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Correlates of Self-Assessed Optimism ☆,☆☆,★,★★

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ABSTRACT

What are the bright- and dark-side personality trait, ideological belief, and mind-set correlates of self-assessed optimism? This paper reports on four studies, with a total $N > 2000$. In each, participants rated to what extent they were an optimist on an 8-point scale (high to low). We obtained demographic (age, sex) and ideological (political and religious beliefs) data in each study, as well as self-ratings on four variables (e.g., attractiveness, intelligence) which we aggregated and labelled self-esteem, which had alphas ranging from .70 to .80. We assessed personality, intelligence and other belief systems in different studies. Study 1 showed older, more religious, but less intelligent males with higher self-esteem and Belief in a Just World (BJW) were more optimistic. Study 2 showed older, more religious people, with higher self-esteem were more optimistic. Study 3 showed Open, Extraverted, Agreeable, Emotionally Stable, religious people with higher self-esteem and low on Negative Affectivity and Detachment, but high on Disinhibition, were most optimistic. Study 4 showed older, more religious people with higher self-esteem and lower Dweck fixed personality mindset beliefs were more optimistic. The concept and correlates of dispositional optimism and its measurement are discussed. Limitations and implications are noted.

Introduction

There is a vast and growing literature on the causes and consequences of trait and state optimism (Alarcon et al., 2013; Bredal & Ekeberg, 2016; Busseri et al., 2013; Carver & Scheier, 2002; Carver et al., 2009, 2010; Forte et al. 2021; Kam, 2020; King, & Belkin, 2020; Myers 2000; Peterson et al., 2012; Schou-Bredal et al., 2021; Shepherd et al., 2015; Stapleton et al., 2021; Zhang et al., 2021). As noted by Conversano et. al. (2010), there are various theoretical formulations of the same concept, namely optimism, such as "disposition", "attributional style", "cognitive bias", or "shared illusion". There is also the difference between hope and optimism (Bryant & Cvengros, 2004). In lay terms, people talk of an "eternal optimist" and a "sunny disposition". Various studies examine correlates of self-assessed optimism using a similar single-item scale as there have been shown to be as reliable and valid as longer measures (Allen et al., 2022). We assumed that optimism was a stable, trait-like variable that reflected a world view that had positive expectations about most issues but could change a function of major life events (Chopik, et al., 2020). Our aim was to examine ideological and self-esteem correlates of optimism over four studies as well the contribution of various other factors such as bright and dark-side personality traits and specific belief systems.

Over two decades ago Peterson (2000) noted that optimism is linked to good mood, perseverance, achievement, and physical health. He also listed a number of unanswered questions like: Are optimism and pessimism mutually exclusive? How can optimism be cultivated? How does optimism play itself out across different cultures? In short, Peterson (2000) argued that optimism is a central component of mental health and adaptation and hence worthy of study. Given its importance therefore, it seems important to understand the causes and consequences of optimism (Chopnik et al, 2020; Schwaba et al., 201), particularly its relationship to both bright- and dark-side personality as well as specific belief systems (Furnham, 2022).

The topic of optimism has attracted a great deal of research including books (Seligman, 1990), a number of meta-analyses (Alarcon et al., 2013; Gallagher et al., 2020; Shanahan et al., 2021) as well as genetic studies (Schulman et al., 1993). There have also been important papers on the downside of naïve or misplaced optimism (Purol & Chopik, 2021).

It has been suggested that assessing optimism and pessimism have been developed from two perspectives: the *expectancy perspective,* which

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☆☆ **Ethics:** This was sought and obtained (CEHP/514/2017)
★ **Informed Consent**: participants gave consent for their anonymised data to be analysed and published
★★ **There is no conflict of interest**

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reflects the expectations an individual has about their future, and the *attributional style perspective,* which refers to an individual's habitual manner of explaining the cause of personal events. However, just as the literature on happiness and well-being show that happiness and unhappiness are not opposites on a continuum (Chang et al., 1997; Cheng & Furnham, 2001; Robinson-Whelen et al., 1997), it is true that not being optimistic does not necessarily imply pessimism. In this study we simply ask people to rate how optimistic (from high to low) they are.

Most people seem confident in rating to what extent they are (generally) optimistic, or pessimistic (Bates, 2015). There are however a number of tests that have been used to measure optimism, defined as an attribution style (Cadena, et al., 2019; Dember, 1989; Ey et al., 2005: Hinz et al., 2017; Lemola et al., 2010; Millstein et al., 2019). It is however, possible to measure traits like optimism and happiness by very short scales, even single item measures.

For differential psychologists it is not clear whether optimism is a stable trait (i.e., stable over time, consistent across situations) (Bates, 2015). The same issue has been discussed in the happiness literature (Diener & Biswas-Diener, 2008). There is extensive evidence from longitudinal studies that suggests that while happiness and well-being do fluctuate for obvious reasons, (such as daily hassles) people have, and return to, a stable individual base rate for happiness. In this study we assume that optimism is trait-like and reliably measured by a single item scale (Allen et al., 2022).

Many have been interested in where optimism it sits in any classificatory system like "the Big Five", though there have been a few studies on the topic. For instance, Sharp et al. (2011) tested five samples (N = 4332) using three different measures of optimism and five different measures of the Big Five. They found strong positive relationships between optimism and four of the Big Five factors: Emotional Stability, Extraversion, Agreeableness, and Conscientiousness. Agreeableness and Conscientiousness explained additional variance in dispositional optimism over and above Neuroticism and Extraversion, providing evidence for the complexity of trait optimism.

This paper

In this paper we report on four studies, each with a different adult, non-student population of around 500 people. The vast majority in these studies were Europeans, mainly from Britain. In each study they were asked a number of questions and personal details, among which was the extent to which they were an optimist. The dependent variables was measured thus: "I am an optimist: *(Disagree)* 1 2 3 4 5 6 7 8 9 10 *(Agree)".* This was not a bipolar optimist-pessimist rating, as it could be argued that low optimism does not have to imply pessimism.

Indeed, just as the literature on happiness indicates that self-ratings of happiness/wellbeing and unhappiness are weakly, negatively correlated, showing they are different causes and consequences, so it is with optimism: thus pessimism is not necessarily the opposite of optimism (Chang et al., 1997).

In each study we had details about sex, age, religious and political beliefs and self-esteem, which allowed for replication. Our self-esteem measure was based on four ratings (attractiveness, emotional intelligence, health and intelligence) which are highly intercorrelated, have an acceptable alpha and correlate systematically with other variables related to self-esteem (Furnham & Grover, 2021). We assumed that people with high self-esteem would be more optimistic and positive in their world view (Fontaine & Jones, 1997).

This allowed us to look at the replicability of findings across four sample. However, each study included other factors like personality traits and disorders, specific belief systems (Just World, Mindset) and IQ to explore the relation between optimism and those variables. Some of these analyses were replicative, such as with personality, while other were innovative such as with Mindset. We believe that some of these variables have not been investigated before with respect to optimism.

The procedure was the same in each study, which were run between mid 2020 and late 2021. Ethical approval was gained prior to data collection (CEHP/514/2019). Data was collected on-line through *Prolific*, a platform like the better-known Amazon-Turk. We specified that participants needed to be around 30 years old to reduce student numbers, working, and be fluent in English. Participants were compensated for their time according to the time they took. Usual data cleaning and checking occurred, and usually a small percentage (around 5%) were excluded from further analysis because of omissions, completion times etc.

In each study we first computed correlations followed by hierarchical regressions with the rating of optimism as the criterion variable.

Study 1

In this study, along with the five variables we assessed in each study, we were interested in three other factors. The first was belief in Conspiracy Theories. The rapidly expanding literature in this area suggests that the profile of CT believers accept often strange and outlandish CTs because they serve a psychological function for people who feel powerless, excluded or disadvantaged; in essence pessimistic not optimistic (Furnham & Grover, 2021).

We also explored Just World Beliefs, a concept that was identified over 30 years ago and concentrates on the tendency of people to blame victims of misfortunes for their own fate. The idea is that people have a fundamental need to believe that the (social) world is a just place, and that this belief is functionally necessary for them to develop principles of deservingness. The idea of the JWB is that it helps answer very difficult moral, political and social questions and which helps them be more optimistic about the future.

Third, we had a short IQ test in this study. We hypothesised that as IQ is linked to so many positive life outcomes (education, health, income) it would be positively associated with optimism.

Method

Participants

There were 500 participants: 254 males and 248 females. They ranged in age from 30-69, with a modal age of 36. In all 70.9% were university graduates. With regard to their religious beliefs (1 = *Not At All* to 9 = *Very*), they scored a mean of 3.80 (*SD* = 3.01). In all 41.3% said they did, and 58.7% said they did not, believe in an afterlife. They rated their political views from 1 = *Very Conservative* to 9 = *Very Liberal,* with a mean of 5.83 (*SD* = 1.81). They rated "I am an optimist" from 10 = *Agree* to 1 = *Disagree,* with a mean of 6.74 (*SD* = 2.15).

Questionnaires

1. *Self-Esteem.* Each rated four other factors on a scale from 1-100: Physical Attractiveness (*M* = 62.16; *SD* = 19.23), Physical Health (*M* = 69.07, *SD* = 18.18), Intelligence (IQ) (*M* = 73.09, *SD* = 13.49), and Emotional Intelligence (*M* = 72.81, *SD* = 17.01). The alpha for these four items was .73 and they were summed together forming a variable labelled Self-Esteem.
2. *Conspiracy Thinking* (Walter & Drochon, 2020). This was a 10-item scale devised as part of the Conspiracy and Democracy project at the University of Cambridge. It consisted of 10 statements that are generic in nature and not connected to any specific societal, economic or political systems. People note those they believe to be true. In this study the Alpha was .68. with a mean of 2.01 (*SD* = 1.77).
3. *Belief in a Just World.* Rubin and Peplau (1975) devised a 20-item self-report inventory to measure the attitudinal continuity between the two opposite poles of total acceptance and rejection of the notion that the world is a just place. The scale has been

Table 1
Means, SDs and Correlations for all variables

	Mean	SD	1	2	3	4	5	6	7	8
(1)Optimist	6.74	2.15								
(2)Sex	1.49	0.50	***.09****							
(3)Age	37.96	8.01	***.10****	.00						
(4)Religious	3.80	3.01	***.20****	.04	.02					
(5)Politics	5.83	1.81	***.01***	.13**	-.03	-.23***				
(6)IQ Total	10.27	2.82	***-.11****	-.15***	.05	-.25***	.08			
(7)Self-Esteem	276.85	50.71	***.36*****	-.03	.02	.17***	.00	.04		
(8)JWB	14.86	10.15	***.27*****	-.17***	.04	.04	-.14**	.03	.21***	
(9)Conspiracy The	2.02	1.71	***.08***	.11*	-.05	.41***	-.23***	-.36***	.00	-.02

*p<.05 **p<.01 ***-<.001

Table 2
Regression onto Optimism

	B	SE	Beta	t
Sex	.49	.18	.11	2.71**
Age	.02	.01	.09	2.13*
Religious	.09	.03	.13	2.86**
Politics	.09	.05	.08	1.79
IQTot	-.07	.03	-.09	-2.00*
SelfTot	.01	.00	.30	7.06***
JWTot	.05	.01	.23	5.50***
ConspiracyTot	.02	.06	.02	0.35
Adjusted R^2	.215			
F	17.731			
p	.000			

*p<.05 **p<.01 ***-<.001

quoted over 650 times in the academic literature. Because some items were both dated and country specific, 6 were removed leaving 9 Just World and 4 Unjust World items remaining. The Cronbach alpha in this study for the Just World was .88 and .82 for the Unjust World.

4. *The Wonderlic Personnel Test* (Wonderlic, 1990). This 50-item test can be administered in 12 minutes and measures general intelligence. Items include word and number comparisons, disarranged sentences, story problems that require mathematical and logical solutions. The test has impressive norms and correlates very highly (r = .92) with the WAIS-R. In this study we used 16 items from Form A (14, 15, 18, 21, 24, 27, 28, 29, 30, 32, 33, 34, 36, 37, 43, 46).

Results

The correlational results shown in Table 1 indicate a number of significant correlates of optimism. Females more than males, older more than younger, more rather than less religious, higher rather than lower IQ, high rather than low self-esteem people, and those who endorsed JWB tended to be more optimistic.

Similarly, the results of the regression shown in Table 2 show it accounted for 22% of the variance with a number of significant predictors, of which the most significant were self-esteem and JWB. It is noteworthy that people who said they were more religious were more optimistic, though it is not clear the mechanisms involved.

Both analyses confirmed that IQ was negatively correlated with optimism. There are different interpretations of this finding such as the depressive realism hypothesis which suggests that some forms of optimism are simply naïve and that people with a more depressive/pessimistic outlook may simply be more realistic about the state of affairs. This result warrant further investigation.

Study 2

In this study, along with the five variables we assessed in each study, we were interested in social comparison data. Social comparison theory suggests that individuals determine their own social and personal worth based on how they assess themselves against others that they know. This process is thought to be highly motivational for the individual to improve, but may also lead to negative affect and cognition.

Method

Participants

A total of 504 participants completed the questionnaire: 254 were men and 249 were women. They ranged from 20 to 73 years old, with a mean age of 38.42 years (SD = 8.36). About 70% were university graduates. In total 33.9% were single and 44.2% married, with 45.4% having no children. They are rated themselves on two scales: How religious are you? (*Not At All* = 1 to *Very* = 8) (M = 3.73, SD = 3.07) and How would you describe your political beliefs? (*Very Left Wing* = 1 to *Very Right Wing* = 8) (M = 5.87, SD = 1.79). In all, 55% said they believed in the afterlife and 45% said they did not.

Questionnaires

1. *Self-Esteem.* Each rated four other factors on a scale from 1-100: Physical Attractiveness (M = 60.80, SD = 19.03), Physical Health (M = 68.84, SD = 19.25), Intelligence (IQ) (M = 72.01, SD = 14.06), and Emotional Intelligence (M = 71.26, SD = 18.49). The Alpha for these four items was .75 and they were summed together forming a variable labelled Self-Esteem.
2. *Social Comparisons.* Each person made eight social comparison ratings using the following wording: "Compared to others of you own age, stage and background, to what extent do you think you are more or less…? (*Much less*) 1 2 3 4 5 6 7 8 9 (Much More). Ratings included such things as "a good driver", "emotionally resilient", "a good listener" and "ambitious at work". The alpha for the scale was .62.

Results

The correlational results shown in Table 3 indicate a number of significant correlates of optimism. More rather than less religious, those with higher rather than lower self-esteem and those with favourable more than unfavourable comparisons were more optimistic.

Similarly, the results of the regression shown in Table 4 show it accounted for 23% of the variance with a number of significant predictors. The most significant predictor was self-esteem followed by religion. This is similar to study 1.

Study 3

In this study, along with the five variables we assessed in each study, we were interested in personality trait correlates of optimism. We chose to look at bright-side and dark-side factors. There have been a number of studies that have examined the Big Five correlates of various measures of optimism (Abdel-Khalek, 2019; Serrano et al., 2020; Sharpe et al., 2011.

Table 3
Means, SDs and Correlations between all variables

	Mean	SD	1	2	3	4	5	6	7
(1)Optimist	6.90	2.07							
(2)Sex	1.50	.50	***.03***						
(3)Age	38.42	8.36	***.06***	.02					
(4)Religious	3.73	3.07	***.26******	.10*	.03				
(5)Politics	5.87	1.79	***.06***	.00	-.05	-.21***			
(6)Self-Esteem	274.05	54.18	***.44******	.06	-.04	.23***	.05		
(7)Compare	46.56	8.38	***.31******	-.05	-.08	.24***	-.02	.51***	

*p<.05 **p<.01 ***-<.001

Table 4
Regression onto Optimism

	B	SE	Beta	t
Sex	-.16	.18	-.04	-0.90
Age	.03	.01	.10	2.42*
Religious	.12	.03	.17	3.85***
Politics	.08	.05	.07	1.70
Self	.01	.00	.36	7.25***
Compare	.02	.01	.09	1.85
Adjusted R^2	.237			
F	23.906			
p	.000			

*p<.05 **p<.01 ***-<.001

The results are fairly consistent showing positive correlations, with the exception of Neuroticism which is strongly negative. Extraversion tends to show the strongest positive correlation.

Far fewer, if any studies, have examined the relationship between dark-side personality disorders and optimism. There is some reason to suggest most correlations would be negative, though it is possible the relationships would be very unstable for Borderline, Histrionic and Narcissistic personality disorder. In this study we used the new short-form, five factor, dimensional, DSM-5 model, as it predicts negative correlations especially with Negative Affect and Antagonism.

Method

A total of 506 participants completed the questionnaire: 255 were men and 251 were women. They ranged in age from 17 to 61 years, with the mean age being 26.09 years (*SD* = 7.49 years). Almost all had completed secondary school education (97.45%) and 40.3% had a university degree. In total, 66.4% were single and 11.1% married, and 88.5% had no children. They are rated themselves on two scales: 'How religious are you?' (*Not at all* = 0 to *Very* = 9) (*M* = 3.45, *SD* = 2.70) and 'How would you describe your political beliefs?' (*Very Left Wing* = 1 to *Very Right Wing* = 9) (*M* = 6.07, *SD* = 1.86). In all, 49% said they believed in life after death and 50.6% said they did not.

Questionnaires

1. *Self-Esteem.* Each rated four other factors on a scale from 1-100: Physical Attractiveness (*M* = 62.16, *SD* = 19.23), Physical Health (*M* = 69.07, *SD* = 18.18), Intelligence (IQ) (*M* = 73.09, *SD* = 13.49), and Emotional Intelligence (*M* = 72.81, *SD* = 17.01). The alpha for these four items was .73 and they were summed together forming a variable labelled Self-Esteem
2. *Ten Item Personality Measure* (TIPI; Gosling et al., 2003). This measures five personality traits (Emotional Stability, Extraversion, Openness, Agreeableness, and Conscientiousness) using 2 items each. This measure was designed to maximise content validity and efficiency, but as a result has a poor factor structure and reliability. Items were measured on a 7-point scale from 'Strongly Disagree' (1) to 'Strongly Agree' (7).
3. *DSM-5—Brief Form* (PID-5-BF) (Díaz-Batanero et al., 2019; Kreuger et al., 2012). The Personality Inventory for DSM is a 25-item self-rated assessment scale which assesses five personality trait domains (Negative Affect (.74), Detachment (.60), Antagonism (.68), Disinhibition (.72) and Psychoticism (.75)) with each trait domain consisting of 5 items. It has been validated by a number of psychometric studies in different countries (Sellbom et al., 2020).

Results

The correlational results shown in Table 5 indicate a number of significant correlates of optimism; females more than males, more rather than religious, and high self-esteem rather than low self-esteem people were more optimistic. All of the Big Five, and three of the DSM traits, were related to optimism. The highest correlations were Emotional Adjustment (the opposite of Neuroticism) and Negative Affect. The results from the Big Five replicate other studies in the field

Similarly, the results of the regression shown in Table 6 accounted for 42% of the variance, with a number of significant predictors. In all 9/15 variables were significant, particularly self-esteem, Agreeableness, Detachment and Disinhibition. As before religion and self-esteem were positive predictors of Optimism along with four of the five Big Five. Three of the Dark Side traits were significant in the regression, with one, Disinhibition, being significantly positive. Disinhibition is associated with irresponsibility, impulsivity, distractibility and suggest people high on this trait might always be "casting about" for experiences which may raise their spirit. It is a finding that is worth exploring.

Study 4

In this study, along with the five variables we assessed in each study, we were interested in one other factor. There has been an extensive literature on the concept of Mindset as specified by Dweck (2000; 2008; 2012), who distinguished between two views on intelligence. Individuals holding an *Entity* theory of intelligence assert that intelligence levels remain (relatively) constant over a person's lifetime regardless of their education, effort and experience gained. This is the result of a *Fixed Mindset*. Entity theorists believe that they can learn new things (skills, knowledge) but their underlying intelligence level essentially never changes. However, *Incremental* theorists believe that intelligence can be increased and cultivated by hard work and continued learning. Fixed mindset theorists therefore tend not increase their level of effort in educational and work environments because they do not believe they can improve their performance while incremental theorists tend to acknowledge the importance of effort when approaching any learning task.

There is much debate in psychology, particularly those interested in intelligence, as to whether, how and by how much intelligence can be increased (Deary et al., 2000; Furnham, 2014). There is some suggestion that fluid intelligence is less amenable to change compared to crystallised intelligence.

The concept of changing intelligence has been extended to personality (Furnham & Sherman, 2022) such that incremental theorists suggest

Table 5
Means, SDs and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
(1)Optimist	6.20	2.32																
(2)Sex	1.50	.50	**-.13****															
(3)Age	27.91	7.49	**.03**	-.08														
(4)Religious	3.45	2.70	**.13****	.06	.01													
(5)Politics	6.07	1.86	**-.03**	.20***	.02	-.32***												
(6)Self-Esteem	267.30	54.87	**.40*****	.01	.07	.04	.07											
(7)Extrav.	7.08	3.08	**.37*****	-.01	.14**	.12**	-.08	.26***										
(8)Agree.	9.25	2.22	**.25*****	.12**	-.08	.10*	.01	.11*	-.02									
(9)Conscient.	9.58	2.71	**.09***	.17***	-.20***	.09	-.13**	.19***	-.05	.16***								
(10)Emot Stab.	7.76	3.05	**.42*****	-.31***	-.10*	.05	-.13**	.25***	.15**	.19***	.17***							
(11)Openn.	10.05	2.43	**.33*****	.05	.03	.02	.05	.25***	.33***	.15***	.04	.12**						
(12)DSM1 NA	7.34	3.41	**-.37*****	.31***	.16***	.01	.13**	-.21***	-.14**	-.13**	-.11*	-.69***	-.20***					
(13)DSM2 DE	5.32	2.86	**-.44*****	.09	-.01	-.01	-.00	-.34***	-.35***	-.26***	-.16***	-.35***	-.25***	.32***				
(14)DSM3 AN	3.60	2.72	**-.01**	-.15***	.20***	-.04	-.04	.06	.20***	-.29***	-.18***	-.09*	.06	.17***	.18***			
(15)DSM4 DIS	4.55	2.99	**.02**	-.16***	.21***	.01	-.06	-.16***	.15**	-.21***	-.51***	-.19***	-.03	.24***	.20***	.32***		
(16)DSM5 PS	5.61	3.28	**-.17*****	-.01	.21***	-.05	.04	-.17***	-.08	-.21***	-.27***	-.31***	-.00	.41***	.33***	.37***	.41***	

*p<.05 **p<.01 ***-<.001

Table 6
Regression onto Optimism

	B	SE	Beta	t
Sex	-.11	.19	-.02	-0.59
Age	.00	.01	.01	0.25
Religious	.08	.03	.09	2.44*
Politics	.08	.05	.07	1.74
Self-Esteem	.01	.00	.19	4.89***
Extrav.	.13	.03	.17	3.97***
Agree.	.16	.04	.15	4.01***
Conscient.	.06	.04	.07	1.54
Emot Stab.	.14	.04	.19	3.73***
Openn.	.10	.04	.10	2.61**
DSM1 NA	-.09	.04	-.12	-2.37*
DSM2 DE	-.15	.04	-.19	-4.28**
DSM3 AN	.00	.04	.00	0.05
DSM4 DIS	.15	.04	.20	4.31***
DSM5 PS	.01	.03	.02	0.44
Adjusted R^2	.420			
F	24.535			
p	.000			

*p<.05 **p<.01 ***-<.001

that personality can be changed and entity theorists that it cannot be developed. Certainly, there seems to be more agreement that personality is open to change under specific conditions or circumstances.

It would seem that entity theorists would be less optimistic than incremental theorists; that is that optimists would believe that they can, with specific effort, increase their intelligence and bring about positive changes in their personality.

Participants

There were 510 European participants: 255 male and 255 female with an average age of 40.15 (*SD* = 9.19) years. In all 64% were university graduates. In all 38% were single and 40% married Nearly all were in employment in a wide variety of jobs which they specified and all fluent in English. They are rated themselves on two scales: 'How religious are you?' (*Not at all* = 0 to *Very* = 9) (*M* = 3.80, *SD* = 3.03) and 'How would you describe your political beliefs?' (*Very Left Wing* = 1 to *Very Right Wing* = 9) (*M* = 5.77, *SD* = 1.78). They also rated how optimistic they were from 1=Not at all to 9 Very (*M* = 6.35, *SD* = 2.26).

Measures

1. *Self-Esteem.* Each rated four other factors on a scale from 1-100: Physical Attractiveness (M = 57.51, SD = 19.85), Physical Health (M = 65.73, SD = 20.05), Intelligence (IQ) (M = 70.17, SD = 14.38), and Emotional Intelligence (M = 70.54, SD = 17.89). These were combined into a Self-Esteem score with a mean of 263.77 (*SD* = 56.58) and an alpha of .78.
2. *Mindset Quiz* (Dweck, 2000; 2012). This is a 20-item questionnaire which had four groups of items: a fixed ability mindset (7 items) (*M* = 19.52, *SD* = 2.38, Alpha .58), a growth ability mindset (7 items) (*M* = 15.34, *SD* = 2.72, Alpha .59), a fixed personality/character mindset (3 items)(*M* = 7.37, *SD* = 1.63, Alpha .68) and growth ability mindset (3 items) (*M* = 6.33, *SD* = 1.49, Alpha .47). From this a Dweck Ability score was calculated, namely Ability Fixed–Ability Growth (*M* = 3.33, *SD* = 4.22), and a Personality score was calculated, namely Personality Fixed-Personality Growth (*M* = -1.03, *SD* = 2.57). These scores were correlated *r* = -.60, p < .001). The Ability score (*r* = .31), and the Personality score (*r* = -.33), were correlated with optimism.

Results

The correlational results shown in Table 7 indicate a number of significant correlates of optimism. Three replicate the other studies, namely that old more than young, more rather than less religious and those with higher rather than lower self-esteem were more optimistic. The four mindset scores however yielded particularly interesting and counter-intuitive results.

Similarly, the results of the regression shown in Table 8 show it accounted for nearly 30% of the variance with a number of significant predictors. Once again religious beliefs and self-esteem were significant predictors, as was age, which showed older people were optimistic. However, the Mindset variables were particularly interesting. The more optimistic a person was, the more they thought that ability was fixed, and that personality was not; i.e. changeable and developable. This would make the optimist sceptical about claims that certain interventions result in greater intelligence, but receptive of claims often made by psychotherapists that, with effort personality can be changed.

Discussion

In this study we had a simple single measure of optimism based on a nine-point scale. The means all four studies were similarly high (between 6.20 and 6.90) and all had similar standard deviations between 2.07 and 2.33, and scores were normally distributed. It is debateable whether our results would have changed had we, for instance, used another short scale (i.e., Cadena et al., 2019) or a longer multi-dimensional instrument (Dember et al., 1989). As noted by Allen et al. (2022) "…*most research published on single-item measures shows that they are often as valid*

Table 7
Correlations between demography, ideology, self-ratings and DWECK scores

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
(1)Optimist	6.35	2.26											
(2)Sex	1.50	.50	**.02**										
(3)Age	40.15	9.19	**.12****	.03									
(4)Degree	1.35	.48	**-.06**	.03	.10*								
(5)Religious	3.80	3.02	**.25*****	.10*	-.01	-.04							
(6)Politics	5.77	1.78	**-.04**	.02	-.15***	.00	-.22***						
(7)Self-Esteem	263.98	56.59	**.45*****	-.03	-.06	-.14**	.27***	-.04					
(8)AbilityFixed	18.65	2.3	**.23*****	.06	-.05	-.09*	.01	.09	.15***				
(9)AbilityGrowth	15.32	2.75	**-.28*****	.01	.05	.13**	-.28***	.06	-.27***	-.35***			
8)PersGrowth	7.37	1.63	**.23*****	.08	-.05	-.07	.15***	.03	.14**	.50***	-.34***		
(9)PersFixed	6.34	1.48	**-.32*****	-.05	.02	.08	-.19***	.07	-.25***	-.28***	.49***	-.36***	

*p<.05 **p<.01 ***p<.001

Table 8
Regression onto Optimism

	B	SE	Beta	t
Sex	-.05	.17	-.01	-0.31
Age	.04	.01	.16	4.24***
Degree	.03	.18	.01	0.17
Religious	.09	.03	.12	2.96**
Politics	.04	.05	.03	0.76
Self-Esteem	.01	.00	.36	8.98***
AbilityFixed	.10	.04	.10	2.27*
AbilityGrowth	-.02	.04	-.03	-0.64
PersGrowth	.07	.06	.05	1.18
PersFixed	-.23	.07	-.15	-3.35***
Adjusted R^2	.291			
F	21.856			
p	.000			

***p<.001 **p<.01 *p<.01

and reliable as their multi-item counterparts" (p4). There is also the trait-state issue, however we believe that in this study we were assessing self-reported disposition optimism, rather than a state, though this warrants further investigation.

In this paper reporting four studies with an N > 2000 there were some consistent findings. In all four studies our simple, but reliable measure, of self-esteem was a significant correlate suggesting, not unreasonably, that those who rated themselves more highly were also more optimistic. Indeed, it has been suggested that these two variables – optimism and self esteem are genetically linked (Saphire-Bernstein et al., 2011).

The strong relationship between our short but highly reliable measure of self-esteem based on four self-ratings and optimism showed correlations between .36< *r* <.44. Further, in each regression the self-esteem variable was the most powerful correlate. This result is no surprise and may be observed in the clinical and social psychology literature on self-esteem. However, a question for those interested in helping those with low self-esteem is whether to focus on attributional style or upon building self-esteem. Part of the clue appears in the final study which indicates that optimists are sceptical about ability growth, but not about personality growth. That is, they believe that it is possible to change aspects about personality but not essential abilities

Also, in each study more religious people were more optimistic. This is an established finding (Dolcos et al., 2021). Where the results were significant, they suggested that older more than younger, and females more than males were more optimistic. In no study were political beliefs significantly associated with optimism.

Similarly, the relationship between religious beliefs and optimism is not clear. Does religion give people a sense a destiny, a caring deity, and a group of supporting like-believers, or are optimistic people drawn to religion. We did not investigate specific religious beliefs or behaviours which may have helped explain this phenomenon. However, there is other evidence that more religious people tend to be happier (Rizvi & Hossain, 2017).

It was equally important to note those variables that were *not* related to optimism. These included politics, and belief in Conspiracy Theories. This may suggest that optimism plays less a part in bigger societal issues compared to more personal issues. It was interesting to note that a belief in Conspiracy theories was not related to low pessimism as the many papers on the issues suggest that conspiracy theorists are alienated, and disturbed (Furnham & Grover, 2021).

The regressions indicated that bright and dark-side traits were related to optimism (Furnham, 2022). The analysis of the bright-side Big Five confirmed many previous studies and indicated predictably Neuroticism (Emotional Stability) was most closely related to optimism (Abdel-Khalek, 2019; Serrano et al., 2020). By definition neuroticism is associated with anxiety, depression, psychosomatic illnesses and vulnerability which is in many ways the epitome of the opposite of optimism. In this study Conscientiousness was weakly related to optimism, though other studies have shown a stronger relationship. However, the dark-side personality disorders yielded more interesting findings particularly the relationship between Disinhibition and optimism. It is to be expected that the dark-side variables are associated with low optimism and few of the personality disorders are shown to be associated with social and work satisfaction and success (Furnham, 2022)

One of the most interesting findings were those from the final study, based on Mindset theory. At the heart of Mindset theory is the idea that having the change mindset is a key to optimism and concomitant success, while the fixed mindset is associated with negativity (Dweck, 20120). It may be assumed that optimists would be *incrementalists* to the extent they believe with effort they can improve. It is important to note that in this study we differentiated between ability and personality change and that vast amount of Mindset theory has been based on ability. It may well be that in general people feel it is easier to change personality than ability and hence there could be a distinction between an informed or sceptical optimist and a naïve optimist. Thus, it seems quite possible that optimists know from experience that it is very difficult to change some things and not others, while pessimists simply believe few things are able to be changed.

Like all others, this study had limitations. These studies were all correlational and based on self-report methodology with method invariance. This meant it was impossible to disentangle cause and effect to try to understand whether optimism was a cause of, or a consequence of some belief or behaviour like religious beliefs or self-esteem. It is no doubt that in many instances the relations are bi-direction with "vicious and virtuous cycles", such that for instance optimistic people build up their self-esteem which leads to more personal success. This could be seen as a manifestation of observation "whether you think you can, or you think you can't—you're right.". Equally it is possible that optimism is a mediator or moderator variable between certain beliefs and outcomes, which we did not explore in this paper. Only longitudinal studies which measure a wide range of variables, help understand the processes or mechanisms involved

We also had an unrepresentative though large N which was younger, and better educated, less religious and more politically liberal than the

population as a whole. However, it should be noted that neither age nor education was closely related to optimism.

It would also have been interesting to unpack optimism by asking people how optimistic they were about their economic and occupational status, their health and relationships as well as their hopes for their society. The question is whether optimism is in some sense specific to any one part of life. It would equally be interesting to replicate this study by using ratings of pessimism rather than optimism, or indeed for people to rate themselves on a wide, single optimism-pessimism scale to see if the results would be reversed.

Implications

This study highlighted a number of variables that were related to self-rated optimism which could be considered as a desirable state in the sense that (realistic) optimism is related to a wide range of important life outcomes like education, health and social relationships. Those interesting in developing optimism in people are concerned with both what stable characteristics (demography, personality) are related to optimism but more importantly what features they could work on to increase optimism in individuals. This study suggested that focusing on self-esteem, just world and growth mindset beliefs could increase optimism which may in turn lead to positive cycles and feedback loops. Realistic optimism is an attractive characteristic in individuals which has manifold benefits and is therefore worthy of cultivating and researching.

Data Availability

The SPSS data file is available on request from either author

Ethics Approval

UCL Psychology Dept number CEHP/514.2013 granted permission for this study to be done,

Author Contribution

A.F: Visualisation, Writing -review
C.R: Data curation; analysis

Declaration of Competing Interest

There is no conflict of interest in this research or paper

Data Availability

This is obtainable from the first author upon request

Data will be made available on request.

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