

RESEARCH ARTICLE



Personality, community, and politics: relating the five factor model to political behaviour in an African setting

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ABSTRACT


Numerous studies demonstrate the impact of personality traits on political attitudes and behaviours, but these theories have not been tested in African contexts. Using a survey conducted in three indigenous languages of 1,516 respondents from northern Ghana, we demonstrate the salience of personality variables in predicting political attitudes and behaviours. These results are striking given the region's strong social hierarchies, low levels of education, and collectivist orientation. Our more stable personality measurements of Extraversion, Agreeableness, Emotional Stability, and Conscientiousness are strong predictors of various political attitudes and behaviour in the expected directions. These relationships remain robust in the presence of demographic and linguistic controls. This paper points to a rich and underexplored avenue of political analysis across collectivist societies and provides tools to aid researchers in employing measures of abstract personality traits in contexts characterised by collectivism that speak non-European languages.

KEYWORDS Personality; Five-factor model; political participation; Ghana; collectivism; political behaviour

Introduction

Individual personality traits are thought to systematically explain political attitudes and actions like voter turnout, campaign participation, political speeches, judicial decisions, ideology, and party affiliation (Gerber et al., 2011; Mondak et al., 2010; Mondak & Halperin, 2008; Vecchione & Caprara, 2009). Social scientists have widely adopted the Five-Factor Model (FFM) of personality traits, or 'Big Five,' to predict political behaviour (Gerber et al., 2011). The FFM was developed, and has been primarily tested, in the U.S. and Europe. While many proponents of the FFM claim these traits to be universal (McCrae & Terracciano, 2005b), relatively few studies have explored the role of personality in Africa. To our knowledge, there are no studies that

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specifically test the relationship between the FFM and political attitudes or behaviour on the African continent.

This paper explores the relationship between personality traits, political attitudes, and political participation in northern Ghana – a highly collectivist setting. We survey 1,516 respondents on a range of questions including the FFM Ten Item Personality Inventory (TIPI) (Gosling et al., 2003).¹ The instrument was administered in three African languages. Our goal is not to develop a new personality scale, but to assess the reliability of TIPI in a cultural and linguistic setting that significantly diverges from its context of origin, and measure the predictive power of personality on political outcomes.

This study provides the first application of TIPI in the Gonja, Kusaal, and Dagbani languages. These three languages are spoken by fewer people than others with ready-made TIPI translations² and are found in one of the most linguistically diverse countries in the world.³ Materials for translation are limited and these languages less standardised. The lower levels of education among our respondents also poses additional challenges to the study of personality (McCrae, 2013).

First, we assess the distribution and relevancy of personality variables across languages. We conduct back translations with linguists from the University of Ghana to assess concepts' content validity across the three languages. We find that, despite translation challenges, there is meaningful variation among individuals and cultural norms systematically influence self-perceptions in expected ways. Our translation analysis finds that the meaning of Extraversion and Agreeableness are the most consistent across languages, Conscientiousness and Emotional Stability are moderate, and Openness to Experiences is the least stable.

Second, we test whether these personality variables predict political attitudes and reported political behaviours in intuitive ways. We select ten variables that have been tested in other comparative contexts and have adequate variation and content validity across our sample. After generating hypotheses, we test personality traits on each outcome while controlling for a range of demographics. The analysis reveals significant evidence in expected directions. Out of 50 personality outcome relationships posited, 35 meet our explicit expectations. When Openness to Experiences is set aside, this proportion increases to 32/40. In other words, individual personality traits shine through as predictive of attitudes and actions in this rural African context.

The Five-Factor model

In order to assess respondents' personality traits, we follow an abridged test of the FFM. John and Srivastava (1999, p. 121) provide succinct definitions of the Big Five that make it possible to translate these concepts across cultures:

- 'Openness to Experience (vs. closed-mindedness) describes the breadth, depth, originality, and complexity of an individual's mental and experiential life.
- Conscientiousness describes socially prescribed impulse control that facilitates task- and goal-directed behaviour, such as thinking before acting, delaying gratification, following norms and rules, and planning, organising, and prioritising tasks.
- Extraversion implies an energetic approach toward the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality.
- Agreeableness contrasts a prosocial and communal orientation towards others with antagonism and includes traits such as altruism, tender-mindedness, trust, and modesty.
- Neuroticism contrasts emotional stability and even-temperedness with negative emotionality, such as feeling anxious, nervous, sad, and tense.'

In our survey, respondents were asked to rate how they see themselves across ten personality characteristics, a negative and positive pole for each of the Big Five. The personality characteristics included Open and Conventional (Openness to Experience), Dependable and Disorganised (Conscientiousness), Socialness and Reserved (Extraversion), Sympathetic and Critical (Agreeableness), and Calm and Anxious (Neuroticism).

Personality's role in comparative political attitudes and behaviour

One of the attributes that makes the FFM an attractive tool for social scientists is its relative stability over time. These five facets of personality, which manifest early in childhood, become increasingly stable over an individual's life cycle (Caspi et al., 2005; Roberts & DelVecchio, 2000). Personality is least stable during adolescence (Soto & Tackett, 2015; Van den Akker et al., 2014), but childhood and adolescence structures are still meaningfully predictive of an adult's personality (Soto & John, 2014). Given our adult-only sample (18 years and older), we are less concerned about personality traits changing significantly over a short period and view them primarily as causes of individual attitudes and behaviours rather than effects.

Many leading personality scholars claim the FFM as universal, but the vast majority of their studies – especially applications to political behaviour – rely on data collected in societies with high levels of individualism and using Indo-European languages (McCrae et al., 2011; McCrae & Terracciano, 2005a). Yet, culture and language play central roles in how the FFM instrument is conceptualised and measured (McCrae, 2002).

An emerging literature examines FFM in collectivist societies and outside of Indo-European languages. Some studies support the universal applicability of FFM, having found few limitations across translations (Church & Katigbak, 2002; Yang et al., 1999). McCrae's study of the universality of the NEO instrument in China shows that only 10 of 270 terms are problematic in their translation into Mandarin (McCrae, 2002). Other studies suggest that certain contexts make the application of the tool more challenging (Allik & McCrae, 2004; Möttus et al., 2012). For instance, Gurven et al. (2013) measure the FFM among respondents in the Amazon and find it to be a poor fit – arguing against its applicability in low-literacy environments.

To date, there has been limited analysis of personality on the African continent. We note at least six studies of personality in African countries, though none assess the connection between personality and political attitudes or behaviours. Both linguistic and cultural differences present significant challenges, though there is overall support for the presence and robustness of FFM on the continent (Galinha et al., 2013). For example, Zecca et al. (2013) administered an extended personality instrument (NEO-PI-R) across nine African countries in French, finding 'configural and metric invariances, but not scalar invariance', meaning that the averages of personality traits varied significantly across countries. Metzger et al. (2014) explore TIPI with students in South Africa using English and Afrikaans, finding that the reliability to be reasonable, but lower than expected.

Personality studies in Africa are challenged by high levels of linguistic diversity. Findings point to robust replication of the FFM among educated individuals who are fluent in both a local (Shona) and Western language, though still lower than what is found among Western samples (Piedmont et al., 2002). TIPI translated into Tigrigna, a language spoken in Eritrea and Ethiopia, demonstrated overall stability, though significant variation among the five traits on reliability (Bahta & Laher, 2013). A study from Burkina Faso conducted in multiple languages, including Moore, on a lower educated sample found that, 'the structure underlying normal personality was unstable across regions and languages' (Rossier et al., 2013). Thus, the task becomes especially challenging for languages with few translational resources and in contexts with lower education levels.

On the other hand, several studies have explored the relationships between personality traits and political behaviour in non-African countries. Personality traits, particularly Agreeableness, Openness, and Emotional Stability, are significantly associated with community belonging and trust (Alarcon et al., 2018; Mondak & Halperin, 2008). Communal centrism is driven by socialness (Extraversion), support of social norms (Conscientiousness) and prosocial attitudes (Agreeableness) (Mondak et al., 2010). Several scholars have explored the connection between personality and ideology, the most prominent findings being that Openness is associated with liberal

ideals whereas Conscientiousness is a predictor of conservatism (Cooper et al., 2013; Fatke, 2016; Gerber et al., 2011; Verhulst et al., 2012).

Higher levels of political participation are broadly associated with three personality traits: Openness, Conscientiousness, and Extraversion (Gallego & Oberski, 2012; Gerber et al., 2011; Mondak et al., 2010; Mondak & Halperin, 2008; Vecchione & Caprara, 2009). For example, discussing politics with others is predicted by high Openness and Extraversion (Cooper et al., 2013; Mondak et al., 2010). Both voter turnout and campaign contributions are correlated with higher Openness and lower Emotional Stability (Mondak et al., 2010), while attending political rallies is strongly associated with Extraversion (Mondak et al., 2010; Mondak & Halperin, 2008). Citizens also contact elected officials to express their opinions or run for elected office. Research indicates such actions are more common among those with high Openness, Conscientiousness, and Extraversion (Cooper et al., 2013; Gerber et al., 2011; Mondak et al., 2010; Mondak & Halperin, 2008). Participating in a political protest has been found to positively correlate with Extraversion, but negatively associated with Agreeableness and Conscientiousness (Gerber et al., 2011; Mondak et al., 2010).

Theories of political behaviour in collectivist settings: rural Ghana

Ghana exhibits one of the highest collectivism ratings in the world according to World Values Survey (WVS) (Minkov et al., 2017), and Hofstede's (2011) index of collectivism⁴ ranks Ghana as extremely low on 'individualism' – rating 15 of a possible 100 points.⁵ Residents of northern Ghana are very likely to live in communities founded upon common ancestry and where 'economies of affection' rule social interactions (Hyden, 1980).⁶ Using Afrobarometer data, Van Pinxteren (2021) shows that Ghanaians living in the north are more likely to feel safe walking around their neighbourhood, request personal assistance from elected leaders, and trust traditional leaders than their southern counterparts, all key markers of communalism.

To date, studies of political behaviour in Ghana, or elsewhere on the continent, have not yet incorporated personality variables into their analyses. This is striking, given the weight most scholars of political behaviour give these variables around the world. Ghanaian political history is ripe with accounts of voters being influenced by communal identities including ethnicity (Asante & Gyimah-Boadi, 2004; Fridy, 2007; Fridy, 2018; Ichino & Nathan, 2013), partisanship (Michelitch, 2015), and religion (McCauley, 2012; Takyi et al., 2010), as well as the pervasive role of clientelist networks and traditional leaders (Fridy & Myers, 2019; Nathan, 2019; Paller, 2019). Additionally, scholarship has demonstrated the importance of individual characteristics, as they relate to social hierarchies, and their effects on political orientation and

behaviour including the importance of class (Woods, 2004) and gender (Bauer & Darkwah, 2020). Behavioural work on Ghana also details how individuals respond to political performance, policy changes, and party platforms (Obeng-Odoom, 2013; Van Gyampo & Debrah, 2013).

Translation analysis

The three languages used in our survey – Dagbani, Kusaal, and Gonja – hail from the Gur and Kwa Niger-Congo linguistic group. Not only are they far removed from FFM's Indo-European roots, but also among the more obscure language groups in Ghana.⁷ Most speakers of these languages do not have formal training in writing, and translation resources are minimal and lack definitions for many abstract words (Anyidoho & Kropp Dakubu, 2008). We note the lexical similarity between Dagbani and Kusaal on one hand (which are 89% intelligible), and Gonja on the other, which only shares the same Volta-Congo language family branch, along with around 1,370 other languages in Western Africa (Lewis, 2009). In environments with lower levels of education and literacy, making sure that abstract measures, developed in disparate context, are easily understood by respondents is a significant challenge (McCrae, 2013).

During our survey training, each of the ten personality items were discussed and translated into our local languages by a team of enumerators and checked to make sure the translations were harmonised across languages.⁸ After the survey was completed, experts from the Bureau of Ghana Languages conducted backtranslation of our personality items (two linguists per language).⁹ We gathered all the synonyms provided by the linguists for each personality trait and calculated the cosine similarities between the English word and the backtranslation.¹⁰ Pairings with high cosines are words that easily replace one another. Next, we averaged the three highest rated matches for each word and divided it by the similarity score of the highest rated synonym to provide a baseline. The quantitative similarity scores range from 1 (perfect match) to 0 (completely unrelated).

These similarity scores are presented in [Table 1](#) alongside a categorical rating for each quartile.¹¹ We observe significant variation in the quality of translations across both words and languages. For example, our 'Anxious' translation in Dagbani is most similar to 'annoyed' which is semantically proximate but not exact, while in Gonja, the translation ends up as 'sincere' which is quite distant from its original meaning.¹² The two personality items that end up being especially close to the English originals across all languages were 'Sympathetic' and 'Reserved.'

The quality of the translations is correlated with the number of regional speakers, with Dagbani receiving the highest scores and being the most widely spoken, while Gonja receives the poorest ratings and is the least

Table 1. Translation Similarity Scores.

Trait	Item/Pole	Dagbani	Gonja	Kusaal	Average
Emotional Stability	Anxious	0.72 (Good)	0.14 (Poor)	0.36 (Fair)	0.40
	Calm	0.80 (Excellent)	0.52 (Good)	0.56 (Good)	0.63
Openness	Conventional	0.65 (Good)	0.54 (Good)	0.69 (Good)	0.63
	Open-minded	0.40 (Fair)	0.14 (Poor)	0.59 (Good)	0.38
Agreeableness	Critical (Harsh)	0.32 (Fair)	0.54 (Good)	0.70 (Good)	0.52
	Sympathetic	0.91 (Excellent)	0.99 (Excellent)	0.93 (Excellent)	0.94
Conscientiousness	Dependable	0.40 (Fair)	0.39 (Fair)	0.57 (Good)	0.45
	Disorganised	0.64 (Good)	0.46 (Fair)	0.55 (Good)	0.55
Extraversion	Extraverted	0.26 (Fair)	0.14 (Poor)	0.94 (Excellent)	0.53
	Reserved	0.75 (Good)	1.00 (Excellent)	0.84 (Excellent)	0.86

commonly spoken language. We observed no ‘Poor’ ratings on any of the Dagbani and Kusaal translations, but three out of ten Gonja items. Overall, two traits perform significantly better than the rest when it comes to translation consistency – Agreeableness and Extraversion. Openness, while demonstrating high validity in Dagbani, is especially low on the other two languages.

Cultural impressions of personality in northern Ghana

Culture significantly impacts how various personality traits are perceived, creating different levels of personality traits across countries, referred to as scalar invariance. Hofstede and McCrae (2004) argue that national-level personality variation should be interpreted as cultural differences that influence how individuals perceive themselves as informed by traditions and norms. McCrae stresses the need to consider how cultural ethos, which is rooted in different customs and institutions, shapes the way people express personality traits (2009, 2013). For example, residents from more collectivist societies demonstrate higher rates of Conscientiousness (McCrae, 2002; Triandis & Suh, 2002). Below we discuss how general African cultural values might influence the desirability of personality traits.

Cultural dimensions shape an individual’s priorities, values, and sense of morality. While obviously not uniform, scholars have observed some cultural components rooted in African traditional religion and lifestyle that are broadly generalisable.¹³ The broad themes of traditional sub-Saharan cultures, especially compared to Western cultures, involve humanism and relationships (Lugira, 2009), clear sets of social customs, traditions, and taboos (Mbiti, 2015), the importance of ‘good’ character (Mbiti, 1990), and respect for hierarchy, especially elders, chiefs, and the ancestors (Sundermeier, 1998). Key aspects of good character and morality emphasise respect, hospitality, selflessness, kindness, honesty, sincerity, and protecting the weak (Asante & Nwadiora, 2007).

We anticipate collectivist cultural forces will influence how respondents in our sample view and rate themselves across the ten personality items. Below, we highlight five personality items that should be more attractive to someone raised in northern Ghana, and thus increase the probability of self-reporting that trait. These include both poles of Extraversion (Socialness and Reserved), as well as the positive poles of Agreeableness (Sympathetic), Conscientiousness (Dependable) and Emotional Stability (Calm).

Because collectivist cultures prize community, we anticipate individuals in our sample to view themselves as more social and extraverted (Assimeng, 1999). To be alone is to be singled out and go against the grain of the community. Strong public speaking skills that command respect from others are celebrated, while anti-social characteristics are viewed with suspicion (Asante & Nwadiora, 2007). Socialness is an important marker of commitment to community life, the fundamental building block of collectivistic cultures. At the same time, a case can be made for the desirability of introversion and reservedness within specific contexts. While anti-social behaviour is unacceptable in many settings, active listening is highly desirable. Knowing when and how to speak is a sign of adhering to the social order and knowing one's place within it (Sundermeier, 1998). Reservation signals respect, especially toward those in higher positions.

Perhaps the clearest connection to traditional African culture and personality is found in Agreeableness, and its positive pole, Sympathy. Agreeableness emphasises acknowledging the role and status of different community members (Mbiti, 2015). Healthy relationships are embodied by carrying out acts of kindness and support for community members such as sharing food and caring for the vulnerable (Asante & Nwadiora, 2007). Helpfulness, kindness, sharing, and hospitality are hallmarks of traditional African society that strongly correspond to a sympathetic worldview (Mbiti, 1990).

Because of the sanctity of human life and importance of harmony within the community, being Calm (Emotional Stability) should also be desirable. Individuals who are cool-headed and avoid unnecessary conflict are deemed as mature and having strong character (Asante & Nwadiora, 2007). This is most clearly demonstrated through the social concepts of hot and cold. Heat is indicative of anger and rash decisions that results in negative outcomes and suffering. A person characterised by coolness on the other hand, is one who is thoughtful and wise (Sundermeier, 1998).

The collectivist nature of most African traditional cultures reinforces the value of being Dependable. Dependability manifests through the key institutions of family and kinship, which creates a common sense of belonging and material support (Mbiti, 2015). Assimeng (1999, p. 151) explains that 'the communitarian implication is the difficulty in alienating people because of the assumption that someday, somewhere, one is going to need the help of such people.'

In [Table 2](#), we present whether each personality item has a positive (+), negative (-) or neutral () cultural connotation as independently rated by our linguistic experts during the back-translation exercise. In general, these evaluations match our expectations presented above. The four most consistently desirable traits across languages are Dependable, Open-minded (though poorly translated), Sympathetic, and Socialness. Calm is viewed as desirable in two out of three languages, while Reserved is viewed as desirable in just one.

Examining personality measurements

The first step in our analysis is to see if the distribution of self-reported personality traits is consistent with cultural expectations. We analyze how respondents from our sample rate themselves across the ten personality items, comparing the overall rates for each item and how they differ across language.¹⁴ We observe significant variation in the self-reporting of personality items from a high of 0.93 (Sympathetic) to a low of 0.18 (Disorganised) on a standardised 0–1 scale across all respondents. [Figure 1](#) displays the mean scores for each of the ten personality items by language, along with 95% confidence intervals. We posited respondents would be more likely to report being Social, Reserved, Sympathetic, Calm, and Dependable, consistent with collectivist norms.

We find that Sympathetic (0.93), Calm (0.82), Dependable (0.80), and Socialness (0.75) are highly desirable traits among our sample. Still above the mean, but slightly lower is Reserved (0.64). The three lowest items are all ‘negative’ poles - Anxious (0.48), Conventional (0.48), and Disorganised (0.18). Overall, we take this as evidence that cultural pressures are influencing personality self-perceptions in expected ways.

[Figure 1](#) also demonstrates the variation across language by personality item, with some tightly clustered and others more dispersed. Open, Dependable, Calm, and Sympathetic are highly similar across language. Among the remaining items, the difference in mean score appears largely driven by variations in translation. For example, the mean differences for ‘Anxious’ are clearly driven by translation issues, with the Dagbani and Kusaal results being negative, and the Gonja translation being unrelated to the meaning of Anxious.

Personality predicting attitudes and behaviours

In this section we test the capacity of personality variables to predict common political attitudes and behaviours. Prior to testing, we present a set of hypotheses between each trait and outcome variable based upon a literature review above, the nature of each trait, and the nature of each attitude or action. Personality variables are then tested alongside demographic variables.

Table 2. Expert Ratings of Social Desirability of Personality Items.

	Dagbani	Gonja	Kusaal
Open-Minded	+	+	
Conventional		-	
Dependable	+	+	+
Disorganised	-	-	-
Calm		+	+
Anxious	-	+	-
Sympathetic	+		+
Critical		-	-
Socialness	+	+	
Reserved	-	-	+

Hypothesised culturally desirable traits shown in bold italics

Hypotheses

For each outcome variable, we posit a positive, negative, or null relationship between it and the five personality traits.¹⁵ We select our outcomes based both upon their intuitive natures as well as their significance in existing studies. First, we focus on attitudinal measures. We include two attitudes that capture social trust and an individual's perception of community centrism. We anticipate Agreeableness, Openness, and Emotional Stability to be positively correlated with social trust, and Extraversion, Conscientiousness, and Agreeableness to be positively correlated with community centrism.¹⁶ We also test three political values as a proxy for ideology (Schwartz, 2012).¹⁷ In this analysis, we focus on the three values that are the most intuitive and consistently translated across languages –Freedom, Equality, and Morality. We expect the socially 'conservative' value of Morality to be positively related to Conscientiousness, and the 'liberal' values of Freedom and Equality to be correlated with Openness. The attitudinal hypotheses are summarised in Table 3.

Next, we examine the correlations of personality traits with five acts of political participation: discussing politics, raising an issue, contacting an elected representative, running for elected office, and stopping an act of political violence. We expect that those with high Openness and Extraversion, but low Agreeableness, are more likely to discuss politics with others. Raising an issue involves joining with others to petition an authority figure, and should be positively associated with Extraversion and Conscientiousness, but negatively associated with Agreeableness.

Citizens who contact elected officials more frequently or choose themselves to contest elected office demonstrate a high degree of self-efficacy, strong initiative, and social connectivity. We therefore anticipate such actions to be positively correlated with Openness, Consciousness, and Extraversion. The final political behaviour assessed is the respondent having attempted to stop an act of political violence. We anticipate a negative

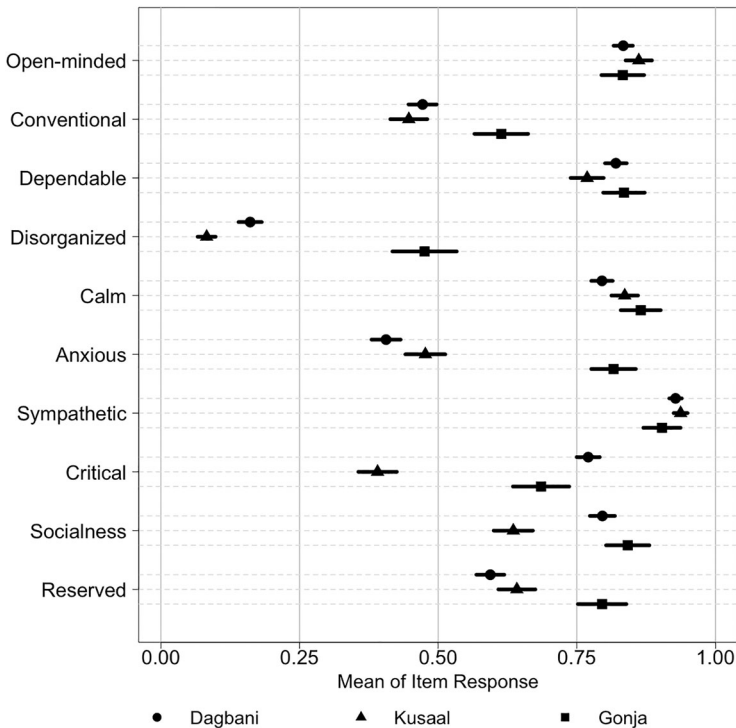


Figure 1. Personality Item Means by Language.

correlation with Agreeableness, but a positive relationship to Conscientiousness, as being motivated to protect social order. The behavioural hypotheses are summarised in [Table 4](#).

Research design

Our study was embedded in an evaluation of Catholic Relief Services' (CRS) violence prevention programme around the 2016 election. The sample was constructed by comparing paired geographic areas that participated in a CRS Youth Ambassador Peace Programme to comparable areas that did not. Data gathering teams were deployed for eight days in June 2018. The survey covers respondents from 36 sites across three distinct geographic areas for a total sample size of 1,516 individuals. While the selection of sites was influenced by the presence or absence of CRS programming, the selection of individuals was randomised.

The three sampling clusters are based around the towns of Tamale, Damongo, and Bawku. At each site, research teams of four enumerators were assigned a specific starting point and sent in opposite directions.

Table 3. Attitudinal Hypotheses.

	Social Trust	Community Centrism	Freedom	Equality	Morality
Openness	+		+	+	-
Emotional Stability	+				
Agreeableness	+	+			
Conscientiousness		+	-	-	+
Extraversion		+			

Table 4. Behavioural Hypotheses.

	Discuss Politics	Raised an Issued	Contact MP	Ran for Office	Stopped Violence
Openness	+		+	+	
Emotional Stability					
Agreeableness	-	-			-
Conscientiousness		+	+	+	+
Extraversion	+	+	+	+	

Enumerators followed a randomised walk pattern and implemented an age and gender quota, alternating the selection of respondents between men (over and under 35), and women (over and under 35). Enumerators presented themselves as members of a local research organisation, the Nangodi Institute.¹⁸ The sample is 53% female and 47% male; age range is 18–90 with a median of 34 years old; and 39% have no formal schooling, 22% completed primary school, 30% completed secondary school, and 9% completed a university degree.¹⁹

Each individual participating in the study completed a survey inclusive of personality traits and demographics characteristics including age, gender, household language, religion, level of education, partisanship, and occupational status. We also questioned respondents on a wide range of topics involving community engagement, political attitudes, political knowledge, past political activity, views towards violence, and social values preferences. Respondents then participated in one of two experimental trust games.

Our statistical analysis relies on ordinary least-squared (OLS) linear regression models that include the personality variables, base control variables, and a set of demographic variables. The base controls include dichotomous variables for two of the three languages (*Gonja* and *Kusaal*) as assigned by the interviewer, as well as a dichotomous variable that captures whether the language used during the interview was the same as the respondent's household language (*Home Language Interview*).²⁰ To account for any unknown effects from the CRS programme intervention, we also include a dichotomous variable '*CRS Programme*' that captures whether the enumeration area was part of CRS programme or not.²¹

We test our personality instruments alongside eight demographic variables that should impact political attitudes and behaviour.²² These include: *Young*, a dichotomous variable for individuals 35 years or younger; *Education*, a ten-level ordinal measure of educational attainment; *Rural*, a dichotomous measure coded by the authors based upon survey location; *Male*, a dichotomous variable capturing gender; *Religiosity*, an ordinal variable capturing the degree of membership and participation in religious groups on a four-point scale; *Muslim*, a dichotomous variable for Muslim adherents who represent the majority religious group in the region; *Socioeconomic Status (SES)* index, composed of whether an individual personally owns or household owns a radio, television, car/motorcycle, and computer; and *NPP Partisan* for whether an individual reported 'feeling close' to the ruling party at that time in Ghana. Full model results and robustness checks can be found in the appendix.

Findings

We assess how our hypotheses performed in Table 5.²³ Statistically significant relationships between personality traits and a given outcome are robust in the face of linguistic and demographic controls.²⁴ The cut-off for evaluating statistically significant relationships is reported as $p < 0.05$. Table 5 presents the hypothesised relationship and the actual relationship observed. Outcomes that met our hypotheses are shaded grey.

In total, we test 50 relationships between personality traits and the various social and political attitudes and actions. We hypothesise 26 directional relationships (either negative or positive) and 24 null effects (no relationship anticipated). Out of our directional hypotheses, 15 are met, while 20 of the null hypotheses are met. Only one relationship is found to be completely contradictory. The hypotheses related to Openness perform particularly poorly, and we note that this trait was rated as demonstrating the poorest

Table 5. Comparing Expectations and Results.

	O	ES	E	C	A	
Social Trust	+ → ∅	+ → +	∅ → ∅	∅ → ∅	+ → ∅	3/5
Community Centric	∅ → ∅	∅ → ∅	+ → +	+ → ∅	+ → +	4/5
Equality	+ → ∅	∅ → ∅	∅ → ∅	- → -	∅ → ∅	4/5
Freedom	+ → ∅	∅ → +	∅ → ∅	- → -	∅ → ∅	3/5
Morality	- → +	∅ → -	∅ → ∅	+ → +	∅ → ∅	3/5
Discuss Politics	+ → +	∅ → ∅	+ → ∅	∅ → ∅	- → -	4/5
Raised an Issue	∅ → ∅	∅ → +	+ → +	+ → ∅	- → -	3/5
Contact MP	+ → ∅	∅ → ∅	+ → +	+ → +	∅ → ∅	4/5
Run for Office	+ → ∅	∅ → ∅	+ → +	+ → ∅	∅ → ∅	3/5
Stopped Violence	∅ → -	∅ → ∅	∅ → ∅	+ → +	- → -	4/5
	3/10	7/10	9/10	7/10	9/10	35/50

Note: Hypothesis → Finding

Relationship: + (positive) - (negative) ∅ (null)

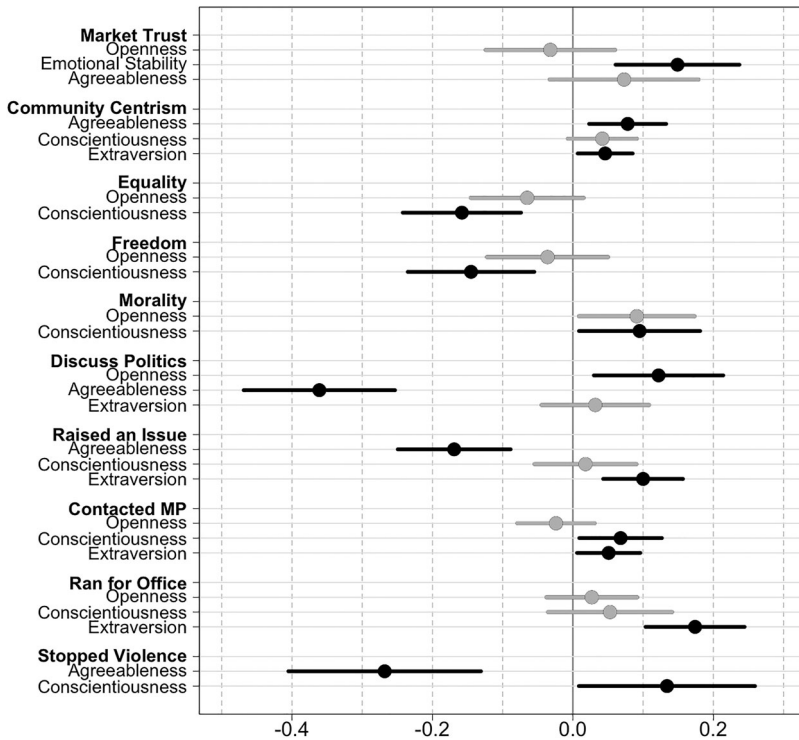


Figure 2. Hypothesised Effects for Personality Traits on Outcomes.

translation, and likely the most dependent on the socio-cultural environment. Overall, we take these findings to mean that personality traits are important and dynamic predictors of both attitudes and political behaviours, even within a highly collectivist context.

In order to demonstrate the effect sizes of personality on these outcomes, [Figure 2](#) presents the coefficients of the 26 directional hypotheses with 95% confidence intervals. Confirmed hypotheses are shown in black, while those not met are shown in grey.

For social trust, we unexpectedly find a null relationship for Openness and Agreeableness, but a positive and statistically significant effect for Emotional Stability as hypothesised. The effect size should be read as – moving from a minimum to maximum Emotional Stability score, Social Trust is expected to increase by an average of 15 percentage point. The three personality predictors of Community Centrim are positive as expected, and two are statistically significant. Our political values of Equality, Freedom, and Morality all demonstrate a strong relationship to Conscientiousness as expected, but null effects for Openness as well as a contrary positive effect between Openness and Morality, when we anticipated a negative one.

Our most robust findings by magnitude are that those with high Agreeableness are apprehensive towards actions that may involve interpersonal conflict – Raising an Issue, Stopping Violence, and Discussing Politics. Consistent with the literature, we find that Conscientiousness is positively associated with specific types of actions, in our case Contacting an MP and Stopping Violence, while Raised an Issue and Ran for Office are positively related but not statistically significant. We hypothesised that Extraversion is a positive predictor for all types of behaviour aside from Stopping Violence. Indeed, it is positive in all four outcomes, though not statistically significant for Discussing Politics. Its strongest relationship by effect magnitude is having run for an elected office in the past at 17 percentage points.²⁵

Discussion

Our analysis points to several insights for those hoping to collect and test personality data in non-Western, collectivist societies. First, we confirm the relevance of personality variables in a strongly collectivist context and find meaningful variation across items. We observe that cultural pressures play a role in the degree of desirability across personality traits in intuitive ways. Due to key characteristics of many African cultures, being sympathetic, calm, dependable, and extraverted, are viewed as more desirable, thus increasing self-reporting. Our findings resonate with some existing work from other collectivist studies. Cheung et al. (2011) find little support for Openness in Asian countries; similarly, we find that it demonstrates weak reliability when translated across languages.²⁶

Secondly, we show that some aspects of TIPI retain content validity in indigenous African languages. To the authors' knowledge, this paper represents the first effort to translate personality measurements into African languages and compare these traits to political attitudes and behaviours.²⁷ By including languages so far removed from the FFM's Indo-European roots, this study allows us to weigh into a vibrant debate over whether FFM can be understood as a universally valid construct to predict behaviour.

In a third related contribution, our back-translation exercise highlights the importance of paying special attention to content equivalence when translating standardised surveys into indigenous African languages. Using the nearly universally accepted TIPI scale, we demonstrate that some concepts travel well, while others do not, and that the quality of translation varies by the degree of language standardisation. Future survey research in Africa could analyse the role that languages play in respondents' understanding and interpretation of survey questions, particularly those relying on abstract concepts, and how this impacts our ability to interpret survey data.

Fourth, we demonstrate the predictive power of some personality variables in a 'hard case' context. A strong focus on group identities and

demographic variables have drawn Africanists away from examining the political effects of personality in-depth (Bratton et al., 2012). However, we demonstrate that personality traits guide individuals' attitudes and behaviours in directions consistent with existing literature and our own intuition.

Those who demonstrate high Agreeableness are more trusting and feel closer to their communities. They are less likely to take on actions which may involve conflict including discussing politics, raising an issue, and attempting to stop violence. Extraversion is associated with socialness and community life. Extraverts feel closer to their community and are more likely to engage in social actions like joining together with others to raise an issue, contacting a representative, and running for elected office. Conscientiousness is highly predictive of conservative views and conscientious individuals are more likely to take the initiative in contacting their elected representative and intervene to stop an act of violence.

These findings suggest that scholars of African political behaviour should consider including personality variables in studies that seek to understand variation in attitudes and political behaviour. This paper explored very broad value-based orientations such as trust, community centrism, morality, equality, and freedom. We find that, for most of these outcomes, personality variables demonstrate stronger effects than individual demographic characteristics. We find that while demographic variables are strongly correlated with behavioural outcomes in intuitive ways, including personality variables in these models increases the variance explained. The salience of personality variables in northern Ghana suggests that they would be at least as important in more urban and cosmopolitan environments across Africa.

Notes

1. Research suggests this ten-question measurement is a reasonably good proxy for the 44 question Big Five Inventory (John & Srivastava, 1999).
2. Sam Gosling provides a fairly comprehensive list of TIPI translations. There are 23 languages in which TIPI is available that originate in either Europe or Asia. <http://gosling.psy.utexas.edu/scales-weve-developed/ten-item-personality-measure-tipi/>
3. Two randomly selected Ghanaians would have around a 1 in 7 chance of speaking the same language. This puts the country in the top 10 percent for linguistic diversity (Lewis, 2009).
4. Hofstede (2001, p. 225) defines collectivist societies as those in which individuals, 'from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty.'
5. See <https://www.hofstede-insights.com/country-comparison/ghana/>.
6. Our survey finds that of respondents in Northern Region shows that 94% of respondents report that their ethnic identity is somewhat or very important to them, and 95% say the same about their religion.

7. Of the three languages we test here, Dagbani and Gonja are government recognised languages while Kusaal is unsponsored. Ethnologue estimates suggest Dagbani speakers make up under 4 percent and Kusaal and Gonja speakers between 1 and 2 percent (Lewis, 2009).
8. See appendix section A for survey sampling information and section B for local language translations.
9. See appendix section B for list of questions.
10. We used the python application *gensim* ('glove-wiki-gigaword-100' library).
11. Scores for each rating are: Poor (0-0.25), Fair (0.25-0.50), Good (0.50-0.75), and Excellent (0.75-1)
12. See appendix section B for examples of back-translation synonyms for each personality item.
13. We speak of traditional African society because the literature we draw from comes from texts describing pre-colonial political, social, and religious arrangements on the continent.
14. See appendix section C for statistics and graphics on personality variables' distribution.
15. See appendix section D outcome and demographic variables question wording and descriptive statistics.
16. Community Centrism includes five questions: how strongly the respondent feels connected with their community, how well the community knows them, to what degree they want the same things as the community, degree of influence in the community, and how well they get along with other people in the community (McMillan & Chavis, 1986).
17. We rely on a consolidated approach applied by Jacoby (2014) who asks respondents to rank different values by preference.
18. Enumerators were supplied with tablets to administer the survey using Qualtrics software. Interviews were conducted orally, with enumerators reading the questions and responses to respondents, and marking their answers on the tablets.
19. For details on the sampling locations see appendix section A.
20. This was the case for 86% of the sample. See appendix E for descriptive analysis.
21. See appendix D for t-test statistics for all outcome and independent variables by CRS programme treatment status.
22. See appendix E for question wording and descriptive statistics for all variables.
23. See appendix section F for full model statistics..
24. See appendix for linear regression models including different specifications, and a replication of the main model on the Dagbani-only speaking sub-sample.
25. Two of our outcome variables, Ran for Office and Stopped Violence, are dichotomous. While the results presented in Table 5 and Figure 2 are estimated using a linear regression model, we replicate the models using logit estimation in the appendix F and find no substantive difference.
26. See Piedmont et al., 2002; Rossier et al. (2013) and Laajaj et al. (2019)
27. We recognise several other scholarly works that implement FFM instruments in African settings, including some in African languages: including Piedmont et al. (2002), Rossier et al. (2013), Galinha et al. (2013), and Bahta and Laher (2013).

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No potential conflict of interest was reported by the author(s).

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