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Dimensions of Adolescent Self-Images

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Using techniques derived from information theory, structural dimensions of adolescent self-images were studied. Within a sample of 58 adolescents, patients and normals, a variety of self-images were obtained using a specially designed Q-sort. The initial hypothesis predicted, on the basis of previous findings, that the idealized self-images would be more polarized *for the patients. This hypothesis was only* partially *confirmed. the self-idealization was significantly more polarized in the patient group. But the other two idealizations (those based on parental expectations) did not reflect a patient-normal difference. Rather, a significant three-way interaction of sex, age, and psychiatric status was found for these self-images, as well as for the current self-image. The consistent pattern in these three-way interactions was that late-adolescent boys polarized their self-images if they were in the normal group and had structurally complex (nonpolarized) self-images if they were in the patient group. The paper concludes by discussing the meaning of these findings. A framework for interpreting polarization is proposed and applied to the results. In addition, the notion of a "Self-Image Profile" is formulated and further elaborated. Finally, the relevance of these studies to other personality research and clinical observations is considered.*

INTRODUCTION

Self-images are at the center of a wide array of clinical observations and formulations. Discussions of self-esteem, identifications (Schaffer, 1968),

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projections, delineations (Shapiro, 1968), fragmentation, and splitting (Kernberg, 1968) refer directly to the notion of self-image as they direct attention to what the individual does to and with his self-representations. Developmental processes throughout the life cycle involve issues of self-esteem and personal continuity. Erikson's (1968) work stresses the special significance of self-images in adolescence. In his formulations of ego identity, we find repeated emphasis on the issues of integration and continuity of self-images and identifications.

Using Erikson's framework, Hauser (1971*a*) studied aspects of self-image integration and continuity in a small group of black and white boys. By concentrating on processes involving multiple self-images (their overall integration and continuity), it was not possible at that time to follow variations within discrete self-images. Clinical considerations such as those offered particularly by Kernberg (1968) about the ways in which some individuals fragment their self-images certainly suggest that it would be worthwhile to study self-images as such. Observations made while interviewing the black and white subjects of *Black and White Identity Formation* (Hauser, 1971*a*) further supported the idea that there were aspects of self-images which were simply not revealed in the study of their interactions. These considerations led to a new analysis of the black and white self-images (Hauser, 1972*b*) and to a new emphasis on the study of ways in which self-images vary among specific groups of adolescents (Hauser and Shapiro, 1972).

Self-images can be studied from at least two basic perspectives. One approach refers to structural perspectives. The inner-differentiation of the image, its *polarization* or fragmentation, is examined. The question of relevance here regards whether the individual is thinking in "either-or" terms about his self-image. This structural dimension, "structural complexity," is studied in this paper. A second structural dimension is that of the relatedness a given self-image has with others in the individual's system of self-images. This is the parameter of "structural integration" which was a central focus in the previous studies of the black and white adolescents (Hauser, 1971*a*, 1972*a*).

The other basic perspective involves the content within a self-image. Here we shift our concern to the meanings contained *within* the structure. For example, one dimension is that of self-esteem, the person's various judgments of his own value, of the significance attached to his thoughts and feelings. A second dimension in this perspective refers to the origins of self-image elements. The relevant problems here concern from *whom* and from *which* periods in his life has the individual obtained self-descriptive ideas.

This is the third in a series of papers designed to analyze self-image processes. The first paper reported a method for analyzing from the structural perspective, specifically the dimension of "structural complexity" (Hauser, 1972*b*). This method was then applied to longitudinal data from a small group of black and white adolescent boys. The second study examined self-images in

terms of their overall integration with one another and specific relations between certain pairs of them. In the analysis, a sample of adolescent psychiatric patients were contrasted with nonpatient adolescents (Hauser and Shapiro, 1972). The same group of patients and nonpatients is studied in this paper. But now the analysis is in terms of the other structural dimension, structural complexity. In the first report on this sample, differences among idealized self-images were found to be significantly related to psychiatric status. Self-images based on the subject's time perspective and peer relationships showed differences associated only with sex and age.

A question of interest is whether these sex, age, and psychiatric status influences will be in the same direction when we study the polarization or structural complexity of self-images. Since the first study suggested that the patients had greater conflict about their idealized self-images, we would now predict that these same self-images will be more polarized for the patients. Theoretical discussions about polarization as well as "splitting" argue that one reflection of conflict around self-image will be polarization, an "either-or" quality (Kernberg, 1968; O'Donovan, 1965).

We have no hypothesis about the temporal and peer-based self-images. The earlier study showed age and sex differences to be highly significant on the dimension of the integration of these images with one another. It remains unclear as to what underlies these differences. One reason we now study a second structural dimension of self-images is to further investigate the nature of sex and age differences in adolescent self-image development.

A more general concern of the paper lies in the correlates of the self-image processes with other personality dimensions. To obtain knowledge of such correlates, we are simultaneously collecting data on these same subjects through individual interviews and cognitive tests (Hauser, 1971*b*; Hauser and Shapiro, 1972). More extensive description of these other sources of data, and their analyses, will be given in future papers covering this longitudinal study. In our discussion, we note some preliminary results in discussing implications of the current findings.

BASIC CONCEPTS

Self-Image

The instrument specifically used to tap self-images was the Q-sort, a means for characterizing changes and variations in a person's complex perceptions of himself. In contrast to other studies (Block, 1961; Engel, 1958; Marcus *et al.*, 1966), we did not use the same deck of self-descriptive statements for each subject. Instead, each adolescent was requested to sort a set of self-descriptive statements which were derived from the statements made by all the members of a small group in which he or she had participated. The focus of the small group

meetings had been on the here-and-now of interpersonal behavior within the group. The content of the group's discussions was thus the group members' self-perceptions, perceptions of others in the group, and the handling of authority relations in the group.

In requesting the subject to generate self-images, he was instructed to sort the statement cards onto rating cards ranging in rating from 0 ("least important," "least relevant") to 9 ("most important," "most relevant"). The subject was asked to sort these cards according to how well they fit him or her as a person. The sort was a free one, except for the requirement that the subject place at least two cards in each extreme category. After completing the first sort, the subject was asked to arrange a duplicate set of cards in terms of being "a perfect son (or daughter) in the eyes of your mother." The cards were then resorted for an additional five self-images which included other idealizations and peer and temporal images. Table I lists the self-images in the order in which they were always requested.

Structural Complexity

Each of the seven self-images generated through the above procedure is a unique array of self-descriptive statements (elements). One aspect of this patterning is the form in which its elements are distributed over the rating categories, how they are "spread" or "lumped." This self-image dimension was described earlier as that of "structural complexity." It refers to the degree of polarization or nonpolarization present within a self-image.

Operationally, "structural complexity" refers to the discrimination and distribution of elements within the self-image. Bieri *et al.* (1968) term this dimension "balanced variability,"

> the extent to which stimuli are judged as being located in a number of different categories and the frequency with which these categories are used. This component is reflected in the statistic H_y. (p. 59)

Table I. Requested Self-Images

	Symbol
1. How I am now.	*Me*
2. How I would be if I were a perfect son to my mother.	*Ma*
3. How I am in the eyes of my friends.	*Friend*
4. How I will be in 10 years.	*Future*
5. How I would be if I were a perfect son to my father.	*Pa*
6. How I was at the start of junior high school.	*Past*
7. How I would be if all my dreams came true, if I were a perfect person.	*Dream*

Where the elements (statements) for a self-image are maximally discriminated and maximally distributed into the rating categories, the *H* value (structural complexity) for that self-image is correspondingly high. On the other hand, where statements are "lumped," where a self-image is described in a *polarized* way, a very low value of *H* will result. Structurally simple self-images would thus be polarized ones, where the subject has massed most if not all elements at one or both rating extremes, or at an intermediate category. His self-images might be described as "black or white," "either-or" types. He concentrates elements in one or two categories. Structurally complex images would be those in which the subject uses most or all the rating categories. If, in addition to using all the categories, he sorts the elements on each with equal frequency, then the *maximum H* value will result. Such self-images would be those characterized by greater tendency toward "shades of gray."

Being measured, then, is the discrimination response of the subject to a given set of self-image directions. An *H* value can be computed for the array of statements generated for each self-image in order to determine its structural complexity. A similar notion is applied to "interpersonal grids" by Leff (1969). Diagrammatically, Fig. 1 illustrates the range of self-image structural complexity and its corresponding *H* values.

METHODS

Sample

The two samples initially selected for study were a patient group and a control group of adolescents. The patient sample consisted of all patients admitted to the adolescent unit at the National Institute of Mental Health between the fall of 1969 and the fall of 1971. These boys and girls were diagnosed as having either adolescent adjustment reactions or personality

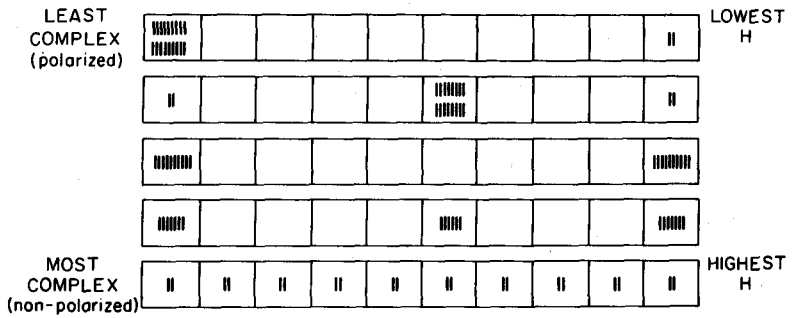

Fig. 1. The range of self-image structural complexity values.

disorders. An additional group of nonpsychotic adolescents was self-selected from a private day hospital. Thus there were a total of 23 nonpsychotic adolescent patients, ten male and 13 female.

The control group was comprised of 35 high school and early college students who were self-selected from a private high school in Washington and from a normal volunteer population living at the National Institute of Mental Health. None of the controls had major psychopathology; none were receiving any form of psychiatric treatment at the time of the study; 16 controls were male and 19 were female.

The total sample, then, was made up of 58 adolescents, with an equal number of boys and girls. Thirty-one subjects were classified as early-middle adolescents, being under 17 years old, while 27 were classed as late adolescents, since they were 17 years or older. Tables II to IV summarize the sample composition.

We attempted to have the sex, age, and patienthood subsamples as closely matched as possible on all other independent variables. In terms of social class,

Table II. Overall Sample

	Age	
Sex	Early and middle adolescence	Late adolescence
Male	14	15
Female	17	12

Table III. Patient Sample

	Age	
Sex	Early and middle adolescence	Late adolescence
Male	5	5
Female	5	8

Table IV. Normal Sample

	Age	
Sex	Early and middle adolescence	Late adolescence
Male	9	7
Female	12	7

measured by the Hollingshead (1957) social class index, patients and controls differed, with the controls having an average class status of 1.29 and patients having an average status of 1.92. Both values, however, fall within the range which defines upper class. Analyses of variance for birth order and family size revealed no significant differences among our subsamples.

Techniques

In order to collect the self-images data, we used a specially designed Q-sort instrument: a deck of "I" statements made by the subjects during their small group meetings. Subjects were divided into small mixed-sex, mixed-age groups and met with one of the investigators (S. H.) as a consultant for four meetings. These meetings were based on the approaches described by Bion (1959) and later by Rice (1965). Primary emphasis was on the here-and-now of group interaction and its relation to authority issues. Other description of the groups is given in our earlier section defining "self-image."

From the tapes of these meetings, a separate Q-sort deck was generated for each group. The deck consisted of 3 x 5 inch cards, each containing an "I" statement made by a group member which reflected a specific affective or ideological position. There were an equal number of cards for each group member including the consultant.

The subject was asked to sort these cards in terms of their relevance to a series of self-images (listed in Table I). For example, one instruction requested each card be rated from 0 (least relevant) to 9 (most relevant) according to whether it was something he would "say, think, or feel." A next instruction asked that he rate the same statements now imagining himself to be a "perfect son in the eyes of his mother": Were these ideas he would then "say, think, or feel" if he were that person? Self-image structural complexity values were all calculated from this data.

Means of Analysis

Calculation of H *(Structural Complexity) for a Self-Image*

The H value for a self-image was calculated as follows:

For each self-image array, the ratings for categories 0 to 9 were condensed into four cells, which combine the following ratings: 0-1, 2-4, 5-7, 8-9. To then calculate H values, these formulas were used (Attneave, 1959):

$$H(x) = \log n - 1/n \, \Sigma^{i} n_i \log n_i$$

where (x) is the self-image array, log is to the base 2, n is the number of elements (statements), and n_i is the number of statements in each of the four cells

$$H(y) = \log n - 1/n \, \Sigma^{j} n_j \log n_j$$

where (y) is a second self-image array and all other symbols are as defined above.

Analysis of the Structural Complexity Values

The total sample was then analyzed for differences along the dimension of sex, age, and psychiatric status for each self-image using three-way analyses of variance (Winer, 1962). In addition, the subsamples of patients and normals were separately analyzed for sex and age differences using two-way analyses of variance. The data for these multiple analyses of variance were the H values for each self-image.

RESULTS

Idealized Self-Images

Three self-images required the subject to envision ideal versions of himself. Two of these images referred to parental expectations, namely, to how he would be if he were perfect in the eyes of his mother (*Ma*) and then perfect in the eyes of his father (*Pa*). A third self-image directed the subject to his own ideals (*Dream*), how he would be if "everything turned out the way he wanted it to."

On the *Dream* image, patients are consistently more polarized than normals. The gap between patients and normals is even greater for late adolescents, but it is clear that at both age levels the two groups differ significantly ($P < 0.01$, Table V and Fig. 2). A second finding here is that, within the normal group, boys have more polarized images than girls. The gap is greatest for the late adolescents but significant at both ages ($P < 0.05$, Fig. 2).[3]

[3] F equals 4.375 for this sex difference finding. Analysis of variance tables for this and the following results are not included because of space limitations. They can be obtained, on request, from the authors.

Table V. Analysis of Variance of *Dream* Structural Complexity (H)

Source	df	SS	MS	F
Total SS	57	7.585		
Error SS	50	6.371	0.127	
Age	1	0.026	0.026	0.201
Sex	1	0.009	0.009	0.074
Patient/normal	1	0.987	0.987	7.750[a]
Age x sex	1	0.005	0.005	0.040
Age x patient/normal	1	0.090	0.090	0.708
Sex x patient/normal	1	0.086	0.086	0.674
Age x sex x patient/normal	1	0.014	0.014	0.110

[a] $p < 0.01$.

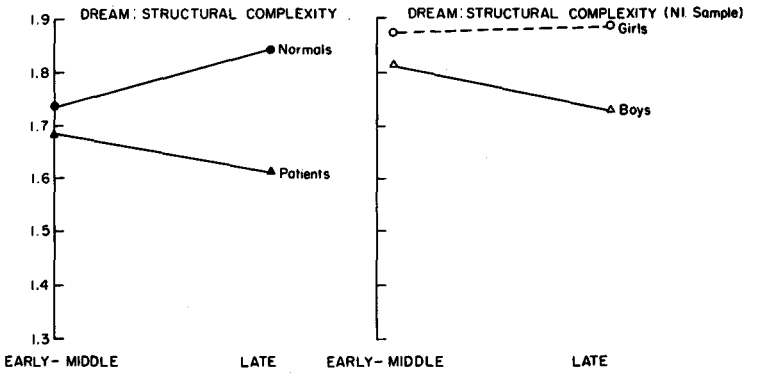

Fig. 2. Structural complexity values of the *Dream* self-image.

For the *Pa* image, we find a three-way interaction of sex, age, and psychiatric status ($P < 0.05$) (Fig. 3). Both younger ("early") boys and older ("late") girls polarize more in the patient group when compared to the normals. As in the *Dream* findings, boys, and particularly the older group, *late adolescent* boys, polarize most (have the *lowest* structural complexity values) in the normal sample. Finally, it can be seen that the effects of age and sex are more pronounced for patients, as the subgroups are more widely spread apart for the patients in Fig. 3. The greater influence of sex and age is also reflected in the patients' interaction of sex and age; girls become more polarized as boys become less polarized with increasing age ($P < 0.10$) (Fig. 3). Boys remain *more* polarized at both ages for the normals.

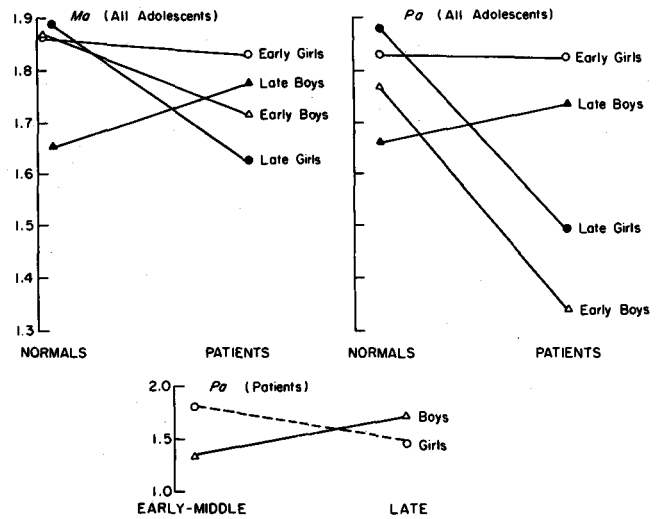

Fig. 3. Structural complexity values of parental idealizations.

The findings for the *Ma* image resemble those for the paternal idealization. Once again, late adolescent boys are clearly most polarized for the normals. The other age-sex groups cluster at a high level of structural complexity. A second parallel with the *Pa* image is that the age-sex groups show more variation from one another in the patient sample, while these subgroups have very similar values for the normals (Fig. 3).

Temporal Self-Images

Three self-images tapped time perspectives. Two of them referred to the subject's past and future. The subject was asked to envision himself at the start of junior high school if he were still in high school and at the start of high school if now in college (*Past*). Another instruction requested him to envision himself in the future, 10 years from the time of testing (*Future*).

For the *Future* self-image, the patients show more polarization at both age levels ($P < 0.10$); for this image, there are no age or sex effects for either group (Fig. 4). But for the *Past* self-image we again find sex and age to be important influences.

The pattern for the *Past* self-image is reminiscent of those for paternal idealization in that boys are more polarized for the normals, while girls are more polarized for the patients. Figure 4 displays this significant interaction ($P < 0.05$). In addition, all the adolescents show increasing polarization with increasing age ($P < 0.10$). Finally, within the normal group we again find the boys (especially the older ones) polarizing more than the girls ($P < 0.10$, Fig. 4).

Findings for the *Me* image where the subject was requested to imagine himself "now" reflect a familiar pattern. We find a three-way interaction of sex, age, and psychiatric status ($P < 0.10$). In this interaction, the older boys are again most polarized for the normals and least polarized for the patients (Fig. 4). Moreover, once again the normal subjects show a clustering of age/sex subgroups at high levels of structural complexity, with the exception of the older boys. In contrast, the patients show more variation among these groups and over a greater range of polarization values.

DISCUSSION

In a previous analysis of these adolescents, we found idealized self-images to discriminate most sensitively between patients and normals (Hauser and Shapiro, 1972). Patients had consistently lower correlations between their current self-image and each of their three idealized self-images. In these new findings, we are not presented with such a clear distinction between patient and normal adolescents. Instead, normal late adolescent boys are now distinguished from the other adolescents. Analysis of both parental self-images reveals that the

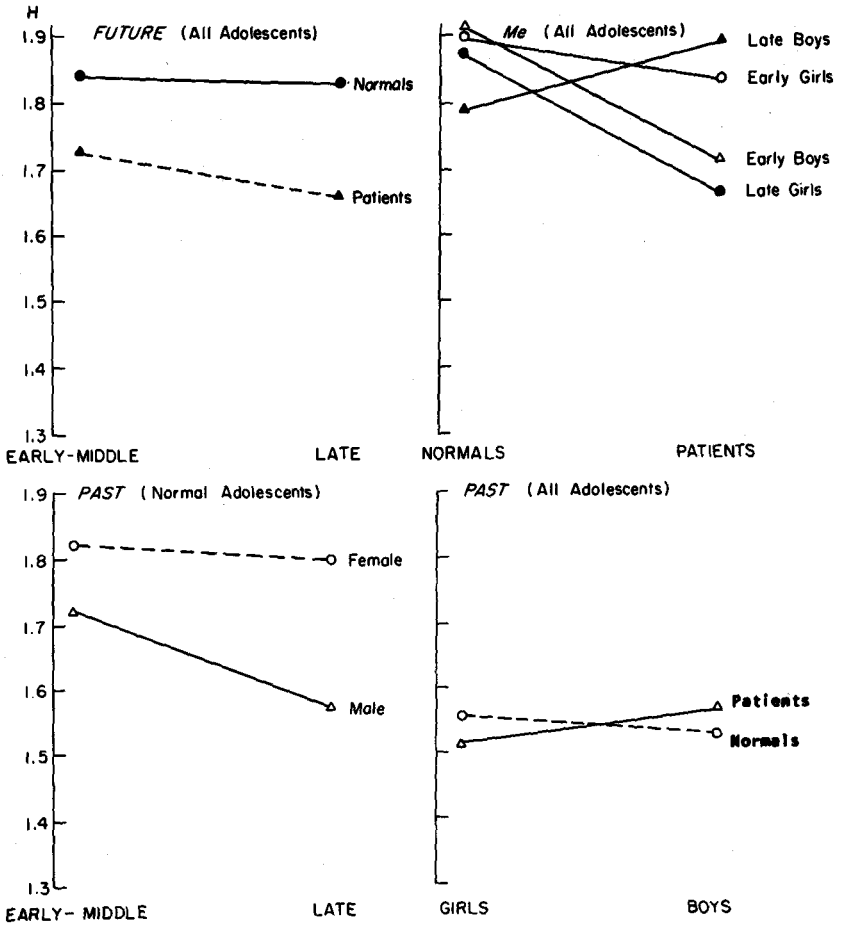

Fig. 4. Structural complexity values of temporal self-images.

normal boys are a distinctive group, particularly in late adolescence. The late adolescent boys polarize their paternal and maternal idealizations more than any of the other normal subgroups. This finding markedly contrasts with the low polarization (high structural complexity) of patient late adolescent boys. The polarization trend for the normal late adolescent boys recurs on two temporal self-images (current and past).

It is only for two self-images that we find a clear difference between patients and normals. Patients polarize their self-idealization (*Dream*) and their self-image for the future (*Future*) more than the normal groups. Our hypothesis that patients would have more polarized idealized images is thus confirmed *only* for the *Dream* image.

The striking, and unanticipated, change from the previous study's findings (Hauser and Shapiro, 1972) is that the parental idealized images no longer simply reflect patient-normal differences. Instead, when examined in terms of an inner structural dimension, they reveal a complex interplay of sex, age, and psychiatric diagnosis. Within *all* these interactions, the consistent finding is that normal late adolescent boys polarize their images. There is no such distinct separation of one sexual or age group for the patients.

In reviewing response extremity results, O'Donovan (1965) proposes two underlying general determinants of polarization phenomena: (1) psychopathology, high neuroticism, or character pathology leading to a conflicted "either-or" response to the stimuli, and (2) meaningfulness, the response being polarized because the subject is certain of it, the polarization thus being a reflection of definiteness, of how meaningful the stimuli are to the respondent.

Applying this framework to understanding polarization patterns of the normal late adolescent boys, we can argue the following: All self-statements sorted were originally made by either the individual subject or a member of his small group. Thus it is likely that some of these stimuli will be more meaningful than others. In addition, certain self-images may have clearer meaning to the subject. As the subject is increasingly certain of self-statements in terms of their "fit" to a given self-image, he will perceive them as highly relevant. Conversely, this certainty will also lead to "rejection" of other statements due to their lack of relevance; these will be sorted to the "least relevant" pole. The interaction of a highly meaningful self-image *with* highly meaningful statements will, then, enhance these *polar* processes of acceptance and rejection. Specific statements will be seen as "right," while others will be experienced as "foreign" thoughts.

The normal late adolescent boys consistently polarized three self-images, which involved *both* parental idealizations as well as past time perspective. We hypothesize that this pattern is a reflection of certainty processes rather than those of psychopathology. The fact that these boys do *not* show low correlations between these images and their other self-images (Hauser and Shapiro, 1972) is consistent with this hypothesis. The absence of low correlations suggests that these images are *not* fragmented or isolated from the subjects' other self-representations.

A fourth self-image, that for the present time (*Me*), is both polarized and relatively isolated for the normal late adolescent boys (Hauser and Shapiro, 1972). This combination suggests a second hypothesis, that of all the normal boys' self-images, the one of the current self may be more associated with personal *conflict* rather than with meaningfulness.

The patients do consistently differ from the normal adolescents in terms of their self-idealizations, their *Dream* image. This self-image is both highly polarized and isolated (low correlations) from their other self-images. If we again assume that low correlations *together* with polarization imply conflict over the

image, our third hypothesis would be that the self-idealization is tapping an area of personal conflict in the patients. It would seem at this point that when we use multiple measures, the self-idealization image most specifically differentiates patients from nonpatients.

Certain self-images, then, may be particularly responsive "barometers" of nonpsychotic adolescent psychopathology. There seems to be a spectrum of such indicators, with that self-image corresponding to the ego ideal as most sensitive to such psychopathology, followed by other idealized self-images and then the future self. Another set of self-images are associated with sex differences. Within the group of normal boys, we found polarized, yet nonisolated images for parental idealizations and the past, polarized and relatively isolated images for the present self.

These findings are clearly tentative ones. Our small sample, together with the fact that it is self-selected, argues for great caution in interpreting the results. Obviously, the sex differences must be considered no more than suggestive, as they point toward a number of distinctions between the self-images of the two sexes, regardless of clinical status. We consider the study exploratory, best serving as a guide to further systematic research with larger randomly chosen samples. We have tried to indicate the suggestive thrust of these findings by way of formulating three clear hypotheses which they stimulate. In addition to systematically testing the three hypotheses, there is a second direction we can take in future research with these variables. We discuss this other implication of our findings in the next and final section.

THE SELF-IMAGE PROFILE

By studying multiple self-images on several levels, we can determine "Self-Image Profiles" for individual adolescents. The means to then evaluating the significance of a specific profile would lie in comparing it against normative data for various populations, the range of values which were associated with certain sample variables such as sex, age, and psychiatric diagnosis. The current studies can thus be viewed as a preliminary step toward constructing normative profiles. In the findings, we see that normal boys emerge with characteristics which distinguish them from the other sample groups.

Besides the structural parameters described here, content dimensions are currently being analyzed for these same self-images. The content differentiation analyses examine separate self-image statements in terms of their place within self-images, their changes from self-image to self-image, their variation over time. The eventual profile of self-images will thus include dimensions which range from the most general, structural integration (their overall correlation), to the most specific (content differentiation), as summarized in Table VI.

It is necessary for such a profile to include a spectrum of dimensions for

Table VI. Self-Image Profile

Self-image types:	Idealized, temporal, peer	
Dimensions measured on each image:	Structural integration	Most general
	Relatedness	
	Structural complexity	Most specific
	Content differentiation	

multiple self-images held by a person. Recent discussions from psychoanalytic and social psychological perspectives depict the theoretical complexities inherent in considering notions of self-images or self-concept (Coopersmith, 1967; Gergen, 1971; Guntrip, 1071; Hauser, 1971*b*; Kohut, 1971; Rosenberg, 1965). There are several important issues raised by the discussions: (1) An individual cannot be characterized as holding a single "self-concept." More accurately we must consider the array, the repertoire of self-concepts. (2) Underlying one's self-concepts are many roots which range from his personal history to current sociocultural context. (3) Related to (2), there exist multiple personality processes which interact with one's self-images; some of these processes likely serve as determinants, while others are consequences of self-image phenomena (Hauser, 1972*a,b*). To empirically approach these issues, we are now longitudinally studying the dimensions of self-image already noted, together with cognitive and interview dimensions (Hauser, 1971*b*). Through such a project designed to measure many aspects of the individual over time, we may move toward constructing links from conceptual insights to operational measures. The difficult task of forging such links must necessarily precede systematic investigations of theoretical and clinical formulations about self-images. These formulations are ones to be taken most seriously, as they reach into areas of interest to the therapist and social scientist in focusing on the concepts of narcissism (Kohut, 1971) internalization (Schaffer, 1968), and identity (Erikson, 1968).

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