

A Preliminary Examination of the Role of Inferiority Feelings in the Academic Achievement of College Students

Donald A. Strano and John V. Petrocelli

Abstract

Little is known about the role of inferiority feelings in the academic achievement of college students. Borrowing from the theoretical position that inferiority feelings may have a positive or negative impact on performance, the authors hypothesized that moderate feelings of inferiority would be associated with a higher level of academic achievement. A total of 178 college students were classified into one of three groups on the basis of their scores on the Comparative Feeling of Inferiority Index (C.F.I.I.; Strano & Dixon, 1990). The hypothesis was tested and partially supported by a between-groups analysis. Preliminary findings are discussed in relation to their support for the validity of the C.F.I.I. and current Adlerian theory.

Inferiority feelings are one of the most popularized Adlerian concepts and form the foundation of much of Individual Psychology. In *Social Interest: A Challenge to Mankind*, Adler (1938) detailed three basic assumptions of Individual Psychology: There is a universal sense of inferiority; it is a characteristic of life that the individual will struggle to overcome his or her inferiority; and the individual's and society's adjustment depends on the development of social feelings. Here, inferiority feelings are defined in terms of self-comparison and fundamentally become the catalyst for an individual's goal striving and achievement, acting as common, normal, and functional motivators for human behavior (Adler, 1964, 1969; Ansbacher & Ansbacher, 1956; Dreikurs, 1954, 1957, 1967; Mosak, 1977). Yet Dixon and Strano (1989) found that scholars often describe inferiority feelings in terms of low self-esteem or low self-concept, a meaning inconsistent with Adler's own comparative definition and inapplicable in the context of his basic assumptions. Recent literature fails to explore fully Adler's definition and continues to equate inferiority feelings with low self-esteem (Callahan & Kidd, 1986; Hauck, 1997; Peterson, Stahlberg, & Dauenhimer, 2000) or to assign definition as a symptomatic characteristic of issues like depression (Ramsey, 1994).

Strano and Dixon (1990) established initial construct validity for feelings of inferiority as a relative comparison which reflects both the individual's self-concept and their perception of significant others in their life. A few

researchers do discuss inferiority feelings in comparative terms. Chambers and Marescaux (1998) evaluated performance levels of students after attribution of fictitious, superior skill positioning among students, yet only assigned perceived superiority, and thus implied inferiority, through methodology. The focus was on the impact of perceived inferiority relative to others on one's self-esteem. In line with Adler's definition, Mosak, Brown, and Boldt (1994) described inferiority feelings and outlined a self-elevating stratagem to illustrate compensatory striving. Still, recent research avoids exploring any comparative measurement of authentic inferiority feelings as a motivator for striving or predictor of achievement.

Inferiority Feelings and Academic Achievement

The purpose of the present study is to add to the body of knowledge validating the constructs underlying Individual Psychology. Specifically, this study is aimed at the construct of inferiority feelings and its role in academic performance.

A feeling of inferiority is universal, not a disease (Adler, 1969) and becomes important in understanding the constructs of human striving (Dixon & Strano, 1989). Inferiority feelings themselves are not positive or negative; rather, it is the content and direction that striving takes which dictates "usefulness" or "uselessness" (Manaster & Corsini, 1982). Mosak et al. (1994) pointed out that neurotics often attempt to place themselves in a superior position through suffering. Held (1988) presented a clinician's account of what he terms "superachievers," individuals who are motivated to achieve extreme success in order to overcome feelings of inferiority or inadequacy, yet frequently suffer from depression, poor interpersonal relationships, and lack of life satisfaction. This "useless" striving fails to incorporate the resolution of the three life tasks of Individual Psychology: work, which means contributing to the welfare of others; friendship, which embraces social relationships with comrades and relatives; and love, which is the most intimate union (Dreikurs, 1953). By regarding inferiority feelings as universal underpinnings of motivation and achievement, researchers can begin to determine what levels of inferiority feelings are optimal in motivating useful striving and the resolution of the three life tasks.

Academic achievement is seen in U.S. culture as an important expression of striving on the "useful side of life" and can be considered a precursor to the successful resolution of the work life task. Yet little research can be found relating inferiority feelings to achievement. There is a body of research that has examined non-intellectual correlates of success. One line investigates the avoidance of failure (Covington, 1992) or not living up to the expectations of others (Dai, 2000), while another side of this issue

investigates individuals who seek superiority defined as normative success (Nicholls, 1989).

Mehrabian (2000), in a factor analytic study of life success, found freedom from inferiority feelings to be correlated with achieving tendency. However, inferiority feelings have been conceptualized as corresponding to self-esteem. Mehrabian suggested that these results are consistent with Terman and Oden's (1947, 1959) findings that the most and least successful adults in their longitudinal study differed on several traits, with the most successful adults having greater freedom from inferiority feelings. Their subjects also showed persistence in goal-achievement and self-confidence, both of which would be characteristic of individuals with a moderate level of comparative feelings of inferiority (Dixon & Strano, 1989). These individuals could possess a relatively high self-concept but enough motivation from the comparisons to persevere at tasks and expect a high likelihood of success.

In a review of the literature, Wanlass (2000) emphasized that a sense of competence is important to the individual's self-concept and particularly the perceived value of that competence. Carroll (1999), in a comparison of Alcoholics Anonymous to the tenets of Individual Psychology, suggested that an individual's meaningful pursuit of Adler's work life task is a result of self-perceptions and perceptions of the thoughts of others in the environment. It is suggested that compulsive work habits (vertical striving) may stem from extreme feelings of inferiority. Callahan and Kidd (1986) also found that individuals low in job satisfaction suffered from inferiority feelings although this again is equated with low self-esteem.

It seems likely that levels of inferiority feelings will affect academic achievement. In particular, high levels of achievement would be associated with a moderate level of inferiority while inferiority feelings at either extreme would interfere rather than motivate. Individuals at the high end are likely to be so discouraged that they would give up while individuals who perceive themselves as having no inferiority are likely to adopt an unrealistic view of themselves in the direction of superiority and thus lack a foundation to motivate their striving. Adler (Ansbacher & Ansbacher, 1956) believed that normal individuals do not have a sense of superiority.

Therefore, it was hypothesized that levels of inferiority would affect academic achievement, where the highest level of achievement is associated with a moderate level of feelings of inferiority.

Method

Participants. Participants in the present investigation were 248 (175 female, 73 male) undergraduate students attending a medium-sized

northeastern U.S. state university. The sample was 97.6% Caucasian, 1.6% African American, and 0.4% American Indian, with a mean age of 18.81 years ($SD = 1.31$, range = 18–21). The average annual income for the majority of participants was "under \$10,000." The education level of the majority of participants' parents (both mothers and fathers) was a high school diploma or Bachelor's degree, while the mode for hometown size was "5,001 to 20,000." The current sample was one of convenience. All participants gave their informed consent and signed permission giving the experimenters access to their college student records before participating in the study.

Instruments. Comparative Feeling of Inferiority Index (C.F.I.I.). The C.F.I.I. (Strano, 1985; Strano & Dixon, 1990) is a 60-item self-report scale that indicates an evaluation of one's self and one's siblings with regard to feelings of inferiority/superiority among several physical and social characteristics, and personal goals and standards. The C.F.I.I. asks respondents to consider the degree to which 30 statements are true of themselves and the degree to which 30 identical statements are true of their siblings. Eighteen items are reverse-scored.

The C.F.I.I. is scored by computing a discrepancy measure between the self-rating scale and the family rating scale. The t-ratio method, outlined by Bem (1974), is used for this purpose. Rather than merely subtracting one half of the scale scores from the other, a t-ratio as a function of the two halves is computed. The resulting discrepancy value is standardized in terms of the standard error of the difference of the two halves, and thus, aids in controlling the difficulties noted for discrepancy scores (Cronbach & Furby, 1970; Harris, 1963).

The C.F.I.I. is intended as a continuous measure in which negative scores lean toward an inferior evaluation and positive scores lean more toward a superior evaluation. This score allows a focus on the relative comparison rather than solely on self-concept. Use of this method is consistent with Adler's Ansbacher & Ansbacher (1956) view and the empirical support (Beloff & Beloff, 1956) for the notion that inferiority may not be consciously experienced. Asking respondents to make direct comparisons themselves would be inconsistent with basic theory and would likely result in more biased perceptions.

High internal consistency on the self rating ($\alpha = .730$), and family rating ($\alpha = .817$), retest reliability on the discrepancy score ($r = .730$), and discriminant and criterion validity have been documented supporting use of the C.F.I.I. as a research instrument (Strano & Dixon, 1990).

American College Testing Assessment (ACT). The ACT is a standardized achievement test designed to assess high school students' general educational development and their ability to complete college-level work. The ACT measures proficiencies in English, mathematics, reading, and scientific

reasoning. A composite score represents the overall test score and was the only ACT score of interest to the current investigation. The composite score was used as an achievement indicator. According to American College Testing (n.d.) "The ACT Assessment tests are curriculum based. The ACT Assessment is not an aptitude or an IQ test. Instead, the questions on the ACT are directly related to what you have learned in your high school courses in English, mathematics, and science." The ACT has demonstrated strong reliability and validity (American College Testing, 1997).

Overall grade point average (g.p.a.). Overall g.p.a. was also used as an achievement indicator. Cumulative g.p.a. was obtained at the end of the semester in which other data were collected.

Procedure. A questionnaire (including an informed consent, the C.F.I.I., and demographic questions) was completed by each participant during a group administration. Participants provided their student identification numbers and gave signed permission to access student records. ACT scores and g.p.a.s were collected from participants' university academic records to avoid potential inflation or deflation of actual values by participants. All participants and their respective data were treated in accordance with the *Code of Ethics and Standards of Practice* (American Counseling Association, 1997).

T-ratios were computed for each participant as a function of the two halves of the C.F.I.I.. The sample mean for C.F.I.I. scores was .19 ($SD = 1.24$). The C.F.I.I. t-ratio was operationalized by examining the sampled distribution of scores. Only the 0 to 20, 41 to 60, and 81 to 100 percentiles were examined. Three groups were constructed as a function of the distribution scores of the C.F.I.I.:

- A. Lowest Group ($M = -1.15$, $SD = 0.50$, $n = 60$), those with extreme negative scores in the direction of increased inferiority;
- B. Middle Group ($M = .086$, $SD = 0.17$, $n = 56$), those with moderate scores indicating a slight perceived inferiority on some characteristics to slightly higher ratings of self on other items;
- C. Highest Group ($M = 1.61$, $SD = 0.64$, $n = 62$), those with extreme positive scores in the direction of perceived superiority.

The sample used in subsequent analyses was therefore reduced to 178 participants. This resulting sample consisted of 51 men and 127 women with a mean age of 18.88 ($SD = 0.68$).

Results

An ANOVA was computed to reveal the degree of difference between the three C.F.I.I. groups in regards to their respective C.F.I.I. scores: $F(2, 175) = 496.18$ ($p < .001$). Scheffe post hoc tests indicated differences between all three groups ($p < .001$).

Table 1
Means and Standard Deviations of C.F.I.I. Groups and Between Group Differences

Measure	Lowest (<i>n</i> = 60)		Middle (<i>n</i> = 56)		Highest (<i>n</i> = 62)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
ACT	19.06*	3.46	20.34	3.14	21.12*	3.88
g.p.a.	2.62*	0.67	2.93*	0.58	2.82	0.73

Note. Within rows, means denoted by asterisks (*) are significantly different from each other at the .05 level in the Scheffe significant difference comparison.

Before testing the primary hypothesis, we determined whether or not subsequent analyses should be interpreted with regard to gender. Chi-square analysis did not suggest that there were disproportionate frequencies among gender $\chi^2(2, N = 178) = 1.05$ ($p = .59$), for the three C.F.I.I. groups. Further, subsequent analyses are not qualified by a gender \times C.F.I.I. group interaction, as indicated by a 2 (gender) \times 3 (C.F.I.I. group) two-way ANOVA conducted for both ACT and g.p.a.: $F(2, 172) = .90$ ($p = .41$), and $F(2, 172) = .58$ ($p = .56$), respectively.

Dependent variable scores for the entire sample were computed: ACT score ($M = 20.18$, $SD = 3.89$) and g.p.a. ($M = 2.79$, $SD = .67$). To test the hypothesis that levels of inferiority would affect academic achievement, where the highest level of achievement is associated with a moderate level of inferiority, three primary analyses were conducted. A composite of achievement was of interest to test further the primary hypothesis. A MANOVA was conducted using ACT and g.p.a. as the dependent variables and C.F.I.I. group as the independent variable: Wilks's $\lambda = .921$, $F(4, 348) = 3.66$, $p = .006$, $\eta^2 = .04$.

Using ACT scores as the first achievement indicator, we conducted an ANOVA among the three C.F.I.I. groups: $F(2, 175) = 5.31$, $p = .006$, $\eta^2 = .06$. Also using overall g.p.a. as an achievement indicator, an ANOVA among the three C.F.I.I. groups was conducted: $F(2, 175) = 3.39$, $p = .036$, $\eta^2 = .04$. Both descriptives and between-group differences are displayed in Table 1.

Discussion

The hypothesis was partially supported. With regard to grade point average, middle group (moderate comparative feeling of inferiority) attained

the highest average, significantly higher than lowest group (with extreme negative scores) but not the highest (with extreme positive scores). The results on g.p.a. support the notion that the presence of comparative feelings of inferiority (rather than the absence) would serve as a motivator rather than as discouraging or resulting in fear as suggested by some researchers (Callahan & Kidd, 1986; Covington, 1992; Dai, 2000; Mehrabian, 2000; Terman & Oden, 1947, 1959).

The fact that the middle group did not differ from highest group is possibly due to the sample used in the present study. The participants were college students—self-selected based on higher achievement levels (being admitted to college) and thus not likely to come from a group experiencing extremely high or low levels of comparative feelings of inferiority. A level that may be necessary to result in discouragement would likely result in not achieving high enough to be accepted to college. Although the ANOVA showed the independent variable groups to be significantly different, the means of the highest and lowest groups are not extremely high.

With regard to ACT scores, the highest group (scores in the direction of perceived superiority) scored significantly higher than the lowest group (scores in the direction of perceived extreme inferiority) while the middle group did not differ significantly from either the highest or lowest groups. The results seem to imply a linear trend with regard to ACT scores. The ACT is designed to assess what high school students have learned. While it is sometimes considered a measure of academic ability or aptitude (Gregory, 2000; Janda, 1998) rather than a measure of current achievement, American College Testing (n.d.) stresses that it functions as a predictor of college performance based on prior learning. However, there is some argument that these two constructs (achievement and ability) overlap and are often indistinguishable. In the present study, the results for ACT tend to support previous suggestions that individuals who are free from inferiority will be more successful. That is, those whose C.F.I.I. scores indicated they rated themselves more highly on the characteristics than they did their siblings tended to have higher ACT scores than did those with moderate C.F.I.I. scores or those who were more extreme in rating their siblings more highly. However, if ability or aptitude is independent of comparative feelings of inferiority, it could be considered to be associated more with individual self-perceptions rather than comparative perceptions as measured by the C.F.I.I. In that case, it is logical that this measure (ACT) would follow the same pattern found by other researchers.

The Comparative Feeling of Inferiority Index has been shown to be a reliable and valid measure (Strano & Dixon, 1990). The present study adds support to the validity of this instrument for continued research on feelings of inferiority. The C.F.I.I. was developed to measure inferiority feelings in terms of Adler's definition (i.e., as a comparison). That individuals with

moderate scores on the C.F.I.I. had the highest achievement as measured by grade point average supports the usefulness of this instrument in measuring inferiority feelings as Adler discussed the construct (rather than using measures of self esteem).

Prior research has investigated a one-dimensional self-esteem definition of inferiority (e.g., Mehrabian, 2000) or related constructs (Covington, 1992; Dai, 2000; Nicholls, 1989) in connection with achievement or success. The current research adds to this topic by investigating the role of inferiority in achievement from a perspective consistent with Adler's original construct (Dixon & Strano, 1989). The results extend the previous research to suggest feelings of inferiority may serve as a mediator in achievement rather than just a barrier. Adler's psychology of use suggests that our accomplishments are attributable to the use we make of our abilities emphasizing "the creativity of the individual as the intervening variable" (Ansbacher & Ansbacher, 1956, pp. 204). That is, through our own creative interpretation of our experiences (within the social context of our life) we will be more or less motivated to achieve.

Recommendations for Future Research

While the results here provide additional support for Adler's definition of inferiority feelings, additional research is needed. The different findings for g.p.a. and ACT scores illustrate the phenomenological nature of Individual Psychology. As suggested earlier, ability may not be directly related to inferiority feelings. It is the individual's perception of that ability in relation to others that fuels their striving. That is, while abilities (including organ inferiority) may affect one's self concept and self-esteem, achievement may be in part due to how one strives (including the direction of that striving) with the motivation for that striving having its origins in a comparative feeling of inferiority. These relationships (among ability, inferiority feelings, and achievement) need to be studied further.

The practical significance of the current findings is worth noting. Only 6% of the variance in ACT scores and 4% of the variance in g.p.a. can be attributed to C.F.I.I. group. Although these effects are quite small, they must also be judged in light of the extent to which ACT test scores and g.p.a. are accurate measures of achievement. It is possible that feelings of inferiority are correlated with several other important predictors of academic achievement (e.g., the extent to which feelings of inferiority are correlated with dependency on other study methods in order to maintain good academic standing). The notion that feelings of inferiority may have a moderator or mediator relationship with academic achievement will need to be substantiated by subsequent research.

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