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The relationship of field dependence-independence to perceptual defence and selective memory

Bryce, Gillian

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symptom pictures and underlying dynamics than to official diagnoses. A study was then initiated to validate the relation between Fd-Fdi and symptom picture (102).

The raw material used in this study came from all sources of information regarding the patient e.g. the notes of the admitting physician, the staff psychiatrists' and psychologists' notes and reports and interviews with the ward staff. This data was then related to Fd-Fdi measures. On the basis of this information Witkin concluded that when personality disturbances occur among field dependent and field independent individuals the symptom pictures presented differ in the following ways. The field dependent individual presents with severe identity problems and symptoms suggestive of deep-seated dependence and inadequately developed controls. The field independent individual on the other hand presents with outwardly directed aggression and delusions of grandeur but there is a maintenance of identity. Further, while the field dependent individual uses defences such as repression and denial, the field independent individual uses defences such as isolation and projection. This latter conclusion concerning the relationship between Fd-Fdi and

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nature of the defences was supported more directly by a study using the Rorschach as an index of the defences used by the individual (102).

It was this relationship between Fd-Fdi and defences which later served as the basis for the separation hypothesis. The derivation of the separation hypothesis was a direct result of the explanation advanced by Witkin to account for this relationship found between Fd-Fdi and defences (102). This explanation was as follows:

> "In the last analysis, defences help determine the content of a person's experience - what enters consciousness and what is put aside. They do this, in part, through regulating the interrelationship between affect, on the one hand, and ideation and perception on the other. It seems true of persons with a global cognitive style that feelings strongly influence thought and perception, in other words, that feelings are not kept sufficiently discrete from thoughts and percepts. ..... Persons with an articulated cognitive style on the other hand,

.../in

in their use of isolation, maintain a discreteness of feelings and ideas although the feeling component may be split off." (102, p. 322).

Thus Witkin postulated that the relationship between Fd-Fdi and defences is mediated by the differential ability to keep percept, ideation and affect separate. Thus the field dependent individual who experiences a fusion of field and stimulus in vision also experiences a fusion of thought, percept and affect while conversely the field independent individual who can keep perceptual stimuli separate from their background can also keep thoughts, percept and affect separate. It is this hypothesis that Fd-Fdi is related to the ability to keep thought, percept and affect separate that is known as the separation hypothesis.

In assessing the validity of the separation hypothesis two approaches may be adopted. Firstly the rationale underlying the derivation of the hypothesis may be examined and secondly the hypothesis may be directly tested.

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5 An Examination of the Rationale Underlying the Separation Hypothesis

The separation hypothesis was originally derived from the explanation advanced by Witkin to account for the empirical relationship found to exist between Fd-Fdi and defence mechanisms. This explanation was based upon Witkin's notions concerning the modus operandi of the defences. Witkin believed that the defences determine the content of consciousness by regulating the interrelationship between affect, percept and ideation. This regulation is accomplished in various ways by the different defence mechanisms. In repression for example there is a total blocking of memory for past events and of the perception of stimuli. In isolation, on the other hand, the memory and the perception remain conscious but the feeling component is split off (102). The validity of these notions concerning the defences and concerning repression and isolation in particular can be checked by examining the original Freudian ideas in these areas as Witkin's work on the defences derives from a psychoanalytic framework.

6 The Freudian Concept of Repression

In Freud's early work the term repression was used

.../synonymously

synonymously with the term defence which meant "a general designation for all the techniques which the ego makes use of in conflicts which may lead to a neurosis" (32, p. 163). However, after this in Freud's metaphysical papers defence as a more inclusive term than repression began to make its appearance. Thus by 1925 repression was regarded as only one of many modes of defence.

Freud likened repression to the process in the body, of building up a protective wall of tissue to keep the tumour or diseased part from the rest of the body. "Repression is similar to this process in that it isolates from the conscious part of mental life that which is unacceptable whether it be a thought, feeling or wish." (32, p.163). Repression is specific to a particular memory or perceptual complex but because there is not a clear separation of thought, percept and affect there is a total blocking of this memory or perceptual complex from consciousness. It is this total amnesia for the experience which separates repression from isolation.

7 The Freudian Concept of Isolation

In isolation, unlike in repression, the unpleasant

.../experiences

experiences are not forced into the unconscious. "In isolation, the experience is not forgotten but it is deprived of its affect and its associative connections are suppressed or isolated ..."(33, p. 119). Thus isolation climates feeling from behaviour and therefore relieves the individual of anxiety at the open expression of the unconscious impulse. Therefore while repression blocks an impulse from consciousness and prevents any recognition of its symptomatic neurotic expression, isolation recognises the impulse and the symptom but fails to grasp its significance because it has been seperated from its emotional and affectional components. Through isolation the individual endeavours to escape guilt for forbidden impulses by displacing these onto the intellect and working them out by intellectual processes.

Having examined the concepts of repression and isolation within a psychoanalytic framework it now becomes clear that Witkin's notions concerning defences, and repression and isolation in particular were justified. Thus as Fd-Fdi was found to be related to the defences Witkin was justified in postulating a relationship between Fd-Fdi and the ability to keep thought, percept and affect seperate.

.../Despite

Despite this however before the separation hypothesis can be finally accepted as fact it should be directly tested.

Zigler highlighted the necessity of testing the separation hypothesis more directly (107). Zigler was not critical of the rationale underlying the separation hypothesis but questioned the original finding that Fd-Fdi is indeed related to defences at all. He pointed out the possibility of contamination when the relation between Fd-Fdi and various indices are assessed by clinical procedures e.g. the Rorschach since these procedures in themselves, can be used as measures of psychological differentiation per se. It is clear therefore that the original relationship between Fd-Fdi and defences might not have been a true one but an artifact of the facts used This then would invalidate the separation hypothesis. Thus a direct test of this hypothesis is advocated in which emotional-perceptual-ideational separation is evaluated by procedures which are not known to provide information on psychological differentiation per se. Before considering test possibilities however, it might be of value to further examine the separation hypothesis and to consider the origin of the notion that

.../feelings

feelings are capable of influencing perception and thought at all.

8 An Examination of the Separation Hypothesis

One of the first people to introduce the idea that motivation affects cognitive processes was Kohler (54). This was echoed by Sheriff when he stated that cognitive processes are jointly determined by external and internal forces operating interdependently (86). These two sets of factors however do not always have an equal weight in final outcomes. The influence exerted by each is a function of the compellingness of the external or stimulus factors and the intensity of the internal or motivational factors. The less compelling, or the more ambiguous the stimulus variables, the greater the influence of the motivational state in the cognitive outcome. Similarly, the more intense the motivational arousal the greater its weight in the consequent psychological organisation ( ).

In order therefore to trace the fate of stimulus input it becomes necessary to study not only the nature of the stimulus input but also the individual's needs and motives and the processes which mediate

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between input and output. The factors influencing the fate of stimulus information have been considered in detail by Neisser who formulated his ideas within a cognitive approach to vision, memory and thought (71).

A Cognitive Approach to Vision, Memory and Thought

Neisser conceptualised vision in terms of three processes: preattentive processes, focal attentive processes and background processes. Preattentive processes refer to the preliminary operations whereby a visual field is segregated into figural units. These preattentive processes correspond in part to what the Gestalt psychologists call autochotonous forces and they produce what Hebb called primitive unity (46). The preattentive processes are global and wholistic. Each figure or object is separated from the other in its entirety as a potential framework for more detailed analysis as in the attentive processes (71).

Focal attentive acts are carried out in the context of the more global properties already established at the preattentive level. During focal attention one or more of the products of the

.../preattentive

preattentive processes are singled out for detailed analysis. Unlike the preattentive processes, however, the attentive processes are in a sense optional. They do not arise automatically because the relevant information is available in the stimulus icon but because selected objects are chosen for attention. The focal processes are very much under the control of developmental and dynamic factors and they take varying forms in different persons and situations.

As focal attentive processes are not solely predetermined by stimulus input it is at this point that motivational factors and other internal factors play a part. The role of these factors can be more clearly understood when the third order processes i.e. background processes are considered. Background processes refer to those processes whereby a spatial, temporal and conceptual framework is built around a perceived object. Thus background processes develop and maintain frames of reference to which a perceived object can be referred. These reference frames are more commonly known as cognitive structures. In general, a cognitive structure may be defined as "a nonspecific but organised representation of prior experiences" (63, p. 287).

.../Cognitive

Cognitive structures however are not dormant filing systems but are constantly being elaborated during the course of attentive activity. Cognitive structures facilitate the individual's functioning by making it easier for the person to determine what to attend to in terms of past experience. However cognitive structures also have some negative consequences in as much as they serve as selective screens of incoming input and as such they may introduce bias and distortion into the input. Cognitive structures therefore provide a system of ordering whereby the environment is broken down and organised into many psychologically relevant facets. It is through these cognitive structures that the individual establishes and maintains ties with the surrounding world. However it must again be stressed that cognitive structures do not operate in isolation, independent of stimulus input. The interrelationship between cognitive structures and stimulus input is well stressed by Hunt (49). Hunt states that an object has no psychological significance until it is compared to a conceptual referent but that similarly a concept operates only in the presence of objects that are relevant to it. Hunt further stresses however that it is not only

.../stimulus

stimulus input which is operative in the formation and maintenance of concepts or cognitive structures but that motivational factors also play a part. So once again there is a return to the basic postulate that the fate of stimulus input is determined not only by the input but also by mediating processes (cognitive structures based on past experience) and by the individual's needs and motives. Furthermore, this discussion of the fate of perceptual stimulus input seems to fit the higher mental processes as well.

10 Primary and Secondary Processes

Neisser draws an analogy between preattentive processes and the multiple thinking which is prominent in dreams and fantasy (p 63). Both produce only fleeting and evanescent objects of consciousness, which if they are not elaborated have little further effect on thinking and behaviour. The symbolism of primary process thinking is based on overall shapes, simple movements and gross sound patterns: just the properties to which the preattentive processes of hearing and vision are sensitive.

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The secondary processes parallel focal attention. These processes elaborate one or another of the products offered by the primary processes. The mental objects thus constructed may be invested with affect or may be emotionally neutral. The course of construction therefore is governed by input and past experience as well as by motives and needs. Once again it is clear that the fate of stimulus input is tridimensionally determined. Thus is would seem that Witkin was justified in assuming that affect (motivational factors) is an important influence on stimulus output. However the idea that affect as an influence on stimulus output is a more heavily loaded factor in field dependent as opposed to field independent individuals remains to be tested.

11 The Requirements of a Critical Test of the Separation Hypothesis

The separation hypothesis as stated by Witkin reads as follows:

> "It seems true of persons with a global cognitive style that feelings strongly influence thought and perception. Conversely it seems true of sons with an

.../articulated

> articulated cognitive style that a discreteness of affect, percept and ideation is maintained." (86, p. 322).

A critical test of this statement requires however that measures of Fd-Fdi be related to measures on a test designed to measure the effect of affect on percept and ideation.

One such test could compare the responses of field dependent and field independent individuals to two sets of stimuli similar in all respects other than their affective value. If the separation hypothesis holds, then a greater difference in response to the affective as opposed to the neutral stimuli could be expected from field dependent as opposed to field independent individuals. This would indicate the greater impact of affect on stimulus output in the field dependent as opposed to the field independent individual.

It is important however that the two sets of stimuli be matched in all respect other than their affective value. The stimuli must be physically similar and the subjects must be equally familiar with them i.e. they must have had equal opportunity to construct cognitive structures around them. If these conditions

.../are

are satisfied then it is possible to test the separation hypothesis. Two tests which could satisfy these criteria are (1) a test of perceptual defensiveness, and (2) a test of selective memory for success and failure.

CHAPTER II

HISTORICAL BACKGROUND OF PERCEPTUAL DEFENCE

1 Definition of the term Perceptual Defence

The term perceptual defence was first coined in 1947 in a joint article by Bruner and Postman (7) and two years later it was used again by McGinnies (63). Both the Bruner and Postman article and the McGinnies article reported that taboo or socially disapproved words had significantly higher recognition thresholds than neutral words. This higher threshold was accounted for in terms of the tabooness of the emotional words.

After these two articles a spate of experiments and papers appeared some of them confirming and others refuting the original findings. The McGinnies article (63) evoked immediate criticism from Howes and Solomon (47) who pointed out that McGinnies had failed to control for factors such as familiarity of the stimuli and word frequency. Before considering the criticisms of this nature which have been levied against perceptual defence studies however, some of the ambiguity surrounding the term perceptual defence itself needs to be considered.

.../Bruner

Bruner, Postman and McGinnies themselves immediately applied the term perceptual defence to two distinct findings:

(a) The finding that words of an emotionally disturbing character were more difficult to recognise than were neutral words.

(b) The finding that words characteristic of a low value area were more difficult to recognise than were words characteristic of a high value area.

Concurrently with these two meanings for the new term perceptual defence the same investigators introduced the term perceptual sensitisation which also had two distinct meanings (6).

(a) The finding that emotional words were easier to recognise than some neutral words.

(b) The finding that words characteristic of a low value area were easier to

.../recognise

recognise than words characteristic of a high value area.

However according to Brown (6) the use of the term perceptual defence in discussions in the value area tended to disappear quickly and the term became confined to work involving emotionally disturbing and anxiety evoking stimuli. The terms perceptual defence and perceptual sensitisation thus became terms which referred to different aspects of the same phenomenon i.e. differences in the relative ease with which emotional and neutral stimuli were recognised.

At this point however a third source of ambiguity was introduced and this is still operative today. This ambiguity derived mainly from the work of Eriksen (20) in which the term perceptual defence was used in a general way to refer to any difference in the ease of recognition of emotional versus neutral words rather than to specific instances in which emotional words were more difficult to recognise. This was because Eriksen saw both perceptual defence and perceptual sensitisation as attempts on the part of the ego to defend against anxiety evoked by the emotional stimuli. He therefore drew analogies between perceptual defence

.../end

and sensitisation and the classical defence mechanisms. Perceptual defence was similar to repression and denial, perceptual sensitisation had affinities with projection and reaction formation. However, Eriksen then unfortunately proceeded to encompass both forms of ego defence within the term perceptual defence. This then was the final ambiguity and as mentioned above perceptual defence may now refer either to any difference in ease of recognition of emotional versus neutral words or to that particular case in which emotional words are more difficult to recognise than neutral ones.

In this study however the term perceptual defence will be used only in its more limited sense i.e. to refer to findings in which emotional stimuli are more difficult to recognise than neutral ones. The term perceptual sensitisation will be used to refer to the reciprocal finding.

The work of Eriksen (20) is important however when it is related back to the original separation hypothesis because it allows more specific predictions to be made. Now not only can it be hypothesised that affective factors will have a

.../greater

greater influence on field dependent than field independent individuals but the direction of this influence can be predicted. If Eriksen's analogy between perceptual defence and repression and Witkin's finding of the relationship between Fd-Fdi and defences is accepted, then certain predictions can be made. It can, for example, be predicted that the emotional stimuli in perceptual recognition studies will affect field dependent individuals by creating perceptual defensiveness rather than perceptual sensitisation but that this will not be the case with field independent individuals.

In order to assess these hypotheses accurately however, it is vital that a perceptual defence strategy which is carefully controlled be used. All precautions must be taken to ensure that the emotional and neutral stimuli used are similar in all respects other than their affective value. The following represent some of the factors which must be controlled because they influence the speed of recognition of words in general. Only those factors which have direct relevance to the present study have however been considered.

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2 Factors to be Controlled in Perceptual Defence Studies

(i) Retinal Locus of Visually Presented Material

Several authors have produced evidence that the ease of recognition of printed words depends upon the area of the retina upon which the words are projected (6, 31, 38). The same effect has been found when single letters have been used as stimuli and an interaction between retinal locus and word length in the determination of word recognition threshold has also been found (6). This factor of retinal locus must thus be controlled for in perceptual defence studies. This can be achieved by holding the subject's head in a set position and asking him to look straight ahead while the stimuli are presented at eye level at a specific distance. This ensures that all stimuli are projected onto the same retinal area.

.../(ii)

(ii) Practice

Howes and Solomon (47) and Bruner (7) found that the recognition of stimuli exposed tachistoscopically improves with practice. This variable must therefore be controlled and it can be controlled by matching subjects in terms of prior experience with tachistoscopic presentations. Care must be taken in addition, however, to rotate emotional and neutral stimuli so that not all the emotional nor all the neutral stimuli are presented first but they are alternated to control for practice effects.

(iii) Frequency of Subject's Prior Experience of the Stimuli

The frequency of experience which a subject has had with a particular stimulus also helps determine the ease with which he recognises it (6). Evidence supporting this has come from experiments using meaningless peralogs as stimuli (6,47,79), as well as from experiments using meaningful verbal material as stimuli where significant rank order correlations

.../have

have been found between familiarity ratings and groups of verbal stimuli (47).

Two methods have been employed to control this variable. One method which has commonly been used involves an assessment of familiarity in terms of the relative frequency with which the words appear in published texts. For the English language a standard word count which has been used is that of Thorndike and Lorge (93). The second method which has been used to control stimulus familiarity has made use of stimulus familiarity ratings made by the subjects themselves. Noble (72) developed a five point rating scale on which subjects rated words in terms of their familiarity and this then was used as a basis for equating emotional and neutral words in terms of familiarity.

(iv) Imposed Set

Imposed set is a further variable which affects recognition thresholds. If a

.../subject

subject is told that stimuli of a certain group or class will be used in an experiment, the probability of his making responses appropriate to this class of stimuli will be increased (6). This variable can be controlled, however, by giving all subjects similar sets or by not leading the subjects to expect any particular class of stimuli at all.

The above then represent the crucial factors to be controlled in perceptual defence studies. Once emotional and neutral stimuli are similar in all these respects a critical test of perceptual defence may be carried out, because any difference in response to the emotional as opposed to the neutral stimuli may now be attributed to the emotional qualities of the stimuli, rather than to the above factors. Some experimenters such as Minard (68) have however advocated further precautions such as assessing the personal emotional relevance of stimuli rather than assuming that they have emotional relevance for all subjects. The method he suggested to assess this was a word association test in which words having the longest association times were then assumed to have the most emotional value for that particular

../subject

subject. Brown (6) however considers that this precaution is not a vital one because if positive results are obtained in a perceptual defence experiment and these cannot be explained in terms of any of the above variables then by logical exclusion these results must be regarded as supporting some perceptual defence effect. Meisser (71) questions Minard's precautions still further. Meisser states that Minard's precautions are unnecessary and even undesirable because they do not achieve their desired objective. Most college students understand the use of word association tests all too well and may therefore guess that the experimenter is especially interested in their thresholds for emotional words. Whether this would result in an increased or a decreased recognition threshold for these words is hard to say but it would certainly contribute to the outcome. Thus Minard's precaution becomes undesirable because the direction of its influence is hard to predict. It seems sufficient therefore in a perceptual defence experiment to control only those general variables described earlier. However there are further controversial issues within the perceptual defence area which need careful consideration.

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3 Taboo Stimuli and Conscious Response Suppression

McGinnies (63) reported that taboo or socially disapproved words had significantly higher thresholds than neutral words and he suggested that the tabooness of these socially disapproved words was the critical factor creating this difference. Howes and Solomon (47) criticised this conclusion and pointed to differences in familiarity as the critical factor. They drew attention to the fact that the taboo words had much lower frequency ratings than did the neutral words according to the Thorndike- Lorge word counts. McGinnies (63) however countered this explanation of his results in terms of familiarity by pointing out that the Thorndike-Lorge word counts were based on printed matter and that they therefore underestimated the true usage of the taboo words.

Nevertheless, subsequent experiments on differences in the recognition of emotional versus neutral words did make use of word frequency ratings and these experiments produced conflicting findings. However, Brown (6) who conducted a comprehensive review of perceptual defence studies concluded that in general the concept of perceptual defence was a valid one because

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