



Personality and family influences on adolescent attitudes to school and self-rated academic performance

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Received 27 July 2000; received in revised form 16 January 2001; accepted 8 February 2001

Abstract

We assessed the extent to which attitudes to school and self-rated academic performance are linked to the major personality dimensions as well as to perceptions of parental bonding. Respondents were 115 high school students (modal age = 15 years and 9 months). Results revealed that the personality factors Conscientiousness and Psychoticism were consistently related to attitudes to school and academic performance, while the parental factors (care and overprotection) were only weakly related to outcomes. The results are discussed with reference to current knowledge of the major personality domains. © 2002 Published by Elsevier Science Ltd. All rights reserved.

Keywords: School performance; School attitudes; Psychoticism; Conscientiousness; Neuroticism; Agreeableness

1. Introduction

To what extent do individual personality factors and family experiences influence attitudes to school and self-rated academic performance among high school students? Although several studies have been conducted into the relationships between personality and family influences on the one hand and academic success on the other, none, it would seem, have examined the joint effects of personality and parental influences on attitudes to school or academic performance among youth.

1.1. *The role of personality*

That personality factors are linked to academic performance is well established in the literature. H. Eysenck's (1967) experimental work on the nature of Extraversion (E)–Introversion (I),

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generated many studies into the personality characteristics associated with general performance and school achievement. In line with his arousal theory, it has been shown that Is persevere with and tend to be successful at more boring tasks (such as vigilance tasks), while Es tend to perform better at more interesting tasks (Eysenck & Eysenck, 1985). In an extension of these ideas, it was shown that Is are better at recalling information in silent conditions, while Es did not perform as poorly under distracting conditions (Morgenstern, Hodgson, & Law, 1974). Given these personality differences, it is to be expected that there may be implications for school achievement. Indeed, Child (1989) argued that Is are better able to consolidate new material and that this is likely to improve their chances of academic success.

Although a range of factors such as parental expectations and type of school attended undoubtedly affect academic motivation and performance, it is now well established that personality type is also of fundamental importance. Heaven (1990) reported that E, but not neuroticism (N) or psychoticism (P) was significantly related to achievement motivation among high school students, after controlling for dissimulation. Earlier, Entwistle (1972) found that, among primary school children, E was a significant predictor of academic attainment while, among university students, introversion was found to be an important factor. Goh and Moore (1978) obtained similar results with respect to the role of introversion among their sample of university students. In an attempt to explain these differences between school and university students, it was suggested that capable students become more introverted as they get older (Eysenck & Eysenck, 1985). With respect to N, it has been found that this factor is associated with poor academic outcome (De Raad & Schouwenburg, 1996) and that those high on N tend to sit their final examinations several times before successfully completing their studies (De Fruyt & Mervielde, 1996).

Personality type is also important for predicting performance at different types of academic activities. Furnham and Medhurst (1995) showed that Es were more likely than other personality types to engage in academic seminars, but were not as enthusiastic about essay writing. Extraverts, compared to anxious individuals, were more willing to participate in oral tasks such as giving verbal presentations to fellow students. However, the best predictor of seminar outcome was the P dimension, which might be due to the fact that high P students were observed to be low in motivation, to have poor work habits, poor oral expression, and so forth. Likewise, Aluja-Fabregat and colleagues recently found that students who were rated by their teachers as being interested in their studies scored low on P (Aluja-Fabregat, Balleste-Almacellas, & Torrubia-Beltri, 1999).

A limited number of studies have adopted the Big Five personality taxonomy. Although the results with E and N replicate those that have used other inventories, it is the results with conscientiousness (C), agreeableness (A) and openness to experience (O) that are of interest. De Raad and Schouwenburg (1996) have suggested that C is an important personality domain that underpins academic performance as it encompasses such elements as drive, carefulness, concentration, endurance, and being organised, a view endorsed by De Fruyt and Mervielde (1996) as well as Wolfe and Johnson (1995). De Fruyt and Mervielde (1996) found that successful final grades at university were best predicted by high scores on competence, order, dutifulness, achievement striving, self-discipline and deliberation, all facets of the C dimension. An increase in the number of final examinations required to complete a course was found to be negatively related to traits associated with C. Using structural equation models, Vollrath (2000) showed that

high N and low C can be used to predict increased doubt about study prospects among university students.

Finally, evidence seems to suggest that A is not particularly useful in predicting academic outcome. Indeed, De Fruyt and Mervielde (1996) as well as Vollrath (2000) found no significant links between academic performance and A.

1.2. Parental influences on scholastic achievement

Parental style is important not only for the general emotional health of the adolescent, but also for academic achievement (e.g. Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Lamborn, Mounts, Steinberg & Dornbusch, 1991; Shucksmith, Hendry & Glendinning, 1995). Although the possibility exists that parental behaviours can be shaped by those of their children, Baumrind (1971) differentiated parenting style and found that each style had its own unique implications for the child's psychological health. Subsequent research indicated that authoritative parenting (setting boundaries for behaviour within a democratic framework) was optimal for the psychological adjustment and positive attitudes to school of young people. By contrast, a permissive style or an authoritarian parenting style (high in parental demand and low in parental responsiveness) were found to be less conducive to psychological well-being. It has been argued that an authoritative parenting style leads to low problem behaviours and psychosocial maturity in young people (Steinberg, Elmen, & Mounts, 1989). One element of psychosocial maturity is a positive attitude to school work suggesting, therefore, that authoritative parenting facilitates academic performance.

A widely used measure of adolescents' perceptions of family climate is the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979). This inventory provides an assessment of the maternal and paternal care and protection behaviours as viewed by the child. The care factor encompasses affection and emotional warmth on the one hand and emotional coldness, neglect and indifference on the other. The protection factor is defined as ranging from control, overprotection and intrusion at one extreme to allowing autonomy and encouraging independence in the child at the other.

The PBI is useful for predicting a wide range of maladaptive behaviours in young people. For example, low parental care combined with overprotection is referred to as affectionless control and has been found to be related to schizophrenia, borderline personality, anxiety, depression, bulimia and drug addiction (Biggam & Power, 1998; Mohr, Preisig, Fenton, & Ferrero, 1999). As predicted, Mak (1994) found self-reported delinquency to be related to low maternal and paternal care and maternal and paternal overprotection for both male and female high school students. In addition, among both sexes, delinquency was best predicted by affectionless control and weak bonding (low care plus low protection). Thus, it is clear that parents differ in their characteristic ways of interacting with their offspring and that their interactions shape children's behaviours in predictable ways.

Although the PBI has been found to be useful for predicting the psychological adjustment of youth, it has not yet been used for predicting academic behaviours. Given previous research on adolescent well-being, it is expected that parental care and encouragement of autonomy, rather than low care and overprotection, will be significantly related to positive attitudes to school and better academic performance.

1.3. Aims and rationale

Research evidence suggests that personality and parental influences have a significant impact on the behaviours and school competencies of young people, although the relative importance of these factors has yet to be established. The following hypotheses guided this study:

1. Positive attitudes to school and perceptions of higher academic performance will be significantly related to E (Entwistle, 1972), emotional stability (De Fruyt & Mervielde, 1996; De Raad & Schouwenburg, 1996), low P (Furnham & Medhurst, 1995), and high C (De Raad & Schouwenburg, 1996).
2. Positive attitudes to school and perceptions of higher academic performance will not be significantly related to A (De Fruyt & Mervielde, 1996; Vollrath, 2000).
3. Positive attitudes to school and perceptions of higher academic performance will be significantly related to maternal and paternal care and encouragement of autonomy.

2. Method

2.1. Participants

Thirteen private and state schools in New South Wales (NSW), Australia were approached for permission to conduct this study, but permission was granted from only two schools (one Catholic and one independent school). Parents of approximately 262 students were approached by letter to consent for their children to participate in the study. Respondents were 115 Year 10 students (58 males; 57 females). Of the respondents, 84% reported living with both parents which is noteworthy in view of the parental variables used in this study. The age range of the respondents was 14–16 years with a modal age of 15 years and 9 months.

Although it cannot be assumed that the sample is representative of all 15-year-olds in NSW, the sample does appear to be sufficiently heterogeneous. For example, 46.1% reported that their father was employed in a professional/technical/managerial capacity (e.g. doctor, manager, administrator, technician), while 13% had a father employed as a tradesman. A further 6.1% were employed in community service (e.g. fireman, policeman, armed forces), 19.1% were employed as a labourer or in production/transport, while the remainder were employed in a variety of other occupations or categorised as unemployed/retired.

2.2. Materials

Respondents were requested to complete a questionnaire containing the following measures:

2.2.1. Revised Junior EPQ (Corulla, 1990)

This is a revised 36-item junior version of the Eysenck Personality Questionnaire (H. Eysenck & S.B.G. Eysenck, 1975) and has acceptable levels of reliability and validity. On the present occasion the coefficient alphas for the sub-scales were E = 0.77, N = 0.79, P = 0.65.

2.2.2. *Agreeableness and Conscientiousness (John, 1990)*

Using the natural language approach, a list of adjectives said to define these personality domains was also included (John, 1990). Such adjective measures have been shown to correlate highly with more conventional personality inventories (Heaven, Connors, & Stones, 1994). Agreeableness (A) was measured with the aid of a 28-item scale (e.g. “warm”, “affectionate”, “kind”), while conscientiousness (C) was measured with a 12-item scale (e.g. “efficient”, “organised”, “cautious”). Respondents indicated their responses to the items on a 5-point Likert scale ranging from “Not at all like me” (coded 1) to “A lot like me” (5). On the present occasion, alpha coefficients were $C = 0.81$, $A = 0.91$.

2.2.3. *Parental Bonding Instrument (Klimidas, Minas, & Ata, 1992; Klimidas, Minas, Ata, & Stuart, 1992)*

This is a shorter 16-item version of the original PBI (Parker et al., 1979). Respondents report on their perceptions of parental behaviours over the previous 3 months. Two dimensions (care and overprotection/autonomy) are measured for each parent thus generating four scores. For this sample the alpha coefficients were as follows: Paternal overprotection/autonomy = 0.69, Maternal overprotection/autonomy = 0.79, Paternal care = 0.77, Maternal care = 0.79. High scores on the measures are indicative of more care and autonomy.

2.2.4. *Attitudes to school*

Five items were written to measure adolescents’ relationship with teachers (“How well do you relate to your teachers?”), attitudes to school (“school is boring/fun”; “I would leave school if I could”; “How often do you skip school?”) and schoolwork (“How often do you complete your homework?”). Each item was responded to on a 5-point Likert scale. Cronbach’s coefficient alpha was 0.71. High scores indicate a positive attitude to school.

2.2.5. *Self-rated academic performance*

Three items were constructed to gauge general overall self-rated academic performance. The first was “How would you rate yourself in terms of general academic performance? Where would you usually come in assessments at school?” Possible response options were top 10% of all students (coded 1), top one-third of all students (2), above average, but not top one-third (3), about average (4), or below average (5). The second question was “What level of education would you expect to attain eventually?” Possible response options were Year 9 (coded 1) through Higher degree (e.g. Master or PhD, coded 8). The final question was “Generally speaking, how often do you experience difficulty with schoolwork?” Possible response options were “Almost always” (coded 1) through “Hardly ever” (5). The alpha coefficient for this measure was 0.73. High scores indicate higher perceived academic performance.

2.3. *Procedure*

Once parental permission had been obtained, all participants were asked to sign individual consent forms before completing the questionnaire. Volunteers completed the questionnaire under the supervision of a class teacher. Attached to each questionnaire was a letter from the authors explaining the nature of the study and ensuring students that the information they provided would be used for research purposes only. The questionnaire took about 30–40 min to complete.

3. Results

3.1. Means and standard deviations

Table 1 presents the means and standard deviations on all the measures for the male and female respondents separately. In order to test for the significance of sex differences, a one-way MANOVA with sex as the independent factor was computed. The overall model was significant, $\Lambda = 0.56$, $F(11, 81) = 5.82$, $P < 0.0001$. The univariate F values are shown in Table 1. Males were significantly more likely to report typical P behaviours, while female respondents were more likely to report neurotic behaviours. The sex differences accounted for 24.5% of the variance in N and 10.17% of the variance in P. These sex differences are in line with previously reported trends (eg. Eysenck, Eysenck & Barrett, 1985). There were no other significant sex differences.

3.2. Correlations

Positive attitudes to school correlated significantly with high self-rated academic performance, $r(112) = 0.48$, $P < 0.01$ (Table 2). Positive attitudes to school were significantly related to low P ($r = -0.51$), high A ($r = 0.45$), high C ($r = 0.50$), mother care ($r = 0.28$; all $P_s < 0.01$), and father care ($r = 0.20$, $P < 0.05$). High self-rated school performance was significantly related to low P ($r = -0.30$) and high C ($r = 0.34$; both $P_s < 0.01$). Thus, each hypothesis was only partially supported.

Agreeableness correlated significantly with E ($r = 0.39$), low P ($r = -0.39$) and C ($r = 0.55$; all $P_s < 0.01$). Perceptions of parental care and autonomy were significantly related ($r = 0.48$ for mothers, $r = 0.42$ for fathers; both $P_s < 0.01$). Neither P nor C were significantly related to parental care and autonomy, but mother and father care were significantly related to A ($r = 0.27$, $P < 0.01$ for mother care; $r = 0.25$, $P < 0.05$ for father care).

Table 1
Means and standard deviations for males and females on all measures

	Males		Females		<i>F</i>	Eta squared
	<i>M</i>	S.D.	<i>M</i>	S.D.		
Extraversion	9.20	2.68	10.08	1.98	1.64	0.02
Neuroticism	5.14	2.94	7.72	2.76	24.50*	0.21
Psychoticism	7.29	1.92	6.02	1.73	10.17*	0.10
Agreeableness	108.98	15.73	114.09	12.36	2.05	0.02
Conscientiousness	44.76	7.47	45.43	7.02	0.17	0.00
Mother care	9.89	1.84	9.43	2.25	1.44	0.02
Mother protectiveness	9.10	1.75	8.26	2.53	2.94	0.03
Father care	9.16	2.09	8.77	2.11	0.71	0.01
Father protectiveness	9.83	1.75	9.12	2.14	2.49	0.03
Attitudes to school	18.77	4.19	17.58	3.84	2.05	0.02
Academic performance	13.02	2.96	13.33	2.49	0.30	0.00

* $P < 0.01$.

3.3. Predicting the outcome measures

We used the General Linear Model to predict the outcome measures from the family and personality variables. School attitudes and self-rated academic performance were entered together as the dependent measures, while the others were entered as covariates. Thus, one is able to detect the significant and unique variance that is contributed by each predictor variable. Multivariate tests revealed that the models were significant for Extraversion, $\Lambda = 0.93$, $F(2, 82) = 3.22$, $P < 0.05$; Psychoticism, $\Lambda = 0.85$, $F(2, 82) = 6.99$, $P < 0.01$; Conscientiousness, $\Lambda = 0.88$, $F(2, 82) = 5.39$, $P < 0.01$ and Father care, $\Lambda = 0.92$, $F(2, 82) = 3.16$, $P < 0.05$. The results of the univariate tests are shown in Table 3.

Low P and high C were consistent significant predictors of school attitudes and self-rated academic performance, while Introversion and Father care also made unique and significant contributions to explaining the variance of school attitudes. P explained the largest portion of unique variance of attitudes (14.2%), followed by C (9.2%), Father care (6.5%) and E (5.9%). Self-rated academic performance was best predicted by C (7.8%) followed by P (5.3%).

Table 2
Correlations among variables

	1	2	3	4	5	6	7	8	9	10	11
1 Extraversion/	–										
2 Neuroticism	–0.24*	–									
3 Psychoticism	0.10	–.08	–								
4 Agreeableness	0.39**	–0.13	–0.39**	–							
5 Conscientiousness	0.20*	–0.06	–0.30**	0.55**	–						
6 Mother care	0.07	–0.09	–0.10	0.27**	0.13	–					
7 Mother autonomy	–0.06	–0.13	–0.08	0.00	0.01	0.48**	–				
8 Father care	0.25*	–0.14	–0.03	0.25*	0.09	0.26**	–0.04	–			
9 Father autonomy	0.01	–0.10	–0.01	0.01	0.09	0.21*	0.35**	0.42**	–		
10 Attitudes to school	–0.05	–0.16	–0.51**	0.45**	0.50**	0.28**	0.15	0.20*	.11	–	
11 Academic performance	0.09	–0.18	–0.30**	0.19*	0.34**	–0.06	–0.13	0.07	–0.02	0.48**	–

* $P < 0.05$.

** $P < 0.01$.

Table 3
Significant predictors of school attitudes and academic performance using the General Linear Model

	School attitudes			Academic performance		
	<i>F</i>	<i>t</i>	Eta squared	<i>F</i>	<i>t</i>	Eta squared
Extraversion	5.16*	–2.41	0.059	0.01	0.15	0.00
Psychoticism	13.74**	–3.74	0.142	4.62*	–2.15	0.053
Conscientiousness	8.41*	2.83	0.092	7.06*	2.72	0.078
Father care	5.79*	2.75	0.065	0.09	0.21	0.001

* $P < 0.05$.

** $P < 0.01$.

4. Discussion

The results of this study clearly demonstrate that personality factors play a greater role in predicting attitudes to school and self-rated academic performance than do perceptions of parental bonding. Although there is undoubted evidence that parental care is implicated in the adolescent's views of school (Table 2), the ability of these variables to significantly predict the outcome measures was found to be quite weak, particularly with respect to self-rated academic performance (Table 3). Moreover, although introversion was found to be an important predictor of attitudes to school, low P and high C were consistently powerful predictors of both attitudes to school and academic performance. This confirms the earlier findings of such authors as De Raad and Schouwenburg (1996) and Furnham and Medhurst (1995). It is also evident that, although there is some overlap between P and C (Table 2; see also Eysenck & Eysenck, 1985), it would appear that they function somewhat independently by explaining unique variance of the dependent measures. By contrast, Agreeableness failed to make a significant impact on the outcome measures (see also Vollrath, 2000). Thus, P and C therefore appear to be crucial to an understanding of adolescents' attitudes to school and their self-rated academic performance.

According to these data low P and high C are likely to improve school outcomes. Thus, a combination of low P mixed with such traits as persistence, being organised, and reliable, are likely to facilitate rather than hamper not only attitudes to school, but also self-rated academic performance. Such a view fits with what we know of these personality types. For instance, with respect to the prediction of social attitudes and ideology among adults, Eysenck and Wilson (1978) argued that, to a large extent, it is P that determines the quality and the content of one's social attitudes. They acknowledge that other factors such as E may be implicated but that, ultimately, P will determine to what extent one is empathic, dogmatic or authoritarian. The present results suggest that P is also important in shaping attitudes to school among young people.

Support for the role of P in predicting attitudes as well as academic outcome comes from other sources as well. Some studies have alerted us to the behavioural problems of high-P individuals (e.g. Eysenck, 1997; Gudjonsson, 1997; Putnins, 1982), as well as the fact that they have poor social skills and report being alienated from mainstream society (Furnham & Gunter, 1983). It is therefore to be expected that low P individuals will be more tolerant of the school system in general, which is likely to lead to good interpersonal relationships with peers and teachers and hence improve their overall academic performance. Moreover, low P mixed with some conscientiousness will enhance even more positive school attitudes and self-rated academic outcome.

It is understandable that introverted students, rather than extraverted ones, will show positive attitudes to school. Extraverted high school students who demonstrate too much liveliness, venturesomeness, sensation-seeking and dominance (Eysenck & Eysenck, 1985) will soon learn that such behaviours need to be controlled and do not always fit in with school regimes. Such students are therefore likely to be less favourably disposed to school.

A notable feature of the present results is the fact that the parenting variables were less successful at predicting the outcome measures than the personality factors. Father care was the only significant predictor of attitudes to school, while none of the parenting measures predicted academic performance. One possible explanation might be that the Parental Bonding Instrument was initially constructed as an indicator of general psychological well-being rather than academic performance and is therefore not particularly beneficial for use in an educational context. Future

research in this area might therefore fruitfully assess the extent to which attitudes to school and self-rated academic performance are predicted by different measures of family climate and parenting styles, thereby establishing which particular family factors help shape adolescents' school attitudes and behaviours.

In conclusion, the results of this research suggest that different school outcomes (eg. attitudes to school and self-rated academic outcome) are linked to personality and family variables to varying degrees. It would seem that P and C, but not A, are central features that have quite significant influences on the day-to-day functioning of young people at school.

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