led to people voting the way they did – the same cannot be said for sociodemographic variables which, assuming self-report of them is adequate, would not change immediately following the result. Several considerations are germane here. Now, it is a possibility that the outcome of the vote, or the act of voting, led to an alteration of personality (i.e., individuals might feel more anxiety after the vote). Although we cannot formally rule out this possibility, for several reasons this would seem unlikely.

One reason is that personality traits, as opposed to states, are temporally stable and should not be expected to change because of such an event (Roberts, Wood, & Caspi, 2008), although there

is evidence of change over the course of a lifetime (Specht, Egloff, & Schmukle, 2011). Secondly, even if we assumed this was the case for the actual vote variable, it would not easily account for the association between the BIS and second vote intention. However, assuming that BIS scores were altered by the referendum, and by all the associated hullabaloo, this would seem to imply that high BIS scorers would tend to switch from Leave to Remain, as measured by the second vote intention. In our sample, very few respondents changed their voting preference suggesting that post-vote regret is not a major factor – indeed, more stated they would move from Remain to Leave than vice versa.

Given the construct nature of the BIS within the neuropsychological framework of the reinforcement sensitivity theory (RST) of personality, our preferred interpretation is that preexisting BIS individual differences exerted a causal influence on actual voting, as well as second vote intention and satisfaction with the referendum outcome. In terms of interpretation, the BIS findings make theoretical sense as it is a personality factor related to the detection of goal conflict, ambiguity aversion and potential loss. Once activated it outputs risk assessment, rumination and solutions to resolve the aversive goal conflict. In terms of the Brexit referendum, voting to Remain serves this purpose well. This seems theoretically able to explain the significant associations found. In contrast, the fear-related FFFS was not significant and this, too, makes sense: the FFFS is not about future uncertainty, but here-and-now danger which need only be avoided/escaped. But, as noted by Corr (2016): “Fear can lead to complex behaviour – it was designed by evolution to keep us out of harm’s way. When we are in a state of fear we assume one of three defensive postures: *fight, flight and freeze*. Voters may be angry about things (fight), especially when asked by a pollster, but on the day of the vote they may take flight (decide they are too busy to vote by distracting themselves) or freezing (staying at home). These last two defensive reactions are what we sometimes see as ‘switching-off’.” This may be one reason to account for the relative low turnout by younger people, and a study which compared those who voted with those who did not might show an effect of FFFS-fear.

Whatever the preferred interpretation, we found evidence that the BIS is related to political behaviour, and this remains true even if we assume that the associations we found were a consequence of the referendum vote and its psychological aftermath.

Limitations

Our sample was not intended to be a stratified representation of the UK voting population; we aimed to have an adequate sample of people who voted Remain and Leave sufficient to explore the psychological dynamics of their voting behaviour and post-vote reactions. The fact that age and level of qualification turned out to be important (especially for the satisfaction measure) adds support to the claim that our sample was representative enough of the voting population to allow exploration of personality associations. Specifically, analyses of the sociodemographic variables allowed us to test whether personality associations were truly unique and not merely proxies for them. We had a fair distribution of Remain and Leave voters, but our sample was predominantly young, although with sufficient variance for Age to emerge as a significant predictor. Of course, it can always be said that a large sample, which is more representative of the general population might show a different pattern of associations; but, even assuming this were true, it would be difficult to account for the personality associations found.

Our data relied upon self-report, which in the case of actual voting it must, as indeed it must for second vote intention and satisfaction with outcome. It is possible, of course, that people did not report their actual vote, but this is highly unlikely: not only did they have no motivation to dissimulate, they provided qualitative responses which supported their stated voting behaviour.

Another caveat that must accompany any interpretation of our data are the relatively modest effect sizes; however, the ones for the BIS should be seen against the much weaker (and non-significant) effects for most of the sociodemographic variables. In addition, the use of a short form of the RST-PQ probably also contributed to the lower effect sizes as the (inevitably lower) internal consistencies of these scales are not as high as for the full scales.

Conclusions

Taking proper account of the above caveats, our results support the hypothesis that the personality factor of the BIS relates to Brexit voting, second voting intention, and satisfaction with the outcome of the referendum. The consistency of these associations was notable, suggesting the same psychological dynamics prevail for the three dependent measures. Our expectation of the BIS was based on its theoretical nature as a goal-conflict detection system with motivational and emotional components. Someone who is ambiguity and risk averse, and who has a stronger tendency to ruminate and worry about the bad things that may happen in life (e.g., the economic aftermath of a Leave vote) can easily attempt to resolve this goal-conflict by voting Remain, intending to vote Remain if there were a second vote, and feeling dissatisfied with the outcome of the referendum. We should, indeed, expect such a person to score higher on the BIS personality factor. We conclude that, alongside the analysis of sociodemographic variables, consideration of *fundamental* systems of personality yields psychological insights into important political preference and behaviour – this is something that has been long suspected, but to date it has not played a prominent role in scientific or public policy debate.

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Table 1. Pearson product-moment correlations for age and personality factors (upper diagonal = Remain voters; lower diagonal = Leave voters). Cronbach's Alpha scores on diagonal (bold).

	2	3	4	5	6
7	8	9			
1. Age	-.13	-.11	.30**	-.02	0.03
-.23**	-.20*	.02			
2. Gender	--	-.25**	-.07	-.01	-.02
-.24**	.09	.14			
3. FFFS	-.33**	0.63	.35**	-.05	-.01
.32**	.02	-.19*			
4. BIS	-.14	.46**	0.79	-.12	-.11
.17*	.11	-.16			
5. BAS-RI	-.13	-.04	-.14	0.78	.47**
.22**	.40**	.33**			
6. BAS: DGP	.01	.04	-.12	.61**	0.72
.29**	.23**	.42**			
7. BAS-RR	-.10	.22*	.26*	.38**	.37**
0.66	.23**	.25**			
8. BAS-Imp	.22*	-.02	.10	.20	.21*
.33**	0.69	.31**			
9. Fight	.51	-.09	-.22*	.15	.21*
.33**	.02	0.60			
Mean	--	10.09	10.11	4.83	5.36
6.04	4.05	6.01			
SD	--	2.82	3.13	1.55	1.61
1.40	1.53	1.40			
Min-Max	--	4-16	2-8	2-8	2-8
2-8	2-8	2-8			

Note: * $p < 0.05$; ** $p < 0.01$.

FFFS – Fight-Flight-Freeze System; BIS – Behavioural Inhibition System; BAS = Behavioural Approach System; RI – Reward Interest; GDP = Goal-Drive Persistence; RR – Reward reactivity; Imp = Impulsivity.

Table 2. Hierarchical binary logistic regression for Brexit (Actual) Vote (unstandardised B coefficients shown)

Predictors	Step	
	1: Sociodemographic	2: RST-PQ
Income Comfortability	.02	.12
Qualification	-.19	-.15
Age	.01	-.01
Gender	-.07	.17
Step 1 Model: $\chi^2(4) = 2.73, p > .10$ (Nagelkerke pseudo $R^2 = .02$)		
FFFS		-.04
BIS		-.17***
BAS-RI		.02
BAS-GDP		-.19*
BAS-RR		.03
BAS-Imp		-.02
Fight		.22*
Step 2 Model: $\chi^2(11) = 21.85, p < .05$ (Nagelkerke pseudo $R^2 = .13$)		

$p = * < .10, ** < .05, *** < .01$

FFFS – Fight-Flight-Freeze System; BIS – Behavioural Inhibition System; BAS = Behavioural Approach System; RI – Reward Interest; GDP = Goal-Drive Persistence; RR – Reward reactivity; Imp = Impulsivity.

Table 3. Hierarchical binary logistic regression for Brexit (Intended Second) Vote (unstandardised B coefficients shown)

Predictors	Step	
	1: Sociodemographic	2: RST-PQ
Income Comfortability	-.04	.06
Qualification	-.23	-.22

Age	.02**	.01
Gender	-.22	-.07

Step 1 Model: $\chi^2(4) = 7.20, p > .10$ (Nagelkerke pseudo $R^2 = .04$)

FFFS		-.07
BIS		-.12**
BAS-RI		-.03
BAS-GDP		-.14
BAS-RR		.04
BAS-Imp		.07
Fight		.20*

Step 2 Model: $\chi^2(11) = 22.55, p < .05$ (Nagelkerke pseudo $R^2 = .13$)

 $p = * < .10, ** < .05, *** < .01$

FFFS – Fight-Flight-Freeze System; BIS – Behavioural Inhibition System; BAS = Behavioural Approach System; RI – Reward Interest; GDP = Goal-Drive Persistence; RR – Reward reactivity; Imp = Impulsivity.

Table 4. Hierarchical multiple regression for Satisfaction with EU Referendum Outcome (unstandardized B coefficients shown; standardised beta coefficients for significant associations are given in the text)

Predictors	Step	
	1: Sociodemographic	2: RST-PQ
-		
Income Comfortability	-.17	-.09
Qualification	-.37**	-.34**
Age	.03**	.01
Gender	.18	-.14
Step 1 Model: $F(4,242) = 2.96, p < .05$ (adjusted $R^2 = .03$)		
FFFS		-.06
BIS		-.13**
BAS-RI		.05
BAS-GDP		-.18
BAS-RR		.02

BAS-Imp	.03
Fight	.17

Step 2 Model: $F(11,234) = 2.33, p < .01$ (adjusted $R^2 = .06$)

$p = * < .10, ** < .05, *** < .01$

FFFS – Fight-Flight-Freeze System; BIS – Behavioural Inhibition System; BAS = Behavioural Approach System; RI – Reward Interest; GDP = Goal-Drive Persistence; RR – Reward reactivity; Imp = Impulsivity.

Supplementary Material

As pointed out by Bergman and Lakhdhir (2016, p. 1), even though there has been much written about the possible consequences of Brexit for the economy (e.g., the value of Sterling), “There is little consensus among economists on what the impact of the drop in the pound means for the UK economy” (e.g., driving up the cost of imports and adding to inflation). Indeed, there is much uncertainty: some speculate that a fall in the value of the pound may well be positive by making British exports cheaper and, therefore more attractive to foreign buyers. As Bergman and Lakhdhir added, “No one can know with certainty where any of this is heading” - indeed, as they went on to note: “Many of the implications of Brexit are in the realm of speculation” (Bergman & Lakhdhir, 2016, p. 1). If experts cannot decide on the consequences of Brexit, how is the Average Jo(anne) to make sense of (invariably complex) economic phenomena and uncertainty. It may be for this reason that, as asserted in the ESRC’s journal, *Society Now*, during the campaign there was an “explicit rejection of expert advice” and an apparent eschewal of “data”, “facts” and “research” (Flinders 2016, p.15). It is no coincidence that the Oxford Dictionaries Word of the Year 2016 is *post-truth*, which “refers to circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief” (Oxford Dictionaries, 2016).

Given that the referendum vote was emotionally, as well as intellectually, challenging, it might be supposed that measures of personality would exert *some* influence. In support of this notion, writing in *The Guardian*, Molly Crockett (2016), a neuroscientist at Oxford University, noted that part of the decision to Leave was a desire to express frustration, reflecting economic self-interest, but upon sober reflection, “Sadly, some Leave voters are now regretting their decisions. While the emotional benefits of self-expression are immediate, they may be short-lived; meanwhile, the economic and social costs of Brexit will be felt for generations to come”. This view suggests that Leave voters were angry, frustrated and lacking in self-control, seemingly confirming the old

adage, “Marry – or in this case, divorce – in haste, repent at leisure”. It is thus possible that, upon sober reflection, a second referendum vote would have a different outcome.

In our sample, very few respondents changed their voting preference suggesting that post-vote regret is not a major factor – indeed, more stated they would move from Remain to Leave than vice versa. This finding challenges the type of views expressed by Crockett (2016; see Introduction) that Leave voters should regret their act of short-term gratification and relief of frustration – of course, with more time and the unfolding of economic and political events, this could still happen. In any event, we found no evidence of this psychological reaction in our data.

Loss aversion and regret

Behavioural economics suggests that people have definite preferences which should be expected to influence Brexit-related feelings, cognitions and behaviour (Corr, 2016). For example, people tend to be loss averse, especially when the potential loss is made salient (Walasek & Stewart, 2015), which means that they are more attentive and emotionally reactive to potential losses than gains of the same magnitude. Loss aversion is related to the ‘endowment effect’ – people value things they ‘own’ more than things they do not (this was famously shown in the coffee cup experiment; Kahneman, Knetsch, & Thaler, 1990). Therefore, if people believe that they receive benefits from EU membership then, psychologically speaking, they should be hard pressed to let them go. Related behavioural economic notions are ambiguity/uncertainty aversion, and more generally risk aversion; and status quo bias may be added to this list.

Fear and anxiety

There are also possible evolutionary factors relating to Brexit (Carney, 2016), especially regarding fear and anxiety of the unknown. Fear was deemed to be important in the Brexit debate (the term “Project Fear” was coined by Leave campaigners to denote the alleged scaremongering by the Remain camp), and its psychological salience was not lost on political campaigners. The former British Prime Minister, David Cameron, who was compelled to fall on his own Brexit sword, had this to say on the BBC Andrew Marr show (21 February, 2016): “we will be safer, we will be

stronger, we will be better off inside the EU” and “taking a leap into the dark is the wrong step for our country”. Recognising this threat to his Leave campaign, Boris Johnson quoted his fellow countryman, Franklin D. Roosevelt: “I think the only thing we have to fear is fear itself” (Heffer, 2016).

Separate Analysis for Remain and Leave Voters

Repeating the above analysis separately for Remain and Leave voters revealed a more detailed picture.

In the Remain camp, Step 1 model was non-significant, $F(4,128) = 1.61, p > .10$, but one variable was significant: Qualification ($\beta = -.26, p < .05$), indicating that the higher qualified respondents were less satisfied with referendum outcome. The Step 2, $F(11,121) = 1.06, p > .10$, was non-significant with no additional variables being significant over and above Qualification ($\beta = -.22, p < .05$).

For those in the Leave camp, Step 1 model was close to significance, $F(4,79) = 2.12, p = .08$, and one predictor variable was significant: Age ($\beta = .25, p < .05$) – in addition, Income Comfortability was close to significance ($\beta = .18, p = .09$). These findings indicated that, among those with the political preference to leave the EU, satisfaction was higher among older people and those who felt more comfortable with their income. The Step 2 model was non-significant, $F(11,72) = 1.26, p > .10$, but Age ($\beta = .28, p < .05$) retained its significance – Income Comfortability was not even close to significance.

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