LOCUS OF CONTROL, RIGIDITY, AND THE TRAUMA-STREN CONVERSION

by

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ABSTRACT

The present study attempted to elaborate and clarify the nature of the trauma-stren conversion construct by relating it to the personality characteristics of locus of control, behavioral rigidity, and cognitive rigidity. It was hypothesized that individuals who were able to convert traumatic events into growth potentiating experiences would be more internally controlled, less rigid behaviorally, and less rigid cognitively than individuals unable to convert. Thirty male and 38 female college students completed an assessment booklet comprised of the Trauma-Stren Questionnaire, the Internal-External Locus of Control Scale, the Wesley Rigidity Inventory, the Rokeach Dogmatism Scale, and three other scales included as part of a larger study. All subjects were subsequently interviewed to clarify any ambiguities in the trauma-stren self-report material. The results indicated that the present study did not replicate previous findings in terms of the proportions of converters and nonconverters. A higher proportion of converters was found in the present study than previously reported. No significant relationships between the ability to convert traumas into strens and the personality measures were found. However, a new type of event, called the TS combination, emerged which reflected an individual's interpretation of an event as being both traumatic and strenful simultaneously. Evidence also showed that the TS conversion may vary quantitatively.

CHAPTER 1

INTRODUCTION

Stress experiences seem to be an inevitable aspect of life, whether associated with normal developmental changes, environmental demands, or conflicts resulting from group living. Despite the presence of stress and trauma, most people are able to respond adaptively and maintain their psychological equilibrium or well-being, with only a relative minority finding it necessary to seek professional help to cope with life's demands and crises.

Entire volumes have been devoted to the subject of stress and the adaptation to and coping with stress (Coelho, Hamburg, and Adams, 1974; Dubos, 1965; Grinker and Spiegel, 1945; Janis, 1958, 1971; Lazarus, 1966) as well as numerous studies in the journal literature (e.g., Chodoff, Friedman, and Hamburg, 1964; Haan, 1969; Hamburg and Adams, 1967; Lazarus and Alfert, 1964; Lazarus et al., 1965; Silber et al., 1961; Visotsky and Hamburg, 1961). The research has centered primarily on clarifying and understanding the processes involved in coping with stress and environmental hazards.

Paralleling developments in understanding the mechanisms of coping with stress, a trend in psychology has emerged which aims at the promotion of preventive intervention rather than a reliance on only

rehabilitative treatment after adaptation to stress has failed (Cowen, 1973). The community mental health movement, for example, has adopted primary and secondary intervention models which seek to "forestall dysfunction . . . and to promote psychological health" (Cowen, 1973, p. 433).

A second area of focus, however, is on growth potentiating experiences, the opposite of traumatic and distressing events, and their relationship to trauma. One recent and suggestive line of research has dealt with traumas, growth potentiating experiences, and their relationship (Finkel, 1974, 1975a, b). Finkel sought to determine if, in addition to the presence of stressful, traumatic life events, there were also "experiences that strengthen the personality and contribute to the growth of an individual" (Finkel, 1974, p. 265). Using the term stren, coined by Hollister (1967), to connote such growth potentiating experiences, Finkel asked subjects to describe strens and traumas that they had experiences in their lives, when they occurred, what preceded them, the identity of significant people involved and their parts in the experience, and the ways in which they changed as a result of the experience. He found that: (1) stren experiences did occur, (2) they occurred at a frequency similar to traumas, (3) their effects were as long lasting as those of traumas, and (4) significant others played a role in strens as well as traumas. When Finkel categorized traumas and strens on the basis of precipitating events, he found that some events were uniquely stren or trauma (e.g., major success in school and major failure at sports). However, an unexpected overlap of events emerged where an event had elements of both stren (S) and trauma (T). For

these overlapping categories, "it was the perception and interpretation of the event, not the event per se, which determined whether it was labelled as a stren or trauma" (Finkel, 1974, p. 271). Moreover, these TS events occurred when a trauma was converted into a stren, and this conversion seemed cognitive in nature--one interpretation being replaced by a new one.

After this initial study, Finkel pursued the conversion of trauma into stren (TS) experience (Finkel, 1975a). Adding a personal interview to the original procedure of a written report, he found that a conversion experience occurred in about two-thirds of his sample, represented 35% of the number of original traumatic events, and made up 26% of all significant life experiences. Other findings were: (1) the conversion process was brought about by the person alone 60% of the time, (2) it occurred with a median time of three months after the traumatic event, and (3) the conversion event occurred at an older age than strens or traumas. According to Finkel, the conversion did not seem to be defensive in nature, but instead a process in which "the discovered ability to cope, adapt, learn, grow, and become self reliant and independent emerged" (Finkel, 1974, p. 271).

In a later study (1975b), Finkel expanded his research to include an adult sample and to compare traumas that had been converted and those that remained traumatic. Results showed that the TS event was not qualitatively different from traumatic events which remained unconverted, but rather the "convertibility of an event seemed to lie within the person and not in the event" (Finkel, 1975b, p. 7). The time pattern of

occurrence showed traumas to occur before strens and strens before conversions, with a conversion experience being infrequent before age 20. No differences between converters and nonconverters were found prior to the first conversion event. However, after a TS conversion, traumas became less frequent, strens increased in frequency, and TS conversion became more prevalent in the converters.

Finkel suggests that "perhaps a key has been found to coping with trauma, and once found and used, can be used again" (Finkel, 1975b, p. 8). If such a key exists which allows persons to not only adjust and cope with traumatic events, but also to change them into positive, health promoting experiences, the elaboration and clarification of the processes involved in conversion would have implications for current theories of adjustment and coping, for psychotherapeutic techniques, and for primary and secondary intervention models.

One approach which may be taken to clarify and elaborate the nature of the trauma-stren conversion is to determine with what other constructs it relates (Cronbach and Meehl, 1955). A particular direction to take in this regard would be to learn what personality attributes characterize converters and nonconverters. It is feasible that research which shows differences in personality characteristics between nonconverters and converters could yield information about some of the skills involved in conversion.

Purposes of the Present Study

The purposes of the present study were two fold. First, a replication of Finkel's findings was attempted to determine the

generalizability of the TS conversion event by using another, opposite sexed investigator and by conducting the study in a different area and university. Second, the relationship of two personality constructs, locus of control and rigidity, and the trauma-stren conversion was explored.

Locus of Control

The internal-external locus of control construct, developed by Rotter from social learning theory (Rotter, 1954) and originally begun in the context of a clinical therapy relationship (Phares, 1976), is a "generalized expectancy, operating across a large number of situations, which relates to whether or not the individual possesses or lacks power over what happens to him" (Lefcourt, 1966, p. 207). Internal control refers to individuals who believe that reinforcements are contingent upon their own behavior or their own relatively permanent characteristics while external control refers to individuals who believe reinforcements are the result of chance, luck, fate, or under the control of powerful others (Rotter, 1966).

In order to measure individual differences in this generalized expectancy of internal-external control, Rotter developed a forced choice Internal-External Control scale (Rotter, 1966), which was a revision and extension of two earlier scales developed for the same purpose (James, 1957; Phares, 1957). Reliabilities of the I-E scale have been fairly consistent across studies, ranging between .49 and .84 for various samples and time periods (Harrow and Ferrante, 1969; Hersch and Scheibe, 1967; Rotter, 1966). The construct validity of internal-external control

seems well established, as shown by the good discriminant validity (Joe, 1971; Rotter, 1966), the internal consistency of items (Rotter, 1966), validity data used to select items for the final form of the test (Rotter, Liverant, and Crowne, 1961; Seeman and Evans, 1962), and the success of a variety of measures in predicting criteria related to the control dimension (Hersch and Scheibe, 1967; Lefcourt, 1966). Factor analytic studies have further clarified the nature of the scale (Abrahamson, Schulderman, and Schulderman, 1973; Mirels, 1970). Two factors have generally been found. The first, which accounts for 11% to 18% of the variance, concerns the "respondent's inclination to assign greater or lesser importance to ability and hard work than to luck as influences which determine personally relevant outcomes" (Mirels, 1970, p. 227). The second factor, accounting for 7% to 10% of the variance, relates to items which focus on the respondent's acceptance or rejection of the idea that citizens can exert control over political and world affairs (Mirels, 1970).

Since the inception of the locus of control variable, much research has been conducted. One area of concern has been to determine if individuals with an internal locus of control "are more active, alert, or directive in attempting to control and manipulate their environments than are externals" (Phares, 1976, p. 60). The findings of Seeman and Evans (1962), Seeman (1963), Davis and Phares (1967), and Phares (1968) among others have lent credence to this hypothesis. Other research has dealt with the relationships between locus of control and other personality measures. Hersch and Scheibe (1967) correlated scores on the I-E scale with adjective checklist self scores and the 18 CPI scales. On the

ACL, internals described themselves significantly more often than externals as clever, enthusiastic, independent, self-confident, ambitious, assertive, conscientious, determined, insightful, organized, and stubborn. Internals were found to score higher than externals on the CPI scales of dominance, tolerance, good impression, sociability, intellectual efficiency, achievement via conformance, and well being. Internal locus of control has also been found to correlate positively with more open systems of belief (Clouser and Hjelle, 1970) and higher self-esteem (Ryckman and Sherman, 1973).

Evidence has accumulated which indicates the greater personal effectiveness of internals in terms of adjustment, anxiety, reaction to threat, and life satisfaction. Kuypers (1972), using an old age sample, reported that internals were higher on coping measures and lower on ego failure measures as defined by Haan's model of coping ego function. Internal locus of control was found to be related to normal development and emotional adjustment (Distefano, Pryer, and Smith, 1971; Smith, Pryer, and Distefano, 1971) and to psychiatric patients' reports of having more favorable outlooks of future chances of adjustment after release (Smith, Steinke, and Distefano, 1973). Other studies have also found internals to be better adjusted (Harrow and Ferrante, 1969; Platt and Eisenman, 1968; Warehime and Foulds, 1971) while externals have been found to show more anxiety on a variety of measures (Butterfield, 1964; Tolor and Reznikoff, 1967; Watson, 1967). Butterfield (1964) predicted and found internals' reactions to frustration are more facilitative and constructive while externals react more intropunitively and less

constructively. The results of Brisset and Nowicki's study (1973) show that internally controlled individuals report more constructive reactions to frustration than do externally controlled persons. Finally, Palmore and Luikart (1972) and Warehime and Woodson (1971) found that those with an internal locus of control orientation expressed greater life satisfaction than did externals.

From the overall picture of internals gleaned from the research cited, internals seem more effective at coping constructively with the environment, more insightful, and better adjusted. Since Finkel found that "it is the perception and interpretation of the event, not the event per se" (Finkel, 1974, p. 271) which determines an event's effect as strenful or traumatic, it seemed reasonable to suppose that locus of control might be related to the trauma-stren conversion. In particular, it was predicted that those individuals who are able to convert traumatic life events into growth potentiating experiences are higher in internal locus of control than those individuals who have not converted traumas.

Rigidity

The second personality construct studied in relation to the trauma-stren conversion variable was rigidity. Remembering that the convertibility of an event seems to lie within the person and that the process of conversion is a cognitive one in which one interpretation or construction of an event is replaced by a second one, rigidity versus flexibility might well be a characteristic on which converters and nonconverters differ. That is, converters might be more able and willing to entertain novel explanations, beliefs, or cognitions and find it easier to relinquish

adherence to previously established conclusions, ideas, and beliefs. They might be more flexible in their approach to problem solving, more able to create new responses to and evaluations of similar situations, and less likely to fall into habitual and unchanging behavior patterns and modes of thinking; i.e., they may be less rigid in both behavior and cognitive processes. The hypothesis that converters and nonconverters differ on a personality dimension of rigidity-flexibility was investigated in the present study.

The concept of rigidity has not shared such a consistent and cohesive history as has the locus of control construct. Definitions of rigidity, measures of it, and theoretical underpinnings or "nomological nets" surrounding the concept have been both varied and numerous. As Chown (1959) aptly described the situation, "Few major topics in contemporary psychology appear to offer more promise than rigidity . . . . Unfortunately, it is also the case that few areas present such a quagmire to the unwary investigator; rigidity is not a simple concept, and the subdivisions within it are far from clear" (Chown, 1959, p. 195).

Even a cursory review of the rigidity literature reveals a vast array of definitions and operationalizations of the concept. Cattell (1946a, 1946b; Cattell and Tiner, 1949) conceptualized rigidity in terms of processes or structure and distinguished three types: disposition rigidity (a difficulty or slowness in changing from old to new responses even if they are desired changes), process rigidity (the tendency of percepts, emotions, or motor activities to persist after they have been activated, despite changes in the eliciting stimuli), and structural rigidity (the resistance of a habit or personality trait to forces

which would be expected to change it). Werner (1946) defined rigidity as a lack of variability and adaptability. Goldstein (1943) in studying brain damaged individuals, defined rigidity as adherence to a present performance in an inadequate way and differentiated primary and secondary types of rigidity. Rokeach (1948) defined it as "the inability to restructure a field in which there are alternate solutions to a problem in order to solve that problem more efficiently" (Rokeach, 1948, p. 260), and later as a resistance to change of single beliefs, sets, or habits (Rokeach, 1960). Lewin (1935) described rigidity in terms of the presence of strong, highly impermeable boundaries between inner-personal regions and regions of the psychological environment. One effect of a rigid boundary is that an increased amount of force is then required to produce changes in a given situation. Schaie (1955) thought rigidity could best be described by three factors: motor-cognitive speed, which is the rate of emitting familiar cognitive responses, personality-perceptual rigidity, or the inability to adjust readily to new situations, and motor-cognitive rigidity, the inability to shift from one activity to another without difficulty.

It is little wonder that investigators were often led to conclude that it is difficult to maintain a concept of rigidity as a unitary trait (Fink, 1958; Fisher, 1949; Goodstein, 1953) or that efforts of finding a generalized concept be abandoned to search for specific conditions under which a rigidity syndrome would be manifested (Wolpert, 1955).

Just as there have been many definitions of rigidity, so too have there been a myriad of tests to measure it. Several Einstellung tests have been developed and used to study rigidity, the most well known being Luchins' water jar test (Luchins, 1951). Concept formation tests (Fey, 1951), aniseikonic lenses (Becker, 1954), some of Guilford's tests (Chown, 1961, 1972) and the Alternate Uses Test (Corder and Corder, 1974) have been used as measures of rigidity as well as some well known personality instruments: the Rorschach (Eriksen and Eisenstein, 1953; Johnson and Stern, 1955), the California Ethnocentrism scale (French, 1955), the Dogmatism scale (Corder and Corder, 1974), and the Draw-a-Person test (Diamond, 1960). Several paper-pencil personality inventories have been developed specifically to tap rigidity: the Wesley Rigidity Inventory (Wesley, 1953), Rehfish's Rigidity scale (Rehfish, 1958), Gough's flexibility scale on the CPI (Gough, 1957), and Braen's Self Description Inventory (Braen, 1960). In light of the variety of definitions, the many different tests which rarely correlated to any extent (French, 1955), and the lack of consistent research results (Fink, 1958), Brown's conclusion that rigidity is a "term which should always be written with an operational subscript" (Brown, 1953, p. 469) seems justified.

More recently some clarification and synthesis of the concept of rigidity has been made. Leach (1967) noted that the concept of rigidity has developed in stages, and the present view of rigidity is that it is a "manifestation of basic personality variables observable in cognitive and social fields as well as perception" (Leach, 1967,

p. 11). Goins (1962) attempted to clarify the concept of rigidity by reviewing previous definitions of rigidity and developing a classification schema with two basic formulations of rigidity-flexibility: behavioral and personality. These two groups, however, were conceptualized as two different manifestations of a single personality structure or "indices of a personality construct" (Goins, 1962, p. 53).

Since there appears to be some recent consensus that a personality dimension of rigidity exists, albeit problematic in definition, it seems possible to study rigidity in relation to the conversion construct provided that the definitions and operationalizations are explicit. In the present study, two conceptualizations of rigidity were used: the degree to which individuals tend "to maintain a response or response set in different situations" (Wesley, 1953, p. 134), and the degree to which people are open or closed minded (Rokeach, 1960).

The first conceptualization of rigidity is a personality attribute which refers to "the tendency to persist in responses that may previously have been suitable in some situation or other but that no longer appear adequate to achieve current goals or to solve current problems" (Wesley, 1953, p. 129). Wesley (1953) developed a rigidity inventory on the basis of this definition, and it has since been one of the more widely used personality inventories in rigidity research (Ahmad, 1973; Akhtar and Sowaid, 1972; Chown, 1961, 1972; Schmidt, Fonda, and Wesley, 1954; Schoenfield, 1973). The inventory consists of 41 true-false items which were rated by five clinical psychologists to express a high degree of rigidity. It has been validated on behavior in concept formation tasks

where rigid subjects were found to take longer to shift sets than non-rigid subjects (Wesley, 1953). It has been found to correlate with other measures of rigidity (Orpen, 1973; Wesley, 1953; Zelen and Levitt, 1954) and has been used by Chown in several studies to measure a willingness to change and a liking for change (Chown, 1961, 1972). The inventory has been factor analyzed and found to consist of three factors (Chown, 1960). The first factor consists of items which measure a liking for slow steady methods, dealing with one thing at a time, and sticking to one's own ways or beliefs. This factor is negatively associated with intelligence. The second factor includes items which "present a consistent picture of liking for established routine" (Chown, 1960, p. 492). Factor III is made up of items dealing with persistence, methodical behavior, and liking for detail. The reliabilities reported by Zelen and Levitt (1954) on three different sets of data range between .59 and .68.

In the present study, it was hypothesized that individuals who had not experienced a conversion event would be more rigid than those who had converted.

The second conceptualization of rigidity-flexibility used is the closed versus open mind construct developed by Rokeach (1960). The concept of the open-closed mind dimension specifically refers to individual differences in the degree to which a person's belief-disbelief systems are open, i.e., "the extent to which the person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits" and in accord with the inner structural requirements of

the situation (Rokeach, 1960, p. 57), or closed, i.e., the extent to which the person cannot distinguish between information received and the source.

However, Rokeach posits a relationship between belief-disbelief systems and thought: "man's cognitive processes--thinking, remembering and perceiving--are processes and changes that take place within a person who has already formed a system of beliefs" (Rokeach, 1960, p. 7). Thus, he says a description of the way in which belief systems are organized is also adequate for a description of personality and cognitive functioning. His results generally support his contention.

In the research presented by Rokeach (1960), open minded persons are less resistant to changes in belief systems and more able to form new belief systems whether they are conceptual, perceptual, or esthetic in nature. The primary ability that differentiates open and closed minded persons is the ability to synthesize new beliefs into a new system. That is, closed and open minded individuals do not differ in being able to analyze (i.e., the ability to break down and overcome currently held beliefs and replace them with new ones), but they do differ in the ability to organize and integrate these new beliefs into a new system. Several variables which determine the ability to form new systems are: (1) the ability to remember all the new parts to be integrated, (2) a willingness to entertain new systems, and (3) past experience, which determines whether a particular system is psychologically new or not.

Rokeach developed the Dogmatism scale to measure individual differences in openness or closedness of belief systems, and

concomitantly, the "mind." Form D contains 66 statements to which individuals express their agreement or disagreement on a six point scale. Reliabilities of the scale reported by Rokeach range from .68 to .93. A variety of validity data has been gathered which has shown the ability of the scale to discriminate between groups "known on other grounds to be open or closed in their belief systems" (Rokeach, 1960, p. 101), as well as a variety of studies which have been concerned with other aspects of construct validity (Ehrlich and Lee, 1969; Korn and Giddan, 1964; Rokeach, 1960). Factor analytic studies showed factors to group around Rokeach's conceptualizations (Vacchiano, Schiffman, and Strauss, 1967). Vacchiano, Strauss, and Hochman (1969) have correlated the Dogmatism scale with other personality measures, reported other investigators' correlations, and concur with Rokeach that one can extend the concept of dogmatism from an attitude system to a personality pattern.

In the present study, the open-closed mind dimension refers to a dimension of cognitive rigidity, with closed-mindedness defined as being cognitively rigid and open-mindedness denoting cognitive flexibility. Based on Finkel's interpretation that the conversion process is a cognitive one and that the dogmatism scale measures rigidity which is reflected in modes of cognitive functioning, it was hypothesized that converters would be less cognitively rigid than nonconverters.

There is some reason to believe that rigidity and closed-mindedness would be related to the ability to convert traumas into strens. Research conducted suggests that adjustment is negatively related to rigidity and closed-mindedness. Since some of the studies to be cited used the dogmatism scale as a measure of rigidity rather than closed-mindedness

per se and the present study refers to closed-mindedness as cognitive rigidity, the following discussion uses the term rigidity throughout.

Plant, Telford, and Thomas (1965) found that non-rigid individuals were more outgoing, enterprising, calm and patient, mature and forceful, efficient and clear thinking, planful and responsible, and more likely to succeed in an academic setting. Ainsworth (1958) found that rigidity was related to insecurity in general life adjustment. Lefcourt (1962) reported that non-rigid psychiatric patients changed more than rigid patients. Similarly, Ehrlich and Bauer (1966) found that high scores on the Dogmatism scale and low scores on a flexibility measure were associated with impaired social and occupational functioning in psychiatric patients. They also found that high scorers on the Dogmatism scale had poorer prognoses, were more likely to be diagnosed as psychotic, to have a thought disorder, and to be hospitalized longer. Vacchiano, Strauss, and Schiffman (1968) found rigid persons were lacking in self-esteem, doubtful about their self worth, lacking in confidence, defensive, and dissatisfied with their behavior, physical state, and personal worth and adequacy. In addition, these individuals were low in ego strength, submissive, restrained, and tense. Their interpretation was that personality maladjustment and instability seem to underlie rigid thinking.

Summary

In summary, the present study tested the following hypotheses:

1. The occurrence of strens, traumas, and trauma-stren conversions in the present study would be comparable to Finkel's findings.

2. The conversion of traumatic experiences would be related to locus of control and rigidity. Specifically it was hypothesized that: (a) those individuals who had converted traumas into strens would express a higher degree of internal locus of control than those who had not converted traumas into strens, (b) those individuals who had experienced trauma-stren conversions would be less rigid behaviorally as measured by the Wesley Rigidity Inventory than nonconverters, and (c) those individuals who had converted traumas into strens would be less cognitively rigid as measured by the Dogmatism scale than nonconverters.

CHAPTER 2

METHOD

Subjects

The subjects were 38 female and 30 male University of Arizona students recruited on a voluntary basis from upper division liberal arts classes.

Experimenters

Two investigators conducted the study. One was a male, fourth year graduate student in clinical psychology. The other was a first year, female graduate student in clinical psychology.

Instruments

1. The Trauma, Stren, and Trauma-Stren Questionnaire: The instructions read as follows:

> I am interested in studying significant experiences--those experiences or events in people's lives which they subjectively feel have altered and shaped their personality. I am going to ask you to detail those events which you can point to as being truly significant in your own life and personality.
>
> Many people think immediately about traumatic events--those experiences in our lives that we feel have injured our personality development in some way. While I am interested in traumas, if they are significant, I am also interested in events which have enhanced the personality or have promoted psychological growth. The word "stren" has been used to stand for "an experience in an individual's life that builds strength into his/her personality."

Keeping this information in mind, I wish to find out more about your significant experiences: strens, traumas, or events that have elements of both stren and trauma. In the next hour or so, I would like for you to think about and then write down in detail, the various significant experiences you can recall from your own life, beginning as far back as you can remember, and including your most recent experiences. I would like to know the following things about each experience: (a) approximately when it occurred, (b) what, if anything, preceded it, (c) describe the experience in detail, as best you can remember it, (d) mention any significant people who were involved in the experience and describe what part they played, (e) what happened as a result of the experience, (f) in what ways did you and your "world" change as a result of the experience, and (g) in looking back, how would you evaluate the experience in relation to your personality development.

I realize that I am asking relatively personal questions. But keep in mind that I am not interested in any one of you in particular, but I am interested in learning more about significant events in general. Your information will be handled in the strictest confidence, and if it is reported, all material that would identify you individually will be left out.

Remember, significant experiences are unique to each individual--what was significant for you may not be for someone else. Don't leave out an experience because it might be "silly" or "embarrassing" or because someone might not "understand" it. To make sure I understand, I would like to speak with you in an interview to be arranged after you return these questionnaires.

Please think about your experiences, put them down in detail, and designate whether you feel it has been a stren, a trauma, or some combination. Feel free to take as much time as you feel you need. Thank you for your time and cooperation.

Please follow this format for each described experience and write as legibly as possible.

1. When it occurred.
2. Preceding events.
3. Detailed description of experience.
4. Description of parts played by other people.
5. Description of what happened as a result of the experience.
6. Changes in you as a result of the experience.
7. Effect of the experience on your personality development.
8. Indicate if the experience was a trauma, a stren, or a combination of the two.

The format and legibility instructions at the end are additions to Finkel's original instructions.

2. The Rotter Internal-External Locus of Control Scale: The assessment booklet contained the 29 item I-E scale preceded by Rotter's instructions slightly adapted to conform with the structure of the answer sheet used in this study:

> This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.
>
> Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you most strongly believe to be the case as far as you are concerned. Also do not be influenced by your previous choices.

3. The Wesley Rigidity Inventory: The 41 item version of the Wesley scale was used. The instructions read as follows:

> For each of the following statements, mark each statement true if it is true or mostly true for you and false if it is false or mostly false for you.

4. The Dogmatism Scale (Open-Closed Mind Scale): Form D, the 66 item version of the Dogmatism scale, was used with the following instructions as suggested by Rokeach:

> The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; when you agree or disagree with any statement you can be sure that many people feel the same as you do. Mark each statement on the answer sheet according to how much you agree or disagree with it. Please mark every one. Mark +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

+1: I agree a little	-1: I disagree a little
+2: I agree on the whole	-2: I disagree on the whole
+3: I agree very much	-3: I disagree very much

5. In addition to the above mentioned scales, two other self-report measures, the Marlowe-Crowne Social Desirability scale and the Locus of Causal Attribution scale, and a short verbal intelligence test consisting of every other word from the WAIS vocabulary subtest was administered as part of a larger study.

6. The assessment booklet thus consisted of the scales in the following order: Trauma-Stren questionnaire, the Dogmatism scale, the Internal-External Locus of Control scale, the Marlowe-Crowne Social Desirability scale, the Wesley Rigidity Inventory, the Locus of Causal Attribution scale and the vocabulary test.

Procedure

Recruitment

The two investigators together went to upper division liberal arts classes to recruit volunteers to participate in a "study on people's significant life events." While one investigator briefly discussed the purpose and format of the study, the other investigator distributed a two page handout to every student in the class. The first page asked for the following information: name, address, telephone number, age, sex, college class (freshman, sophomore, junior, senior, other), major, religious affiliation, and number of religious activities attended in an average month. Immediately following this and on the same page was a participation consent form, which read as follows:

> We are studying people's significant life events. We want to know what kinds of events they are, what people do about them, and what consequences they have. We are also interested in determining if there is a relationship between various personality characteristics and the types of experiences people have.
>
> If you sign this form, you are consenting to aid us in completing research in this area. If you agree, we will be asking you to do the following: (1) to complete a number of questionnaires and to describe your significant life events, and after that (2) to participate in a brief interview. We are talking about a time commitment of 1½ to 2 hours for the questionnaires and approximately ½ hour for the interview. Times for these will be negotiated, and we will attempt to schedule convenient times as much as possible. Since your participation is on a voluntary basis, you may decide to discontinue your participation in this project at any time.
>
> We assure you that your identity and questionnaire responses will be kept in the strictest confidence. Your name and all other identifying material will only appear on this consent form, with a number system used on all additional forms and questionnaires.
>
> We thank you for your cooperation.

At the bottom of the page were spaces for a signature, date, and session which the individual planned to attend. The second page provided the information on five times and sites which had been arranged for the completion of questionnaire materials.

All students were asked to fill out the demographic information, even if they chose not to participate. In this case, they were asked not to sign at the bottom. Those who decided to participate were instructed to sign the consent form in the place provided below the form, put the date, and indicate which session, 1-5, they planned to attend. They were told that they could tear off the second page to keep as a reminder of the time and place to meet. If none of the sessions were convenient but they wished to participate, they were asked to put a note at the bottom of the first page, and the investigators would call them to arrange a different time.

The investigators alternated tasks of discussing the study and distributing the handouts. The information discussed verbally was similar in content to that provided in the consent form.

Group Testing

As subjects arrived for the group testing sessions, they were handed the assessment booklet, an answer sheet, and three blank pages of paper. An I.D. number was placed on the answer sheet and blank paper which matched the number on the consent form. This was done to provide anonymity; following the interview, names on the consent form were deleted and subjects were identifiable only by number. Each subject was instructed to complete the "Significant Life Events" questionnaire, using the three blank sheets of paper, before moving on to the personality scales. They were also told that additional paper would be provided should they need it. The answer booklet was then to be used with the remainder of the questionnaire packet.

The group testing sessions lasted an average of two hours, and subjects were encouraged to finish within that time period. After one hour, it was announced that they "should be finishing up the life events questionnaire and moving on to the other scales." At two hours, those remaining were told that they had been working two hours and should try to finish soon.

Following the completion of the test booklet, each subject was scheduled for an individual interview session with one of the two investigators. Interview assignments to the investigators was on a random basis except that an equal number of males and females for each

interviewer was attempted. This was done in order to control for possible effects due to sex of the interviewer.

Interview

The interview consisted of three parts. The first section focused on the trauma-stren questionnaire to follow up on unclear points, fill in omissions, and add details which were sketchy or absent in the written descriptions. The second section involved obtaining information pertinent to the other project being conducted simultaneously with the present study. A four minute tape recording of subjects describing "what they feel like when they are sad" was obtained to determine cognitive styles of differentiation and integration. At the end of the interview, subjects were told the purposes of the study, and any questions or concerns they had were discussed fully. They were then thanked for volunteering their time and for their cooperation.

The format and style of the interview were standardized as much as possible. Scheduled for 30 minutes, the interviews typically lasted 20-30 minutes with only a few extending beyond a half hour.

CHAPTER 3

RESULTS

Demographic Information

The final sample consisted of 68 subjects (30 males and 38 females) with a mean age of 21.8 years (range=17 to 42). All classes were represented, freshman through graduate standing, with 70.6% at the junior level or above. Forty-one (70.3%) were psychology majors, while 27 (39.7%) were majors in other areas including: business, sociology, anthropology, history, humanities, home economics, nursing, and foreign languages. Forty-four percent reported some religious affiliation and participated in one to nine activities per month, with a mean of 1.2.

Replication of Trauma, Stren, and Trauma-Stren Conversion

Of the 68 individuals, 58 were converters while 10 were non-converters. Of the total 436 events reported, the frequency, percentage, mean number and standard deviation per individual of reported traumas, strens, conversions, and the category "other" are shown in Table 1. The mean age and standard deviation of event occurrence are also provided in Table 1. The *t* test comparisons of the mean age of occurrence for each event revealed that traumas occurred before strens ($t=1.146$, $p<.001$) and conversions ($t=3.304$, $p<.001$), but strens and conversions occur at about the same time ($t=.136$, ns).

Table 1. Prevalence, frequency of occurrence, and mean age of event occurrence

	Trauma	Stren	Trauma-Stren	Other	Total
Frequency	96	187	151	2	436
Percentage	22%	43%	34.6%	.4%	100%
Mean Number	1.41	2.75	2.22	.03	
S.D.	1.43	2.21	1.70	.17	
Mean Age	11.86	14.28	14.37		
S.D.	5.92	6.23	5.76		

Two analyses tested whether the current study replicated Finkel's findings in terms of (1) the occurrence of traumas, strens, and conversions, and (2) the frequencies of converters and nonconverters. Although two studies using a college population have been reported by Finkel (1974, 1975a), only the former provides the frequencies of traumas, strens, and conversions. It should be noted that these data were recategorized after data collection from an initial two categories, T and S, to a second schema including T, S, and TS conversion when the conversion event unexpectedly was found to occur in addition to only traumas and strens as hypothesized. Thus, the frequencies of traumas, strens, and conversions in the Finkel (1974) study were compared with those obtained in the present study. A chi square analysis resulted in a nonsignificant difference ($\underline{X}^2=1.54$, $\underline{df}=2$, $\underline{p}<.25$).

A second chi square analysis compared the frequency of converters and nonconverters between Finkel's data (1975a) and the present study. In that study, Finkel found 27 of 40 college students (67.5%) were

converters while 58 of 68 (85.3%) were converters in the present study. This analysis revealed a highly significant difference in results between the two studies (X^2=3.178, df=1, $p<.001$). Thus, the present data do not replicate Finkel's findings in terms of the proportion of converters and nonconverters.

Conversion and Personality Characteristics

The second major hypothesis tested was that individuals who were able to reevaluate initially traumatic experiences as positive, growth enhancing ones would be more internally controlled and less rigid. Two statistical techniques, correlational analysis and analysis of variance, evaluated these hypotheses.

The correlational analysis included the following variables, all of which were intercorrelated: age, sex, class, major (psychology vs. non-psychology), religion, number of activities per month, cognitive rigidity scores (ROC), internal-external control scores (RIE), behavioral rigidity scores (WRI), number of traumas, strens, and conversions, status of being a converter (reported at least one TS conversion) or nonconverter (no TS event reported), the TS/TS+T ratio, conversion status (high, medium, low as defined by the TS/TS+T ratio: 0-.32, .33-.67, .68-1.00), the ratio of reported number of conversions to the total number of experiences reported, and sex of the interviewer. All variables were correlated using the Pearson product moment correlation coefficient. However, according to Guilford (1965) when one variable is dichotomous and the other continuous, the Pearson r formula yields a point biserial correlation coefficient. Of particular interest in

the analysis were the correlations between the various measures of conversion and the dependent measures, internal-external control, and behavioral and cognitive rigidity. The correlations are presented in Table 2. None of these reached significance. Directionally, there is a tendency for converters to score higher on externality and cognitive rigidity and lower on behavioral rigidity. Only the latter relationship between behavioral rigidity and the ability to convert is in the predicted direction.

Table 2. Correlations between conversion and dependent variables

	I-E Scale	Rigidity Inventory	Dogmatism Scale
Converter (1) - Nonconverter (0)	.17	-.07	.12
Conversion Status (1,2,3) low, medium, high	.07	-.09	.06
Ratio TS/TS+T	.08	-.10	.09

Second, the hypotheses that converters are more internally controlled and less rigid than nonconverters were tested by analysis of variance. Because of the small number of nonconverters (10) in comparison with converters (58), the sample was initially divided into three groups on the basis of the ratio of conversion experiences to total trauma and trauma-stren conversion experiences (TS/TS+T). Low (1), medium (2), and high (3) conversion status were defined as the ratio values 0-.32, .33-.67, and .68-1.00 respectively. This procedure

resulted in a distribution which was more normal in shape and in groups with more comparable n's. A three way analysis of variance of conversion status by sex of subject by interviewer (3x2x2) on each dependent variable was computed. The results of the analysis are presented in Tables 3 through 5, and the means for the main effects on each dependent variable are provided in Table 6. Conversion status is abbreviated as conver, interviewer or experimenter sex as ESex, and sex of subject as SSex. The only significant result to emerge from this analysis is a sex effect on the WRI, with male subjects scoring higher on rigidity than females. However, in light of the large number of statistical tests done, one significant finding does not exceed chance expectancy, $p > .50$ (Sakoda, Cohen, and Beall, 1954).

Table 3. Conversion status, subject sex, and sex of interviewer differences on Locus of Control (RIE)

Sources of Variation	SS	df	F	p
MAIN EFFECTS				
Conver	62.865	2	1.700	.190
SSex	68.070	1	3.682	.057
ESex	28.228	1	1.527	.219
2-WAY INTERACTIONS				
SSex x ESex	7.454	1	.403	.999
SSex x conver	36.781	2	.995	.999
ESex x conver	46.580	2	1.260	.291
3-WAY INTERACTIONS				
ESex x SSex x conver	11.478	2	.310	.999
RESIDUAL	1035.181	56		
TOTAL	1284.529	67		

Table 4. Conversion status, subject sex, and sex of interviewer differences on the Wesley Rigidity Inventory (WRI)

Sources of Variation	SS	df	F	p
MAIN EFFECTS				
Conver	65.157	2	1.047	.359
SSex	157.838	1	5.072	.027
ESex	.986	1	.032	.999
2-WAY INTERACTIONS				
SSex x ESex	16.815	1	.540	.999
SSex x conver	9.413	2	.151	.999
ESex x conver	17.407	2	.280	.999
3-WAY INTERACTIONS				
ESex x SSex x conver	98.832	2	1.588	.212
RESIDUAL	1742.563	56		
TOTAL	2079.809	67		

Table 5. Conversion status, subject sex, and sex of interviewer differences on the Rokeach Dogmatism Scale (ROC)

Sources of Variation	SS	df	F	p
MAIN EFFECTS				
Conver	1194.637	2	.414	.999
SSex	1173.224	1	.814	.999
ESex	1899.036	1	1.317	.255
2-WAY INTERACTIONS				
SSex x ESex	4856.256	1	3.367	.068
SSex x conver	2892.657	2	1.003	.375
ESex x conver	5727.415	2	1.986	.145
3-WAY INTERACTIONS				
ESex x SSex x conver	2496.907	2	.866	.999
RESIDUAL	80761.157	56		
TOTAL	1000728.882	67		

Table 6. Mean scores on the dependent variables for the main effects of conversion status, subject sex, and sex of interviewer

Main Effect	N	Internal-External Scale	Rigidity Inventory	Dogmatism Scale
Conver status				
Low	11	8.18	18.82	201.27
Medium	34	10.50	17.15	212.12
High	23	9.70	17.00	210.09
SSex				
Male	30	8.83	18.89	214.80
Female	38	10.66	16.18	205.63
ESex				
Male	35	9.37	17.31	204.80
Female	33	10.36	17.42	214.85

Because of the failure to find significant relationships between conversion and the dependent variables when individuals were classified as low, medium, or high converters, a reclassification of the sample was done. It was thought that a two-fold division might separate individuals and their characteristics more clearly. Thus, two groups were defined: nonconverters, whose ratio TS/TS+T was less than .33, and converters whose TS/TS+T ratio was larger than .80. A one-way analysis of variance compared these two groups on each of the dependent variables as well as demographic variables (age, religion, major, class, and sex). Again, converters and nonconverters did not differ significantly. Table 7 clarifies the results of this analysis.

To determine if the inclusion of some converters, although low converters, in the nonconverter group was affecting differences on the

Table 7. Differences between converters and nonconverters on the dependent variables

Dependent Variable	SS	df	F	p
Internal-External Scale				
M Converter=9.85 M Nonconverter=10.12	.6583	1	.030	.863
Rigidity Inventory				
M Converter=17.53 M Nonconverter=19.42	37.1905	1	1.429	.240
Dogmatism Scale				
M Converter=205.44 M Nonconverter=207.71	215.6287	1	.124	.727

dependent measures, two additional analyses compared those individuals who did not convert any traumas, to: (1) those who had converted at least one event, and (2) those who converted all of their reported traumas. The first analysis compared the ten nonconverters to the 58 converters. The differences between the two groups on the dependent variables were greater than in previous analyses although they again failed to reach significance. The differences were in the direction of converters scoring as more externally controlled, less rigid on the Wesley scale, and more rigid on the Rokeach scale. The second analysis attempted to somewhat equalize the n of converters and nonconverters, so nonconverters were compared with those who converted all of their reported traumas. The n of converters was 17. This analysis did not yield any significant differences despite the more equal n's.

The Failure to Find Significant Relationships

Since no significant results were found in any of the analyses, several additional analyses were undertaken in an effort to explore possible explanations for the failure. One potential problem is that the classification of the conversion event in this study was not stringent enough. That is, events coded as conversions may have been influenced more by the fact that subjects said both trauma and stren elements were involved in an experience than an adequate emphasis on a time sequence of encountering a traumatic event and later re-evaluating it as a stren. To test this possible flaw in the methodology, the trauma-stren material was reviewed, and ten individuals whose conversion events showed a more definite time lapse between the original trauma and its conversion into a stren were selected. These were then compared with the 10 nonconverters. On each of the personality measures, the means were in the expected direction, but did not reach significance.

A second possibility is that the distributions on the dependent measures may have been biased or restricted in range. This hypothesis was tested by comparing the distributions obtained in this study to the normative data of two of the three scales using the *t* statistic. Unfortunately, appropriate normative data for the 41 item version of the Wesley Rigidity Inventory was unavailable. Although prior studies have used a 50 item scale, only the 41 item scale has been published or made available (Robinson and Shaver, 1969). Moreover, since the scale yields a summed score as an index of rigidity, it was not legitimate to compare the present sample mean and the 50 item normative mean. The Dogmatism

scale comparisons yielded a significant difference from normative data, while the comparisons on the I-E scale resulted in conflicting findings. The present sample mean was significantly different from the Kansas State norm, but not from The University of Connecticut mean (see Table 8).

Table 8. Comparisons between normative and obtained data on the dependent measures

Comparisons	Mean	S.D.	t	p
Rokeach Dogmatism Scale				
Normative Data Rokeach (1970)	219.10	28.30		
Obtained Data	207.34	38.77	2.465	.01
Rotter Internal-External Scale				
Normative Data Rotter (1966)				
1. Kansas State University (1964)	7.73	3.82	3.83	.001
2. University of Connecticut	9.22	3.88	1.151	ns
Obtained Data	9.83	4.38		

CHAPTER 4

DISCUSSION

The aim of the present study was to assess the generalizability of the trauma-stren conversion and to extend and elaborate the nature of the construct by determining its relationship with the constructs of locus of control and rigidity. Essentially, this study failed to replicate previous findings of the relative proportion of converters and nonconverters as well as to find significant relationships between conversion and locus of control, behavioral rigidity, and cognitive rigidity.

Trauma-Stren Conversion

The proportion of individuals reporting the ability to resolve a trauma into a stren is significantly greater in the present study than previously found. Eighty-five percent (58/68) of the present sample converted traumas into strens as compared with 67% reported in previous studies (Finkel, 1975a, 1975b).

The failure to replicate Finkel's work warrants further examination. One aspect to consider is whether the methodology between investigators is comparable. Both studies used a trauma-stren booklet which was identical in wording and format, except that the current study included an additional reminder of eight points of information to be covered in the report, inserted at the end of the instructions.

Although personality scales were incorporated in this study, these were administered after the trauma-stren booklet was completed. One would not expect the trauma-stren material to be affected by this aspect of the procedure.

As in the previous studies, each subject was interviewed individually to follow up on unclear points, fill in omissions, and add details which were unclear or absent in the write-up. As much as possible, the interviews were conducted in the manner described by Finkel. It is recognized that a potentially influencing factor is the difference in personality, sex, and style of the interviewer in obtaining data, especially subjective, self-report data as in these studies. At least in the present study, no differences on any dependent measure were found to result as a function of the interviewer, as determined by analysis of variance. But, since the process of interviewing is to some degree an unreportable and thus unreplicable component, this factor cannot be ruled out.

Although Finkel's procedures were followed as he reported them, one problem that emerged during this study was the stringency of the conversion event classification. Adequate emphasis may not have been placed on a definite time interval between the traumatic event and its conversion. As will be discussed more fully later, some events seemed to contain a combination of both traumatic and strenful elements at the time of occurrence rather than being a conversion as defined by Finkel. This type of categorization, not discussed by Finkel, was discovered late during data collection and analysis. Thus, it may have been

confused with the conversion event. The failure to differentiate a combination from a conversion event may partially account for the failure to replicate, if Finkel did make such a distinction in his categorization.

A second methodological consideration is the sample selection procedures and composition of the sample. As in Finkel's studies, the subjects were self-selected volunteers. It is recognized that this procedure may result in a non-representative and biased sample which does not parallel the general population. That the present sample of converters and nonconverters is biased cannot be dismissed.

A related concern is the composition of the samples used in the studies. First, this study differs from Finkel's sample in that subjects were obtained from classes other than introductory psychology alone. Although not directly assessing an effect due to this difference, several analyses indicate that important effects are unlikely. In the present study, converters and nonconverters did not differ in terms of their major ($p=.999$) as tested by analysis of variance, nor was major correlated with three indices of conversion. A second difference is the mean age of the subjects, 21.8 in the present study and 19.8 and 19.9 in Finkel's studies (1974, 1975a). Although these are significantly different ($t=2.33$, $df=92$, $p<.05$), in the present study age was not found to be significantly related either to the ability to convert nor the number of conversions reported. In addition, Finkel used an adult sample (mean age=40.9), and the proportion of converters was comparable to his college sample (67%). The current data are significantly

different from those obtained with the older aged sample, too, in terms of frequency of converters and nonconverters ($\underline{X}^2=5.35$, $\underline{p}<.025$). Third, the samples may potentially differ in terms of religious affiliation. Since Finkel's subjects were students at Georgetown University, a predominantly Catholic population, it may be hypothesized that differences in religion may have affected the results in the present study. Again, this cannot be evaluated directly, but it should be noted that converters and nonconverters did not differ in either religious affiliation or number of religious activities engaged in per month. A final noticeable difference in sample constitution is geographical location and type of college. Finkel's study was conducted in the east at a small, private, rather elite university while the present study was conducted at a large, western state university. Although it is not necessarily clear why geographical location or type of school attended should have an effect, there could be systematic differences in sample constitution, perhaps in terms of socio-economic status, occupational background, and ethnic background. However, without conclusive evidence on such factors, one would not expect the ability to convert to be dependent on geographical location or school attended if the conversion construct is a meaningful, general ability of certain people.

Thus, although the present data do not support the null hypothesis of comparable trauma-stren conversion findings across investigators, samples, and geographical location, it is impossible to determine whether conversion is a meaningful construct differentiating individuals in terms of adjustment and coping abilities, or whether it

is an artifact of different investigators and subject populations. Further research on the generality and validity of conversion is needed to clarify this question.

Two interesting and unexpected phenomena, which were not reported by Finkel, emerged during the collection of the trauma, stren, and conversion material. First, an event which was both traumatic and "strenful" at the time it occurred was reported by some subjects. That is, the event was not a conversion in the sense of a re-interpretation or re-evaluation of an initially traumatic event some time later, but rather an event which, at the time of occurrence, was labeled both traumatic and growth potentiating. This particular occurrence was found during the interviews when the present investigator suspected that the label TS was being applied by subjects not only to conversions as intended, but also to events of this latter nature. As a result, when more emphasis was placed on trying to determine the time interval between the initial event and the conversion to a stren, some subjects said that there really was no interval, that "it was traumatic and strenful at the same time." Unfortunately, this realization came too late during data collection to obtain reliable data on the prevalence or significance of this combination event. However, in addition to Finkel's tripartite schema of trauma, stren, and TS conversion, a fourth category called TS combination may be in order.

A second finding emerging during the interviews was that a conversion did not always seem complete. For example, some individuals described an event as "big T-little S." In some cases, they said that

although the event was no longer as traumatic as it was when it occurred and that they had grown personally in a positive way from the experience, it still was somewhat traumatic for them. For others, the "big T-little S" connoted an experience which was no longer traumatic and was "a little strenful," but it had not resulted in as much positive growth as other experiences. Thus, the TS conversion event seems to have a quantitative dimension as well as qualitative.

Trauma-Stren Conversion and Personality Variables

The other main focus of the study was to determine the relationship between the ability to convert initially traumatic events into positive, growth enhancing ones and the personality characteristics of locus of control and behavioral and cognitive rigidity. Previous findings have shown that the ability to convert traumas into strens lies within the person and not in the type of event (Finkel, 1975b), but the personal characteristics under investigation were found to be unrelated to the ability to convert in the present study.

The initial problem encountered in attempting to assess differences between converters and nonconverters on the personality measures was the small number of nonconverters. Based on the previous studies by Finkel, it had been expected that about 67% would be converters with 33% being nonconverters, which would have yielded about 22 nonconverters and 46 converters and permitted legitimate comparisons between the two groups via analysis of variance. Since only 10 of 58 were nonconverters, a procedure which would allow more comparable n's between groups was instituted. Thus, nonconverter and converter groups

were defined on the basis of the ratio of conversions to conversions plus traumas (TS/TS+T). In the first instance, low, medium, and high converters were identified, and no significant relationships with the personality variables were found. In subsequent efforts to more clearly separate converters and nonconverters, more stringent divisions of the ratio level were required: (1) less than .33 and larger than .80, and (2) 0.0 versus 1.0. These divisions also failed to reveal any significant differences between converters and nonconverters on the personality measures. The one set of comparisons which more closely approached significance was that between those who did not convert any traumas to those who converted at least one trauma. In this analysis, nonconverters tended to be less externally controlled, more rigid behaviorally, and less rigid cognitively than converters. Similarly, the correlational analysis showed small insignificant correlations in this same direction.

Further efforts to explore the relationship between conversion ability and personality characteristics similarly failed to find significant relationships. Several post-hoc analyses were done. First, subjects were placed in one of three groups on the basis of their scores on the dependent variables. One group consisted of subjects whose scores were within one standard deviation of the mean, and the other two groups comprised subjects whose scores were greater than one standard deviation above and below the mean. The distributions of converters and nonconverters within each category did not differ from chance expectancy on any of the personality variables, as evaluated

by chi square. Similar analyses with subjects' scores divided at the median failed to show a significant relationship with conversion.

Second, because of the previously discussed concern about the possible lack of differentiation between TS conversion and TS combination, ten converters were selected on the basis of exhibiting a more definite time interval between the traumatic event and its conversion. When compared with the ten nonconverters, the differences were all in the expected direction, although none reached significance. However, it does offer suggestive evidence that when TS combination and TS conversion are distinguished from each other, internal locus of control and flexibility may be related to conversion ability. This analysis was the only one to show differences in the expected direction, and with a larger n, may have reached significance.

Thus, it seems that two factors could be influencing and perhaps obscuring the possible relationship between the ability to convert and personality factors. First, since most of the analyses included some people who did convert traumas in the nonconverter group, albeit less than one in three, their presence may have affected the respective means of the personality measures. Second, the failure to firmly denote a difference between a true conversion involving a re-evaluation of an event's import (i.e., growth debilitating or enhancing) and an event which consisted of both traumatic and strenful elements as it occurred may be obscuring a relationship between conversion and personality characteristics. And, closely related to these problems, it may be that in as much as the present data do not replicate Finkel's findings, the sample of converters and nonconverters may not be

representative, resulting in a bias which influenced the distribution of these two groups on the measures.

Finally, in a somewhat different vein, the personality measures themselves may not have tapped adequately the dimensions under investigation. More specifically, the distributions on the dependent measures may have been biased or restricted in range. When this hypothesis was tested by comparing the present data with normative data, the results were inconclusive. On the Rokeach scale, the present sample was indeed significantly different from normative data, but comparisons on the I-E scale were conflicting. However, by considering the age of the norms used for comparison, ten for the I-E scale and 16 for the Rokeach scale, some of the inconsistency may be partially explained. Schneider (1971) reported that over a four year period, 1966-1970, the means on the locus of control scale became significantly more external each year and in 1970 were more external than Rotter's normative means. When the locus of control mean obtained in this study was compared with Schneider's 1970 mean, no differences were found (t=.37, ns). While more recent norms for Form D of the Rokeach scale were not found, the import of finding significant differences from the norms of the scales is attenuated.

Conclusions

In conclusion, this study raises more questions than it answers. Whether conversion is a valid and reliable construct useful in differentiating people in terms of specific coping abilities and capable of predicting adjustment to life's stresses or whether it is such a

generalized characteristic that it is not theoretically or predictively useful in understanding human coping behavior remains to be determined. Secondly, if conversion does prove to be a reliable and valid construct, the question of whether it varies quantitatively, in what way, and under what conditions needs to be explored. Thirdly, to provide information useful for primary and secondary intervention models, the specific capabilities and personality characteristics associated with the ability to convert need to be investigated as well as the actual process of conversion.

In addition to the need for further research to examine these and other questions, it also seems necessary to examine and modify the methodology to tap these questions. First, more stringent definitions of trauma, stren, trauma-stren conversion, and trauma-stren combination are needed. Moreover, since it was found that these may vary quantitatively, some means of measuring the degree or "amount" of influence of an event on one's life or functioning as well as the direction is indicated. The quantitative aspect of conversion may have added importance in that different or more skills may be required to convert an event especially traumatic in nature than ones of less traumatic import. Thirdly, the methodology of using self-report data needs to be examined, since factors of portraying oneself in a desirable manner; fears of self-disclosure; selective forgetting, reporting, and emphasis; and other related matters may significantly affect the results obtained. Perhaps, external validation of self-report protocols through contact

with significant others (e.g., family, spouse, friends) could help alleviate some of these problems.

To end on a theoretical and positive note, the trauma-stren construct, if nothing else, has pointed to a different conceptualization of the process of coping with the many stresses or traumatic experiences inevitably encountered in life. Coping does not necessarily mean only learning to accept a traumatic event, letting time diminish the pain and other emotional components associated with it, and the trauma becoming "just something that happened." Rather, it opens up as an alternative the idea that one can re-evaluate and actively change the interpretation or significance of a traumatic event to be one of stimulating positive growth and personal enhancement.

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