



## Authoritarianism as a personality trait: Evidence from a longitudinal behavior genetic study

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### ARTICLE INFO

#### Article history:

Received 24 February 2013  
Received in revised form 9 April 2013  
Accepted 17 April 2013  
Available online 10 June 2013

#### Keywords:

Authoritarianism  
Personality  
Genetics  
Twin study

### ABSTRACT

Authoritarianism has long been conceived of as a highly stable personality trait (Adorno et al., 1950; Altemeyer, 1981), though recent accounts have argued that authoritarianism is too malleable to justify this conception. We provided a test of the trait conception of authoritarianism by measuring its stability in a community sample of twins over a 15 year period, and by identifying the source of any stability with biometric modeling. Our results showed that authoritarianism exhibited a high degree of rank-order stability ( $r = .74$ ). Biometric analyses indicated that this stability derived primarily from genetic influences, with changes in authoritarianism due to the unique experiences of the individual. In both of these respects, our results were highly comparable to those reported for other personality traits in previous work, indicating support for the trait conception of authoritarianism. Other results of note included a higher degree of stability among the more educated portion of the sample, supporting a hypothesis by Krosnick and Alwin (1989).

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### 1. Introduction

Authoritarianism was represented as a highly stable personality trait in both the original conception put forward by Adorno, Frenkel-Brunswick, Levinson, and Sanford (1950) as well as the widely-used revision of the construct offered by Altemeyer (1981, 1988, 1996). Recent approaches have challenged this view, with several authors (e.g. Sibley, Wilson, & Duckitt, 2007; Van Hiel, Pandelaere, & Duriez, 2004) arguing that authoritarianism is too susceptible to change to be considered a personality trait, and is instead better characterized as a characteristic adaptation (McAdams & Pals, 2006) or surface trait (Asendorpf & Van Aken, 2003). A number of conceptualizations of personality traits have been offered in recent years, providing some guidelines regarding the features that a psychological characteristic should have in order to be considered a “trait”. For example, many theorists suggest that traits must exhibit a high degree of stability over time (e.g. Asendorpf & Van Aken, 2003; McAdams & Pals, 2006; McCrae & Costa, 2008). Most recent challenges to authoritarianism’s status as a trait have focused on its supposed instability, though as longitudinal data on the topic has been scarce and dominated by student samples there is a clear need for additional data from community based samples. In the present study we analyzed data from a community-based longitudinal twin study of adults, seeking to ascertain both the stability of authoritarianism over a 15 year interval and the extent to

which genetic and environmental sources contribute to that stability.

#### 1.1. Previous research on the stability of authoritarianism and other personality traits

In one study frequently cited among challenges to the trait conception of authoritarianism, individuals asked to anticipate their beliefs during an apocalyptic future imagined their future selves to be moderately more authoritarian than did those asked to anticipate their beliefs in a future with more stable economic and social conditions (Duckitt & Fisher, 2003). Other studies went beyond the hypothetical, finding that modest-to-moderate changes on an abbreviated authoritarianism measure were successfully predicted by authoritarianism-related constructs such as Openness to Experience (Sibley & Duckitt, 2010) and perceptions of the world as a dangerous place (Sibley et al., 2007). The interpretation of results from these findings has occurred within a problematic conception of personality traits, in which traits are suggested to be “immutable” (Sibley et al., p. 358) and “invariant across situations” (Sibley et al., p. 367). Both of these conditions are more stringent than is required by contemporary theoretical accounts of traits cited above, and as discussed below and in Section 4, such conditions would exclude from the trait domain not only authoritarianism but also constructs such as extraversion and conscientiousness.

The claims regarding authoritarianism’s purportedly excessive mutability are not typically accompanied by an acknowledgment of previous work highlighting the construct’s longitudinal stability,

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or by an effort to place the experimental results on authoritarianism within the context of the broader literature on personality stability. Previous work on the former topic includes Altemeyer's (1996) report that a group of alumni assessed first as freshman and then again 18 years later maintained an impressive degree of rank-order stability over time, with a correlation of .59 between the two assessments. Altemeyer (1996) reports scores that have not been standardized, and he does not report the variance for each assessment. However, based on the variance observed in the same instrument in different samples, mean-level changes appear to have been modest, with authoritarianism scores of participants exhibiting an average decline of approximately a third of a standard deviation over this period. Altemeyer (1996) also reported very similar results on a different sample assessed 12 years after their freshman assessment, reporting a test-rest correlation of .62. When put in the context of recent meta-analyses regarding the stability of personality, authoritarianism appears to be **more**, not less, stable over time. For example, the correlation between trait levels at ages 18 and 22 is only expected to be .54, with even more modest correlations expected for longer time intervals (Roberts & DelVecchio, 2000). Similarly, Roberts, Walton, & Viechtbauer, 2006) report that increases of half a standard deviation or greater are expected for Openness, Conscientiousness, Emotional Stability, and Social Dominance during the ages in which Altemeyer's (1996) participants showed a mean shift of a third of a standard deviation in authoritarianism.

Nevertheless, there are important limitations to the generalizability of Altemeyer's (1996) results concerning the stability of authoritarianism over time. His studies considered change during only one segment of the life course (early adulthood), and relied exclusively on college-student populations. College-educated individuals differ from those without post-secondary degrees in their levels of authoritarianism (McCourt, Bouchard, Lykken, Tellegen, & Keyes, 1999), and Krosnick and Alwin (1989) hypothesized that advanced education may act to solidify political attitudes, which would lead to elevated levels of stability among educated samples. Studies using samples with more diverse educational backgrounds are clearly needed.

Because the rank-order stability for personality traits typically increases with age (Roberts & DelVecchio, 2000), a conception of authoritarianism as a personality trait leads to the prediction that samples older than that used by Altemeyer should show greater levels of stability. This stability may be especially pronounced among more educated individuals, as hypothesized by Krosnick and Alwin (1989). In addition, while authoritarianism is known to be substantially influenced by genetic factors (McCourt et al., 1999), we are aware of no study which has looked at the role of genetic and environmental influences on stability and change in authoritarianism over time. Previous work on personality traits (e.g. Johnson, McGue, & Krueger, 2005) has shown that genetic factors contribute almost exclusively to rank-order stability in traits over time, while nonshared environmental factors account for rank-order change.

The data used in the present study were collected from a community-based sample of twins who were assessed for authoritarianism in middle-age and then again 15 years later. Based on the above review, we derived the following three expectations from a conception of authoritarianism as a personality trait:

- (1) Due to the age of this sample, authoritarianism should show higher levels of rank-order stability than it did in younger samples;
- (2) This stability should be primarily genetic in origin;
- (3) Genetic influences will contribute primarily to stability and not to change, while nonshared environmental influences will contribute both to stability and to change.

To the extent that these expectations are met, the conception of authoritarianism as a personality trait will have been supported.

## 2. Method

### 2.1. Participants and measures

Participants were members of the Minnesota Twin Registry (MTR), a birth-record based registry of twin pairs born in Minnesota described at length by Krueger and Johnson (2002). The present study assessed those members of the registry who were members of same-sex twin pairs born between 1947 and 1955, who completed two assessments of interest.

#### 2.1.1. Assessment 1

As described in greater detail by McCourt et al. (1999), 2800 MTR participants completed the 1986 version of the RWA scale (Altemeyer, 1988) between 1990 and 1993. Participants used a nine-category Likert response format to provide responses to 30 items assessing the three facets of the authoritarianism construct put forward by Altemeyer: conventionalism, authoritarian submission, and authoritarian aggression. An example item representing all three of these facets is "Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the 'rotten apples' who are ruining everything." The alpha reliability of the measure was .94. At this time, participants also indicated the years of education they had achieved. Of the participants included in the present analysis (those who completed both assessment 1 and assessment 2), the median participant had completed two years of post-secondary education (Mean = 14.31, SD = 2.31, range 10–21).

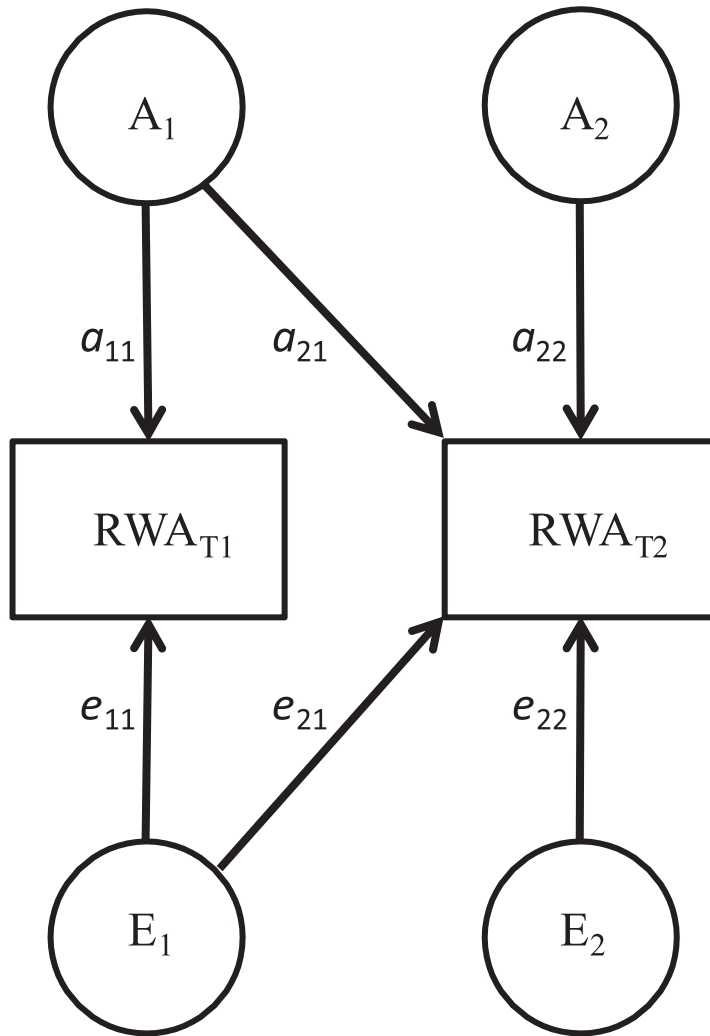
#### 2.1.2. Assessment 2

A comprehensive assessment of political attitudes was performed in 2008 and 2009 on MTR participants born between 1947 and 1955, as described in detail by Funk et al. (in press). The assessment included Zariksson's (2005) abbreviated form of Altemeyer's RWA measure, which assesses 15 items with a seven-category Likert response format. Though these items are thematically highly similar to Altemeyer's (1988) measure, no items were exactly identical, preventing a meaningful comparison of mean-levels between the two assessments. 1327 participants completed this assessment, including 540 (53% female) who completed Assessment 1. This included 131 MZ twin pairs and 86 DZ twin pairs, where members of an additional 45 MZ and 49 DZ twin pairs provided complete information at one assessment with only one member of the pair completing the other assessment. The alpha reliability of this measure was .87.

### 2.2. Analysis

Twin models make use of the differences in the genetic similarities between MZ and DZ twin pairs to quantify the relative contributions of genetic and environmental factors to a given phenotype. This typically involves decomposing phenotypic variance into variance due to additive genetic effects ( $a^2$ : the summed contribution of genes across loci) as well as shared ( $c^2$ ) and nonshared ( $e^2$ ) environmental effects. Shared environmental effects produce similarity between twin pairs regardless of zygosity, while nonshared environmental effects produce uniqueness among members of a twin pair. Measurement error and state fluctuations are also represented as nonshared environmental effects.

We used a Cholesky model to estimate the biometric contributions to RWA at each time point as well as the extent to which these contributions are consistent over time. A simplified version



**Fig. 1.** A path diagram of an AE Cholesky model for Right-Wing Authoritarianism (RWA) at Time 1 (T1) and Time 2 (T2). For ease of representation we have omitted shared environmental effects and represented only one member of a twin pair. In this model the variance at each time point is decomposed into additive genetic ( $A_1$ ,  $A_2$ ) and nonshared environmental effects ( $E_1$ ,  $E_2$ ).  $a_{11}$  and  $e_{11}$  represent additive genetic and nonshared environmental contributions to the Time 1 phenotype, respectively;  $a_{21}$  and  $e_{21}$  represent additive genetic and unique environmental contributions connecting the Time 1 and the Time 2 phenotypes, respectively;  $a_{22}$  and  $e_{22}$  represent residual additive genetic and nonshared environmental contributions to the Time 2 phenotype, respectively.

of this model is presented in Fig. 1. This model also allowed us to estimate the extent to which genetic and environmental variance at Time 2 is shared with Time 1 (indicating stable influence over time), or is instead unique to Time 2 (indicating it is responsible for change). We fit our models to the raw data using Full Information Maximum Likelihood, which provides efficient and consistent estimates in the presence of missing data (Little & Rubin, 1987). The assumptions required for the use of this model on twin data are discussed more fully in Johnson (2007). One issue of particular importance concerns the presence of assortative mating, which can provide a downward bias to heritability estimates if not accounted for in the model. Previous work on this sample (McCourt et al., 1999) and others (Martin et al., 1986) has demonstrated the importance of assortative mating for sociopolitical attitudes. Based on the results of McCourt et al. (1999), we incorporated an assortative mating coefficient of .4 into our model.

### 3. Results

#### 3.1. Phenotypic stability

Phenotypic stability for RWA was very high, with Time 1 and Time 2 scores correlating .74 (95% confidence interval: .71–.77).

This stability was particularly pronounced among the more educated segment of the sample. Among those with 14 or more years of education ( $N = 285$ ), the correlation between Time 1 and Time 2 scores was .78, significantly higher than the correlation of .64 among those with 13 or fewer years of education ( $N = 240$ ;  $p < .001$ ). The more educated portion of the sample tended to exhibit more consistent responses within a given assessment: alphas were higher for Time 1 and Time 2 for the more educated sample (.95 and .90, respectively) than for the less educated sample (.90 and .80, respectively). However, these differences in reliability could not account for the greater stability: after correcting for attenuation due to measurement error, the correlation between

**Table 1**  
Intraclass correlations in authoritarianism scores between members of twin pairs.

	MZ			DZ		
	Time 1	Time 2	CTCT	Time 1	Time 2	CTCT
$r$	.67	.59	.63	.49	.43	.43
	(.62, .72)	(.52, .65)	(.57, .68)	(.40, .56)	(.32, .52)	(.34, .50)

Note: Numbers in parentheses represent the 95% confidence interval. MZ = Monozygotic; DZ = Dizygotic; CTCT = Cross-twin cross-time.

**Table 2**  
Genetic and environmental contributions to authoritarianism.

	Time 1	Time 2	T1-T2 correlation	Proportion of influence on stability
A	.46 (.26, .67)	.41 (.18, .61)	1.00 (.87, 1)	.58 (.34, .82)
C	.22 (.02, .39)	.19 (.00, .39)	.93 (.48, 1)	.25 (.02, .46)
E	.32 (.28, .37)	.41 (.35, .47)	.36 (.24, .47)	.18 (.11, .24)

Note: The biometric decomposition of the phenotypic covariance between T1 and T2 is represented in the last column, which shows that genetic factors account for 60% of the stability in authoritarianism. Numbers in parentheses represent the 95% confidence interval. A = additive genetic; C = shared environmental; E = nonshared environmental; T1 = Time 1; T2 = Time 2.

Time 1 and Time 2 scores was still significantly ( $p < .01$ ) higher among the more educated portion of the sample ( $r = .84$ ) than among the less educated ( $r = .76$ ).

The correlation between authoritarianism at Time 2 and years of education was  $-.38$  ( $p < .001$ ), consistent both with previously reported results using the Time 1 assessment of this sample as well as results from a recent meta-analysis (McCourt et al., 1999; Van Hiel, Onraet, & De Pauw, 2010). An individual selecting the neutral (central) response for each question from the Time 2 assessment would obtain a score of 60; the mean score among the less educated group (64.26;  $sd = 14.20$ ) indicated a significant tendency to provide authoritarian-leaning responses ( $p < .001$ ), while the more educated group (53.72,  $sd = 17.87$ ) tended to endorse slightly nonauthoritarian views ( $p < .001$ ), though the variance was significantly greater in the more educated sample ( $p < .001$ ).

### 3.2. Biometric results

Results from Table 1 indicate that MZ twin pairs were more similar to each other than were members of DZ twin pairs, pointing to the importance of genetic factors for authoritarianism. Cross-twin, cross-time correlations were obtained by correlating the Time 1 scores of one member of a twin pair with the Time 2 scores of the other member of the pair. MZ twins were more similar to each other over time than were DZ twins, indicating the presence of genetic influence on the stability of RWA over time.

Results from the Cholesky model (presented in Table 2) provide a comparable pattern of results as that derived from the twin correlations. Additive genetic variance accounted for nearly half of the variance at each assessment, with nonshared environment accounting for most of the remainder. In addition, stability over time in RWA was primarily due to genetic factors, with lesser roles played by the shared and nonshared environment. Finally, the genetic contributions to Time 1 RWA overlapped very highly with genetic contributions to Time 2 RWA, indicating that the modest amount of rank-order change in RWA during this time period was not due to genetic factors. A similar result was observed for the shared environment. In contrast, nonshared environmental contributions to Time 1 variance overlap only moderately with contributions to Time 2 variance.

## 4. Discussion

Our results were consistent with the conception of authoritarianism as a highly stable personality trait. While our use of different measures of authoritarianism at the two assessments might be expected to attenuate the correlation between them, we nevertheless observed a very high degree of rank-order stability, with a correlation of .74 over a 15 year interval. This is identical to the expected 10-year stability of .74 for personality traits for adults in their 50s reported by Roberts et al. (2006). This stability was significantly

greater among the more educated members of our sample, supporting Krosnick and Alwin's (1989) hypothesis that advanced education leads to a solidification of attitudes. As Altemeyer's (1996) work on the long-term stability of authoritarianism had relied exclusively on student samples, it may provide overestimates of the stability of the trait in the population at large during young adulthood.

This study also provided the first genetically-informative longitudinal study of authoritarianism. We found that rank-order changes in authoritarianism derived from nonshared environmental factors, while genetic influences were the primary contributor to rank-order stability in the phenotype. That is, phenotypic stability was primarily due to genetic factors ( $a^2 = .58$ ). These results are consistent with those reported in a study of a portion of the present sample in which personality was assessed twice over a five-year interval with the Multidimensional Personality Questionnaire (MPQ; Tellegen & Waller, 2008): Johnson et al. (2005) reported that genetic factors contributed nearly exclusively to stability and not change, with nonshared environment contributing to both stability and change.

Longitudinal twin studies using the MPQ are particularly useful for evaluating how authoritarianism's stability and biometric basis compare to that of other personality traits, as the MPQ Traditionalism scale is highly comparable to Altemeyer's authoritarianism measure (Ludeke, Johnson, & Bouchard, 2013). Consistent with the conceptualization of authoritarianism and related characteristics as personality traits, two recent studies showed that the phenotypic stability of Traditionalism was similar to that observed for other MPQ traits (Blonigen, Carlson, Hicks, Krueger, & Iacono, 2008; Johnson et al., 2005). At the same time, the unique environment may be less important for authoritarianism and related traits than for other personality traits: twin correlations for authoritarianism in this study and for the Traditionalism scale in Johnson et al. (2005) were at the high end of what has been reported for personality traits (reviewed by Johnson, Vernon, & Feiler, 2008), and estimates for the unique environment were significantly smaller for Traditionalism than for most other MPQ traits in Blonigen et al. (2008). This result may be substantive rather than simply reflecting the role of measurement error, given that the reliability for Traditionalism is comparable to other MPQ scales (whether assessed with Cronbach's Alpha or with 30-day test-retest correlations; Johnson et al., 2005). Rather than being a mutable characteristic that is highly responsive to the experiences of the individual, then, authoritarianism and related traits may be particularly effective exemplars of stable traits unaffected by the individual's unique experiences.

Efforts to resolve the current dispute over the nature of authoritarianism require attention not only to results such as those presented here, but also an eye towards contemporary conceptions of personality traits. In particular, a recognition of the susceptibility of personality traits to environmental influence (Roberts et al., 2006) indicates that the moderate mean-level changes indicated



by other studies of authoritarianism are not inconsistent with a trait conception of the construct. For example, the observation that moderate decreases in traits such as negative emotionality accompany occupational success has not prompted any dispute over negative emotionality's status as a personality trait (Roberts, Caspi, & Moffitt, 2003). Similarly, if the participants in Duckitt and Fisher's (2003) study were correct in hypothesizing that their authoritarianism scores would moderately increase should society descend into chaos, this is best seen as yet another example of how an individual's personality traits may undergo predictable shifts in response to changes in his environment – not as a challenge to authoritarianism's status as a trait. At the same time, the demonstration that authoritarianism exhibits a high degree of genetically-influenced stability does not trivialize those changes in authoritarianism that do occur, particularly given the societal implications of such changes. For example, citizens of European states hit particularly hard by the recent global economic crisis have shown increased sympathy for authoritarian governments (Berglof, 2011), where this shift has been accompanied by corresponding election results and political movements in many of the affected nations. Thus, while authoritarianism may be no more malleable than any other personality trait, the identification of contributors to change in the trait remains a particularly urgent project deserving of continued attention in future research.

### Acknowledgements

The authors would like to thank Chris Federico and members of his lab for valuable feedback on this manuscript. Some of the data employed in this paper were collected with the financial support of the National Science Foundation in the form of SES-0721378, PI: John R. Hibbing; Co-PIs: John R. Alford, Lindon J. Eaves, Carolyn L. Funk, Peter K. Hatemi, and Kevin B. Smith, and with the cooperation of the Minnesota Twin Registry at the University of Minnesota, Robert Krueger and Matthew McGue, Directors. We would also like to thank Tom Bouchard and Katherine Corson for providing additional data for this project.

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