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Personality and Individual Differences 35 (2003) 1359–1371

PERSONALITY AND
INDIVIDUAL DIFFERENCES

www.elsevier.com/locate/paid

An investigation of Eysenck's Antisocial Behavior Hypothesis in general education students and students with behavior disorders

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Received 16 July 2002; received in revised form 12 September 2002; accepted 10 November 2002

Abstract

This study evaluated Eysenck's antisocial behavior (ASB) hypothesis. Eysenck's ASB hypothesis predicts that individuals high on P, E, and N with poor socialization are at the greatest risk for the development of serious conduct problems. The participants were students receiving services in Emotional and Behavior Disorders (EBD) ($n=75$) and general education (GED) students ($n=75$) matched for age, ethnicity, and sex. Participants were enrolled in middle and high schools in five counties in a large South-eastern state in the United States. Participants were administered three questionnaires; the Junior Eysenck Personality Questionnaire, the Basic Adlerian Scales for Interpersonal Success-Adult (BASIS-A), and the externalizing scale of the Youth Self-Report (YSR). Participants were compared by educational placement and by the seriousness of self-reported behavior problems. Students with EBD were significantly higher on the N scale and lower on the E scale in comparison to their GED peers indicating greater risk for emotional disorders. Their assessment also suggested greater socialization difficulties than the GED participants. Elevated P and N scores were found in students reporting serious levels of conduct problems on the YSR in comparison to those reporting average difficulties. Students reporting serious levels of conduct problems also reported poor early socialization experiences as assessed by the BASIS-A. © 2003 Elsevier Ltd. All rights reserved.

Keywords: Personality; Temperament; Socialization; Antisocial behavior; Special education; Behavior disorders; Emotional disorders; Children and adolescents

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The possible role of biological factors, such as temperament, in the development of conduct disorders has received little research attention. Eysenck (1977, 1997) has a well-researched biosocial theory of personality that includes the role of temperament in the development of conduct problems. In Eysenck's model, personality is the product of an interaction between temperament and social experience. The research support for the model has a long and continuous history (Eysenck, 1947, 1967, 1981, 1991a, 1991b, 1995; Eysenck & Eysenck, 1985). Eysenck's model also has a clearly articulated hypothesis concerning the development of conduct problems in children and adolescents (Eysenck & Gudjonsson, 1989).

1. Eysenck's personality theory

Eysenck's theoretical model is based on the interaction of three temperament-based, personality traits interacting with socialization experiences and general intelligence (Eysenck, 1991a). Each of the independent temperament-based personality traits; Psychoticism (P), Extraversion (E), and Neuroticism (N), are on a continuum ranging from low to high. Eysenck's (1977, 1997) ASB hypothesis predicts that individuals high on the P, E, and N traits are at the greatest risk for the development of conduct problems. The risk of developing serious behavioral problems is exacerbated by poor socialization as well as below average intelligence (*g*) associated with low academic achievement. The P trait is primarily implicated in the development of conduct problems; elevated scores on the E and N traits are secondary. Eysenck also suggested that high E has a greater influence than high N on adolescent antisocial behavior. Individuals elevated on P are usually found to be low on the Lie (L) Scale. Low L Scale scores are viewed as an indication that an individual is indifferent to social expectations and is not well socialized (Eysenck & Gudjonsson, 1989, p. 74).

2. Review of related literature

A recent meta-analysis of research bearing on Eysenck's high P, E, N, and low L personality profile for the development of conduct problems in children provided partial support for the ASB hypothesis (Center & Kemp, 2002). The samples in these studies were largely composed of school children or adjudicated adolescents. The strongest support for Eysenck's ASB hypothesis was found for the P trait, with an average effect size of 0.86. There was weak support for E with an average effect size of 0.20. There was moderate support for N with an average effect size of 0.43. Finally, there was moderate support for L with an average effect size of -0.51 . No studies, based on Eysenck's theory, of students receiving special education services for Emotional and Behavioral Disorders (EBD) in the United States were found.

The review indicated that there has been little investigation of the interaction of socialization with high P, E, and N in the development of conduct problems. Studies of the ASB hypothesis have not employed socialization as a dependent variable other than through the analysis of L Scale scores. However, Kemp and Center (2000) did evaluate both temperament-based personality traits and socialization experiences in a sample of young adult parolees. Socialization was assessed in the above study using a retrospective instrument, the Basic Adlerian Scales for

Interpersonal Success-Adult BASIS-A, based on Adlerian Psychology (Kern, Wheeler, & Curlette, 1993). An Adlerian-based instrument was selected to assess socialization because of the heavy emphasis placed on the role of socialization experiences in Adlerian theory. The study found strong support for the ASB hypothesis; especially the link between inadequate socialization, as measured with the BASIS-A, high P and antisocial behavior.

The two principal research questions addressed by the current study were (a) are there differences in personality and socialization between general education students (GED) students and students with EBD, and (b) are there differences in personality and socialization in the sample by level of self-reported antisocial behavior. An additional question was, does Eysenck's L scale correlate with measures of socialization from the BASIS-A?

3. Method

The study's procedures were reviewed and approved by the Internal Review Board of a large research university and the research review boards of individual school systems participating in the study. Informed written consent was required from both parents and participants prior to study involvement.

3.1. Participants and setting

Participants were solicited from both middle schools and high schools in urban, suburban, and rural school systems in five counties in a large southeastern state. Participants were also solicited from separate special day schools that served students with severe emotional problems. A contact person or persons, such as a special education teacher or administrator, was established at each participating school. The contact person solicited the participation of all students age 11 and above receiving services in the EBD program at the school. All participants served in EBD programs had been ruled eligible for placement by an assessment team using the following definition:

An emotional and behavioral disorder is an emotional disability characterized by the following:

- (i) An inability to build or maintain satisfactory interpersonal relationships with peers and/or teachers.
- (ii) An inability to learn which cannot be adequately explained by intellectual, sensory or health factors.
- (iii) Consistent or chronic inappropriate type of behavior or feelings under normal conditions.
- (iv) Displayed pervasive mood of unhappiness or depression.
- (v) Displayed tendency to develop physical symptoms, pains or unreasonable fears associated with personal or school problems.

A student with EBD is a student who exhibits one or more of the above emotionally based characteristics of sufficient duration, frequency and intensity that it/they interfere(s) significantly with educational performance to the degree that provision of special educational

services is necessary. The student's difficulty is emotionally based and cannot be adequately explained by intellectual, cultural, sensory or general health factors.

The term does not include students with social maladjustment unless it is determined that they are also students with EBD. A student whose values and/or behavior are in conflict with the school, home or community or who has been adjudicated through the courts or other involvement with correctional agencies is neither automatically eligible for nor excluded from EBD placement. Classroom behavior problems and social problems, e.g. delinquency and drug abuse, or a diagnosis of conduct disorder, do not automatically fulfill the requirements for eligibility for placement (Georgia State Department of Education, 2002).

Participants were initially solicited through a letter from the researchers. The solicitation of volunteers was followed by the offer of incentives for participation (e.g. ice cream coupons) in an effort to include non-volunteers in the sample. All participants were provided the incentives. A larger number of general education (GED) participants ($n = 120$) agreed to take part in the study than participants with EBD ($n = 75$). Seventy-five of the prospective GED participants matching the participants with EBD on the variables of age, sex, and race were selected for inclusion in the study. When more than one GED student matched an EBD student, the GED student used was randomly selected.

The participants, males ($n = 116$) and females ($n = 34$), were 11 to 18 years of age ($M = 13.65$, $S.D. = 1.9$, $Mdn = 13$). Sixty-eight percent of the participants were European-American ($n = 102$), 30.7% were African-American ($n = 46$), and 1.3% were Hispanic-American ($n = 2$).

3.2. Instrumentation

Three instruments were administered to the participants: the Junior Eysenck Personality Questionnaire (JEPQ) (H. Eysenck & Eysenck, 1975), the Basic Adlerian Scales for Interpersonal Success-Adult (BASIS-A) (Wheeler, Kern, & Curlette, 1993), and the Externalizing scale of the Youth Self-Report (YSR; Achenbach, 1991). The JEPQ was used to evaluate personality and the BASIS-A examined socialization. The Externalizing scale of the YSR was used to assess problem behavior.

The JEPQ consists of scales for the P, E, and N personality traits plus a Lie (L) Scale (H. Eysenck & Eysenck, 1975). Test-retest reliabilities over 1 month reported in the manual for the JEPQ ranged from $r = 0.55$ to 0.89 on the P, E, N, and L Scales. Internal consistency is also in the moderate to high range with reported values of $r = 0.61$ – 0.85 . The JEPQ discriminates well between children with and without conduct problems. Studies generally indicate that children with conduct problems have high scores on P, E, N, and low L scores in comparison to control participants (e.g. Berman & Paisey, 1984; Gabrys et al., 1988).

The BASIS-A is a 65-item questionnaire based on Adlerian personality theory (Kern et al., 1993). The BASIS-A assesses socialization by asking respondents to evaluate their home and school experiences before the age of nine. The appropriateness of using this instrument for adults with older children such as those in our sample was confirmed by one of the authors of the instrument (Kern, personal communication, 27 January 2000). The BASIS-A has five primary scales and five secondary scales (see Fig. 1). Test-retest reliability reported for the BASIS-A scales ranged from $r = 0.66$ to 0.87 . Adlerian experts were used to determine if the BASIS-A items accurately

BASIS-A Primary Scales:

Note: A high score on a scale or subscale indicates a style that strongly reflects the personality characteristic measured.

1. *Belonging–Social Interest* (BSI) measures one's interest in functioning with others in groups.
2. *Going Along* (GA) measures one's interest in rule-governed behavior and working with others cooperatively.
3. *Taking Charge* (TC) measures one's interest in being in control and having one's needs met.
4. *Wanting Recognition* (WR) measures one's need for approval and recognition from others.
5. *Being Cautious* (BC) measures one's degree of mistrust and caution in relationships with others.

Secondary Scales:

1. *Harshness* (H) measures one's belief that early childhood experiences in the home were traumatic or chaotic.
2. *Softness* (S) measures one's belief that early childhood experiences were functional and pleasant.
3. *Entitlement* (EN) measures one's belief that early childhood was demarcated by permissiveness and being overprotected.
4. *Liked by All* (LBA) measures one's need to please others and gain approval based on winning approval during childhood.
5. *Striving for Perfection* (PER) measures one's need for perfectionism based on early experiences with very high parental expectations.

Fig. 1. Brief description of BASIS-A scales based on descriptions in Kern et al. (1993).

reflected Adlerian themes (Curllette, Wheeler, & Kern, 1993). Further, over 30 major research studies during the past 20 years have supported the validity of the BASIS-A (Kern et al., 1993).

The YSR contains two broadband scales for problem behaviors termed Internalizing and Externalizing. Because the present study focused on antisocial and aggressive behavior, the Externalizing scale of the YSR was the most applicable. The YSR Externalizing scale consists of 33 items to which students respond on a Likert scale with a rating of 0 through 2, with 2 indicating a high level of the behavior. A few sample items include: "I argue a lot, I am mean to others, I get in many fights, I cut classes or skip school." The YSR is viewed as a highly reliable and valid instrument and the norming procedures are regarded as impeccable (Christenson, 1992). Test–retest reliability is reported as having a median of $r = 0.81$. The Externalizing scale of

the YSR has a demonstrated ability to differentiate children and adolescents with behavioral problems from those who do not have problems (Elliott & Busse, 1992).

3.3. Procedure

Questionnaires were administered at various times throughout the school day. The questionnaires were administered to small groups of five to six students in an empty classroom or office at participating schools. Participants with severe problems who were unable to complete the questionnaire in a small group were administered the questionnaires individually. In most cases ($n=145$), the questionnaires were administered in one session ranging in length from 20 to 45 min. However, in a few cases ($n=5$) the questionnaires were administered in two short sessions since the participants were unable to maintain attention to the task except for very short periods. The sequence used to administer the instruments was counterbalanced. The investigator and two assistants trained to administer the instruments collected the data. The assistants were given step-by-step instructions for administering the instruments. Participants were instructed to ask questions during the administration of the questionnaires, if they did not understand something.

3.4. Design

Two categorical independent variables were evaluated. One independent variable was placement in either EBD or GED. The groups were compared on the dependent variables of personality, socialization and behavior, which were operationalized through the questionnaires described earlier. The second independent variable was classification based on the level of self-reported externalizing behavioral problems. Three groups were created using T scores ($M=50$, $S.D.=10$) from the Externalizing scale of the YSR. The groups were average or below average externalizing problems (T score = 59 or less), moderate externalizing problems (T score = 60 through 69), and severe externalizing problems (T score = 70 or above). These groups were compared on the dependent variables from the JEPQ and BASIS-A.

An additional analysis was performed to determine if Eysenck's L scale correlated with BASIS-A measures of socialization. In addition to being a measure of dissimulation, the L scale has been described as a measure of one's value for social desirability (Eysenck & Gudjonsson, 1989). If the L scale is a socialization measure, it should correlate positively with the BASIS-A scales BSI, GA, WR, LBA, PER, and S and should correlate negatively with TC, BC, and H.

4. Results

The first analysis was a MANOVA, which yielded a significant effect for educational placement [$F(1, 148)=4.5$, $P<0.01$] and group placement based on YSR scores [$F(2, 147)=3.6$, $P<0.01$]. A significant interaction also occurred between the two main effects ($F=2.1$, $P<0.01$). The MANOVA was followed by a series of one-way ANOVAs. The first ANOVA was with the placement variable (i.e. EBD or GED) and indicated a number of differences between the two groups (see Table 1). Participants with EBD ($n=75$) had higher YSR scores than GED participants ($n=75$). Participants with EBD were also significantly higher on the N scale of the JEPQ

Table 1
ANOVA results of the YSR, JEPQ and BASIS-A with placement

Scale ^a	<i>MS</i> between	<i>MS</i> within	<i>F</i> <i>df</i> = 1, 148	<i>P</i>	Direction of mean score differences
YSR	1633.50	84.10	19.42	0.01	
P	29.04	8.76	3.32	ns	
E	204.17	14.26	14.32	0.01	EBD < GED
N	188.16	20.44	9.207	0.003	EBD > GED
L	0.960	16.231	0.059	ns	
BSI	288.43	33.18	8.69	0.004	EBD < GED
GA	957.61	44.18	21.67	0.01	EBD < GED
TC	302.46	41.53	7.283	0.008	EBD > GED
WR	500.51	37.81	13.24	0.01	EBD < GED
BC	1232.67	39.63	31.10	0.01	EBD > GED
H	61.44	10.06	6.12	0.015	EBD > GED
S	552.96	13.37	41.35	0.01	EBD < GED
EN	28.17	29.40	0.958	ns	
LBA	144.06	13.38	10.77	0.001	EBD < GED
PER	60.17	15.84	3.80	0.05	EBD < GED

A table of means and standard deviations is available from the authors.

^a YSR, Youth Self-Report; P, Psychoticism; E, Extraversion; N, Neuroticism; L, Lie; BSI, Belonging-Social Interest; GA, Going Along; TC, Taking Charge; WR, Wanting Recognition; BC, Being Cautious; H, Harshness; S, Softness; EN, Entitlement; LBA, Liked By All; PER, Striving for Perfection; EBD, Emotional and Behavior Disorder; GED, General Education.

and significantly lower on the E scale than GED participants. No significant differences were found between the participants on the P or L Scales. Participants with EBD were significantly higher on the TC, BC, and H scales of the BASIS-A than the GED participants (see Fig. 1 for scale names). Participants with EBD were significantly lower on the BSI, GA, WR, LBA and S scales of the BASIS-A than GED participants (see Fig. 1 for scale names).

The second ANOVA was with the level of externalizing behavior based on YSR scores. Seventy-seven participants were in the below average-to-average range for externalizing problems ($T = 59$ or less). Forty participants were in the moderate range for externalizing problems ($T = 60$ to 69). Thirty-three participants were in the severe range for externalizing problems ($T = 70$ and above). Significant differences were found between the groups on the P, N, and L scales of the JEPQ. There was no difference found between the groups on E. The groups differed on all scales of the BASIS-A (see Table 2).

The ANOVA was followed by the Scheffe multiple comparison technique to determine differences between the groups (see Table 2). The post hoc analysis indicated that students who rated themselves highest on the YSR were significantly higher ($P < 0.05$) on the P and N scales of the JEPQ. These students were also significantly lower ($P < 0.05$) on the L scale of the JEPQ, and significantly lower ($P < 0.05$) on prosocial scales (GA, BSI, and WR) on the BASIS-A. These students were also significantly higher ($P < 0.05$) on BASIS-A scales suggesting weak socialization (H, TC, and BC). The results are relatively consistent with the ASB hypothesis, since the hypothesis predicts that elevated P and N along with socialization difficulties increase the risk for developing antisocial behavior.

Table 2
ANOVA results of the JEPQ and BASIS-A with levels of behavior problems

Scale	<i>MS</i> between	<i>MS</i> within	<i>F</i> <i>df</i> = 2, 147	<i>P</i>	Scheffe <i>P</i> < 0.05
P	181.57	6.543	27.75	0.01	3 > 1, 2 > 1 ^a
E	6.66	15.655	0.426	ns	None
N	418.38	16.16	25.89	0.01	3 > 1, 3 > 2, 2 > 1
L	160.454	14.17	11.33	0.01	1 > 3
BSI	136.99	33.50	4.09	0.019	1 > 3
GA	1604.42	29.17	55.00	0.01	1 > 2, 1 > 3, 2 > 3
TC	780.01	33.26	23.45	0.01	3 > 1, 3 > 2, 2 > 1
WR	360.01	36.58	9.84	0.01	1 > 3, 2 > 3
BC	942.16	35.47	26.56	0.01	3 > 1, 3 > 2, 2 > 1
H	131.07	8.76	14.96	0.01	3 > 1, 3 > 2
S	248.97	13.84	17.99	0.01	1 > 2, 1 > 3, 2 > 3
EN	205.96	26.99	7.63	0.001	3 > 1
LBA	123.09	12.78	9.64	0.01	1 > 3, 2 > 3
PER	141.68	14.43	9.82	0.01	1 > 2, 1 > 3

A table of means and standard deviations is available from the authors.

^a 1, average or below average problem behavior rating on the YSR; 2, moderate problem behavior rating on the YSR; 3, severe problem behavior rating on the YSR.

There was also a significant interaction between the two main effects of educational placement and level of behavior problems. A new categorical variable with five levels was created to investigate this interaction. The variable was constructed from educational placement and level of behavior problems. The first group ($n = 29$) consisted of individuals placed in EBD who rated themselves in the below average-to-average range of externalizing behavioral problems. The second group ($n = 18$) included individuals in the EBD program who rated themselves in the moderate range of externalizing behavior problems. The third group ($n = 28$) included students served in EBD who rated themselves in the severe range of externalizing behavior problems. The fourth group ($n = 48$) consisted of GED students who rated themselves in the below average to average range of externalizing behavior problems. The fifth group ($n = 27$) consisted of GED students who rated themselves in the moderate to severe range of externalizing behavior problems. Only two subgroups of GED students were used because of the small number rating themselves in the severe range ($n = 7$).

An ANOVA indicated significant differences between the groups on the P, E, N, and L scales of the JEPQ. Significant differences between the groups were found on all scales of the BASIS-A (see Table 3). The ANOVA was followed by a Scheffe multiple comparison test to identify differences between the groups (see Table 3). The analysis indicated that there were two sources of the interaction between placement and externalizing problems. The first was a significantly lower ($P < 0.05$) E scale score in the EBD group with average problems ($M = 15.76$) in comparison to the GED group with average problems ($M = 19.38$). Thus, the EBD group with average problems was more introverted than the GED group with average problems. The second source of interaction was also between the EBD and GED groups with average problems. The EBD group ($M = 17.86$) was significantly lower ($P < 0.05$) on S than the GED group ($M = 20.56$). The lower S scale score for the EBD participants suggests weaker early socialization experiences in comparison to their GED peers; however, neither mean was outside the normal range of variation.

Table 3

ANOVA results of the JEPQ and BASIS-A for placement with levels of behavior problems

Scale	MS between	MS within	<i>F</i> <i>df</i> =4, 145	<i>P</i>	Scheffe <i>P</i> <0.05
P	92.17	6.6	13.98	0.01	3 > 1, 3 > 4, 5 > 1, 5 > 4 ^a
E	70.77	14.01	5.05	0.001	1 < 4, 1 < 5
N	201.58	16.6	12.15	0.01	3 > 1, 3 > 4, 2 > 4, 5 > 4
L	82.37	14.30	5.76	0.01	1 > 3, 1 > 5
BSI	128.16	32.32	3.97	0.004	3 < 4
GA	839.63	28.54	29.42	0.01	3 < 1, 3 < 2, 3 < 4, 3 < 5
TC	415.00	33.03	12.57	0.01	3 > 1, 3 > 4, 3 > 5
WR	187.85	36.87	5.1	0.001	3 < 4
BC	590.71	32.66	18.09	0.01	3 > 1, 3 > 4, 3 > 5
H	56.91	9.12	6.24	0.01	3 > 4
S	198.22	11.99	16.53	0.01	3 < 1, 3 < 4, 3 < 5, 2 < 4, 1 < 4
EN	124.39	26.77	4.65	0.001	3 > 1, 3 > 4
LBA	58.97	13.02	4.53	0.002	3 < 4
PER	80.62	14.36	5.61	0.01	3 < 4

A table of means and standard deviations is available from the authors.

^a 1, EBD Ss low to avg. on the YSR; 2, EBD Ss moderate on the YSR; 3, EBD Ss high on the YSR; 4, GED Ss low to avg. on the YSR; 5, GED Ss moderate to high on the YSR.

The analysis also showed that the EBD group with severe problems and the GED group with moderate to severe problems were significantly higher ($P < 0.05$) on the P scale than the EBD and GED groups with average problems. The EBD group with severe problems was higher ($P < 0.05$) on N than the EBD group with average problems. The EBD groups with moderate and severe problems and the GED group with moderate to severe problems were higher ($P < 0.05$) on N than the GED group with average problems. The EBD group with average problems was higher ($P < 0.05$) on the L scale than the EBD group with severe problems or the GED group with moderate to severe problems. The results on the P and N scales are in line with the ASB hypothesis (i.e. higher scores on these scales are associated with more severe behavior problems). The elevated L in the EBD group with average problems compared with the EBD group with severe problems is also in line with the ASB hypothesis.

On the BASIS-A scales, the EBD group with severe problems was lower ($P < 0.05$) on the GA scale than all other groups. This group was also lower ($P < 0.05$) than the EBD group with average problems, GED group with average problems, and GED group with moderate to severe problems on the S scale. The EBD group with severe problems was higher ($P < 0.05$) than the EBD or GED groups with average problems or the GED group with moderate to severe problems on the TC and BC scales. These differences illustrate the general trend of the group scores on the BASIS-A scales. The EBD group with severe problems was higher on scales that indicate difficult socialization, for example, the BC scale and lower on scales that indicate adequate socialization, such as the GA scale. These results are supportive of the ASB hypothesis.

Bivariate correlations between Eysenck's L scale and the BASIS-A scales provided modest support for L as a measure of socialization. The following BASIS-A scales (see Fig. 1) indicating positive socialization were correlated ($P < 0.01$) with the L scale: GA ($r = 0.27$), WR ($r = 0.29$), LBA

($r = 0.24$), and PER ($r = 0.27$). Two BASIS-A scales indicating weak socialization were negatively correlated ($P < 0.01$) with the L scale: TC ($r = -0.24$) and H ($r = -0.34$). There was no significant correlation between Eysenck's L scale and the BSI, BC, EN or S scales from the BASIS-A.

5. Discussion

The purpose of this study was to examine predictions derived from Eysenck's ASB hypothesis in samples of EBD and GED students. Specifically, the study attempted to determine if GED students and students with EBD differed in personality and socialization. Further, the study investigated whether the sample, when reclassified by levels of behavior problems, differed in personality and socialization. The study found personality and socialization differences between GED students and students with EBD. The results also indicated that there were distinctive differences in personality and socialization in both GED and EBD students when they reported high levels of behavior problems in contrast with other students.

There was clear support for Eysenck's hypothesis that elevated scores on the P and N scales are related to antisocial behavior as measured by the YSR. Students whose behavior problems were at the severe level were the highest on the P scale followed by students with problems at the moderate level and then students at the average-to-low level. Students who reported a severe level of behavior problems were significantly higher on the N scale than the groups that reported either moderate or average-to-low levels of behavior problems. These results are consistent with previous studies (e.g., Berman & Paisey, 1984; S. Eysenck, 1981). The results also support the role of low L scores in the ASB profile. This finding is consistent with those obtained in previous studies (e.g., Jamison, 1980; Lane, 1987).

This study did not find support for the predicted elevation of E scores in students in the EBD sample. The contrary finding for E may be due to the nature of the sample in this study. Studies that have confirmed the prediction usually used samples from more deviant groups such as clinical populations and incarcerated delinquents (e.g., Berman & Paisey, 1984; Gabrys, 1983; Saklofske & Eysenck, 1980). The findings for the E Scale in this sample of special education students are consistent with the findings in two studies comparing special education and GED students conducted by Porrata (1991, 1997).

The analysis found support for weak socialization as a factor in behavior problems. Participants with the higher YSR scores had low scores on the BASIS-A indicating little interest in prosocial interaction with others or need for approval from others. According to Adlerian theory, these tendencies reflect an early socialization lacking positive social recognition, chaotic or dangerous home conditions, and possible traumatic experiences (Kern et al., 1993).

The results of the analysis by level of problem behavior supported Eysenck's hypothesis that elevated scores on the P and N scales coupled with poor socialization are related to the development of serious antisocial behavior. The results of the analysis by placement did not find that students placed in EBD are more likely than GED students to have the ASB profile. However, students with EBD were significantly different from GED students on both the N (higher) and E (lower) scales. In Eysenck's theory emotional disorders such as anxiety and depression will usually be found to be associated with high scores on the N scale and especially in combination with low E scale scores (Eysenck, 1997).

The state in which the samples in this study were obtained places a strong emphasis on an emotional component in its definition for EBD. The intent of this emphasis appears to be to disqualify for service “socially maladjusted” students. Social maladjustment is an undefined term with varying interpretations (Center, 1990; Center & Eden, 1989), but one of the more common interpretations is that it is equivalent to Conduct Disorder (Clarizio, 1987; Slenkovich, 1983). The results of the study indicate that students receiving services for EBD in this study are closely aligned with the interpretation of the EBD definition that emphasizes an emotional criterion. The failure to find a significantly higher number of students with the ASB profile in the EBD group indicates that many students with externalizing behavior problems, such as Conduct Disorder, are probably being excluded from special education.

The GED participants were significantly higher on the E Scale than the participants with EBD. However, it should be noted that the mean E score in the GED sample is virtually the same as the normative E score for the JEPQ. The lower E scores in the EBD sample appear to be the reason for the statistical interaction that occurs between placement and problem behavior. Students with EBD who report average levels of behavior problems are significantly lower on the E scale than GED students who report an average problem level. The lower mean E score for the students with EBD, which was below the normative mean for the JEPQ, is often associated with tendencies toward anxiety and withdrawal. The analysis also indicated that students with EBD reported more difficult socialization experiences than did their GED peers. They were significantly higher on the BASIS-A Scales (i.e., TC, BC, and H), which suggest weak socialization and were significantly lower on the BASIS-A scales (i.e., BSI, GA, WR, and S), which suggest appropriate socialization.

There was no statistically significant difference between the participants with EBD and GED participants on the P or L scales. Exclusion of many so called “socially maladjusted” students from EBD would explain the lack of a significant difference on the P scale. Since low L scores are associated with high P scores, the same reasoning might also apply to the failure to find a significant difference on the L scale.

The results of this study are limited by an inability to control for intellectual differences across the groups. Eysenck (1997) has indicated that high P in conjunction with low *g* and school failure increases the difficulty of socialization. Specifically, low general intelligence and school failure in conjunction with a difficult temperament and poor socialization represents the greatest risk for developing ASB. General intelligence information (i.e., scores and achievement data) would have made possible a more complete analysis of the hypothesis under investigation, but access to that data was not available. However, Kemp and Center (2000) were able to obtain IQ scores and achievement data on young adult parolees in a study that also evaluated the ASB hypothesis. In that study, the prediction about general intelligence was not supported but there was support for poor academic achievement. Since poor socialization was pervasive in the study population, it may not have been well suited to examine the possible relationship between intelligence and socialization. Further, that study revealed that this highly deviant population had very few members who had received special education services during their public school careers. This both confirms the relative success of many school systems to exclude students with antisocial behavior from special education and the subsequent cost to both those individuals and society through lost educational opportunities and increased risk for failure in adult life.

6. Conclusion

The results of this study indicate that both temperament-based personality traits and socialization are related to the risk for developing both emotional and behavior problems. In addition to exhibiting high P and N scores, students reporting higher levels of antisocial behavior also indicated more chaotic childhood experiences, a lack of positive recognition, and a need to dominate others both of which are consistent with the ASB hypothesis. This study also found that students with EBD are more likely to have a personality profile associated with the risks for developing emotional problems. According to Eysenck's theory, low E and high N are the best predictors for the development of emotional problems and the EBD sample exhibited this profile. The lower socialization scores on the BASIS-A in the participants with EBD also indicate a poor adaptation to the social environment by these students, which may be exacerbated by their temperament characteristics.

Future research on the ASB hypothesis should address the component of general intelligence and school achievement in relation to the difficult temperament profile and poor socialization. The current study also needs to be replicated with a larger sample to further substantiate the findings. The findings suggest possibilities for additional research on risk assessment and preventive programming based on temperament-based personality profiles. Further, information about temperament-based personality traits may be useful for better individualizing interventions for students already identified with emotional or behavior disorders (Center & Kemp, 2003; Wakefield, 1979).

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