This is to certify that the

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INSTRUCTED IMAGINATION, VISUAL IMAGERY
DRIVE INTENSIFICATION, AND DEFENSIVE IMAGERY

presented by

David Lee Green

has been accepted towards fulfillment
of the requirements for

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Joseph Reyher
Major professor

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INSTRUCTED IMAGINATION, VISUAL IMAGERY, DRIVE INTENSIFICATION, AND DEFENSIVE IMAGERY

By

David Lee Green

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ABSTRACT

INSTRUCTED IMAGINATION, VISUAL IMAGERY,
DRIVE INTENSIFICATION AND DEFENSIVE IMAGERY

By

David Lee Green

Three groups of male undergraduate students were asked to visualize scenes from each of the four stimulus narratives involving: fear of flying, the effects of smoking, acting on aggressive impulses, and sexual feelings towards an older, related female. One group feared flying, another wanted to stop smoking and the third neither feared flying nor wanted to stop smoking. The dependent variables were image failure and substitute imagery. The results show that high and low blatancy depiction of aggression, sex, anxiety, and implausibility entered into within and between group differences. When treated as a covariate, implausibility provides an operational method for distinguishing between defense against impulses and security operations elicited by subjects' anticipation of experimenter disapproval. Subjects who had no initial complaint were associated with the greatest number of security operations while smokers had the least. This disparity was attributed to external and internal sources of motivation, respectively.

ACKNOWLEDGEMENTS

This is to acknowledge not only Joe Reyher's all-inspiring creativity and rigor but also his endless patience.

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A variety of studies using instructed imagination have reported that client's imagery is not always congruent with what the therapist describes (Davison & Wilson, 1973; Kazdin, 1979; Reyher, 1977a, 1978). Reports on "runaway imagery" in systematic desensitization (Barrett, 1968) were given by clients when a specific requested image of a phobic object was replaced by other highly distressful images of the phobic object. Weinberg and Zaslove (1963) reported that, during systematic desensitization treatment of a phobia, the client's image sometimes spontaneously became safer by the depiction of a less threatening setting. Weitzman (1967) noted that, after 200 interviews with patients undergoing systematic desensitization, a flow of visual imagery was often reported by subjects who were requested to image a specific stimulus. In emergent uncovering psychotherapy (Reyher, 1977a, 1978), image failure and image substitution increase as repression weakens and the drive content of spontaneous visual imagery becomes more blatant and aversive.

Moses (1977) reported that both image failure and image substitution were related to the blatancy of depiction of aggressive acts. Indeed, the more blatant the depiction of aggression in the requested image, the more frequently the subject either failed to image the scene or else produced substitutive imagery. As Weinberg and Zaslove (1963) noted, the emotional content of substitutive imagery was diluted. Moses and Reyher (Note 1) argue that most instances of initial failure

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A variety of studies using instructed imagination have reported that client's imagery is not always congruent with what the therapist describes (Davison & Wilson, 1973; Kazdin, 1979; Reyher, 1977a, 1978). Reports on "runaway imagery" in systematic desensitization (Barrett, 1968) were given by clients when a specific requested image of a phobic object was replaced by other highly distressful images of the phobic object. Weinberg and Zaslove (1963) reported that, during systematic desensitization treatment of a phobia, the client's image sometimes spontaneously became safer by the depiction of a less threatening setting. Weitzman (1967) noted that, after 200 interviews with patients undergoing systematic desensitization, a flow of visual imagery was often reported by subjects who were requested to image a specific stimulus. In emergent uncovering psychotherapy (Reyher, 1977a, 1978), image failure and image substitution increase as repression weakens and the drive content of spontaneous visual imagery becomes more blatant and aversive.

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index security operations associated with interpersonal risk-taking. Specifically, scenes depicting implausible and/or behaviorally deviant personal actions create anticipation of therapist/experimenter disapproval. Image substitution, however, indexes defenses against drive-related behavior induced by thematically potent narratives.

The ease in which instructed imagery is disrupted by spontaneous images poses a threat to the internal validity of instructed imagery practice and research. Since the most prominent motive of participants is to win approval (Weinberg & Zaslove, 1963), even the incorporation of stringent reporting procedures may not suffice. In fact, they may only intimidate participants into dissembling, a security operation. Reyher (1980) reported that participants in research will alter their criteria for success and improvement in order to consummate their strivings for approval. Furthermore, Reyher (1977a, 1978) noted that this striving is exaggerated in participants who volunteer for research bearing on personal problems or symptoms. Their intrinsic motivation (i.e., seeking help) reduces their use of security operations to avoid self-disclosure, but on the other hand, increases their use of placating and propitiating security operations, which include inflated assessments of improvement in order to please the experimenter/therapist.

Moses and Reyher (Note 1) contend that persons who characteristically use placating, propitiating, self-effacing security operations (self-eclipsing personality organization) tend to avoid failure in directed imagery performance tasks by not reporting images (image failure), whereas persons who characteristically use self-expressive security operations (self-integrating personality organization) succeed in the task but will tend to report image substitutes (derivatives) if the

dynamics induced by the thematic content of the directed imagery is anxiety-producing. These investigators also reported that the implausibility/bizarreness of the directed imagery induces anxiety independently of its drive (thematic) content. Anxiety is induced by scenes that depict behavior that diverges from that behavior which is normally expectable under the circumstances. Subjects tend to normalize (a security operation) their behavior and mentation. Not reporting deviant images (image failure) and idiosyncratic mentation and denying accompanying affects also are security operations. According to Sullivan (1953), security operations regulate self-esteem in interpersonal relationships. Moses and Reyher (Note 1) argue that deviate behavior, in terms of norms appropriate to the situation, cues anxiety because it attracts attention to the person in an unfavorable way. That is, the person involved expects his or her audience to form negative conceptions (negative self-other conceptions) of himself or herself. This is an operational definition of disapproval which is synonymous with rejection.

Purpose of the Present Investigation

The purpose of the present investigation was to determine if subject motivation (extrinsic versus intrinsic), type of drive (Oedipal-sex, aggression, fear of harm/death) induced by instructed imagination, type of symptom/complaint (fear of flying and inability to cease smoking cigarettes), and implausibility of depiction are functionally related to image failure and to image substitution.

The major objectives of the present investigation were: (a) to determine if participation in research related to a targeted personal problem influenced the type of defense depicted in substitute imagery

(Moses & Reyher, Note 1); (b) to determine if participation in research related to a targeted personal problem influenced image failure (Moses & Reyher, Note 1); and (c) to determine if the relative intensity (blatancy) of Oedipal-sexual, aggressive, fear-inducing, and implausible content in the requested imagery influenced either image failure or the type of defense depicted in substitute imagery.

Overview of the Experimental Design

Three groups of subjects were recruited on the type of symptom/complaint or no symptom/complaint. Each subject was requested to visualize ten scenes constituting each of the four stimulus narratives (made-up stories) designed to induce a particular class of internal stimuli (drives). Subject mentation to each scene was monitored for image failure and image substitution. There were forty scenes.

METHOD

Subjects

Forty-eight volunteer (male) subjects ranging in age from 17 to 19 were recruited from two introductory psychology courses. Group membership was determined by response to advertisements which read: (a) "males wanted for research on visual imagery" (No complaint/symptom group); (b) "males afraid of flying wanted for research on treatment methods for this fear" (Phobic group); and (c) "male cigarette smokers wanted for research on the treatment of smoking" (Smoking group). Thus, three distinct groups were formed and each group's membership corresponded to those males who answered a particular advertisement. Since all subjects received course credit for their participation, there was a common source of motivation. In addition, it can be presumed (Reyher, 1977a, 1980) that both the phobic and smoking groups were intrinsically motivated by a desire for help.

In order to constitute homogenous and distinctive complaint/symptom groups, subjects who both smoked and feared flying were screened prior to their participation. It was assumed that subjects in the smoking and fear of flying groups were characterized by the targeted problematical behavior. The results of one subject who both smoked and harbored a fear of flying were not retained for analysis. For this reason, Group 3 (Smoking group) had only 15 subjects, whereas Group 1 (No complaint/symptom group) and Group 2 (Phobic group) each had 16 subjects. In addition, subjects whose parents were not living were also screened because the stimulus narratives involved scenes of the subject with both parents.

Materials and Experimental Setting

The laboratory room was sound-proofed and windowless. It contained a large, black reclining chair (used by the subjects) and one small straightback chair (used by the experimenter).

Two male experimenters were used. Both experimenters were advanced undergraduate students majoring in psychology who were experienced in research involving visual imagery.

In order to monitor subjects' responses to requests for imagery, two telegraph keys were attached to the arm rests in such a manner that they could be pressed easily by the forefinger of each hand. Each telegraph key activated a concealed indicator light.

Four stimulus narratives (made-up stories) were used. Each narrative consisted of ten scenes that were presumed to induce progressively a particular class of internal stimuli (drives): anger-aggression was induced by scenes depicting a slapping fight between the subject and his/her parents; Oedpial-sexual feelings were induced by scenes showing an older, attractive female relative engaged in a provocative pose doing chores while scantily dressed; and in separate narratives, fear of harm/death by scenes of being in an airplane during take-off; and by scenes depicting the subject collapsing from incessant smoking.

Although each of the stimulus narratives were designed to induce a particular class of internal (intrapsychic) stimuli (drives) many of the constituent scenes were irrelevant, serving only the purposes of creating thematic continuity. They were affectively neutral. To create more homogeneous groupings of scenes, two undergraduate male students, who were assumed to be a representational subset of the male student

population, ranked the forty scenes (ten for each stimulus narrative) on each of four stimulus dimensions (sex, anger-aggression, anxiety, and implausibility). They were blind as to the conceptual bases of the four stimulus narratives. Their instructions were to rank the forty scenes separately on the bases of sex, aggression, anxiety, and implausibility. Each of the four rankings was then dichotomized at the median rank to form high and low blatancy categories of depiction of ten scenes each. The high and low blatancy categories provided a means for determining the effect of blatancy of depiction on image failure and image substitution for the three experimental groups. More information is provided by the fact that each of the four high blatancy categories is more homogeneous with respect to its constitutive scenes than its corresponding low blatancy category. Low blatancy categories tended to be filler scenes of little or no obvious thematic content. This means that group differences with respect to a particular high blatancy category may be either a function of the thematic content per se or blatancy per se. Implausibility, of course, tends to be correlated with blatancy. Since low blatancy categories have little or no thematic content, group differences would imply that the dependent variable (image failure and image substitution) must have functioned primarily as a nonspecific security operation.

Stimulus Narratives

Flying Phobia

1. One day you come home and find that the airline tickets have arrived for your trip.
2. You see yourself in a car driving to the airport to catch the plane.

3. As you approach the airport, you notice the many jets taking off.
4. The ticket agent assigns you a seat in the front of the plane, next to the window.
5. You see yourself walking through the crowded boarding tunnel that leads to the door of the plane.
6. As you enter the plane, you are aware of how low the ceiling is and how close together the seats are spaced.
7. As you sit down, you pick up the emergency procedures card telling you what to do should the plane crash.
8. The engines go on and the plane begins to move slowly toward the runway.
9. The seat belt signs go on and the stewardess begins to demonstrate the use of oxygen masks.
10. The plane is finally on the runway, and begins to accelerate very rapidly. As you look out the window, the ground below you is moving away rapidly, and the plane is taking off.

Oedipal-Tinged Sex

1. You're in the home of your most attractive aunt.
2. You see yourself walk into the kitchen. You view her from behind. She's on her hands and knees wearing tight, black pants. She's scrubbing the floor.
3. She looks up at you and you can see the tops of her breasts peeking through her blouse.
4. She stands up, puts her arms around you, and greets you with a kiss.
5. Your aunt hugs and kisses you.
6. You can see your aunt's breasts pressing against your chest.

7. She returns to scrubbing the floor. You notice she's not wearing underwear.
8. You see her buttocks, straight up in the air, moving with the rhythm of the scrubbing.
9. She asks you for a brush. You lean over her shoulder and hand it to her.
10. You see her buttocks, firm against your thighs.

Anger-Aggression

1. You see yourself driving the family car to a grocery store in your home town.
2. The car behind you slams into the back of your car.
3. You see the other driver has a broken tooth, but is okay.
4. After driving home, you tell your father about the accident.
5. You see his face get very angry.
6. Losing his temper, he slaps you in the face.
7. You lose your temper and hit him back.
8. You see blood running from his face where you hit him.
9. Your mother angrily strikes you in the face.
10. You then slap her back.

Cigarette Smoking

1. You see yourself at your doctor's office and you've just been told that if you don't quit smoking you have only six months to live.
2. At home you see yourself sit down to think this over and you light up a cigarette.
3. You put out the cigarette but immediately take another one out of the pack.

4. You see yourself light it and inhale deeply.
5. You see yourself cough and reach for another one.
6. You light it and inhale deeply. You see yourself hold in the smoke for a few seconds.
7. You see a pained look on your face as you cough three times, etc.
8. You see yourself sitting there and chain-smoking an entire pack.
9. You begin to cough up phlegm, and your temperature is rising, sweat is pouring out, and you faint.
10. You awake to find yourself being carried out on a stretcher into an ambulance.

Defenses Depicted in Substitute Imagery

Substitute imagery was classified according to the same defenses noted by Moses (1977) in psychoanalytic literature (Fenichel, 1953):

1. Attenuation or taming of affect. This is scored when subjects report a less aggressive, less sexual, or less threatening image instead of reporting the specifically requested image;

2. Turning against self. This is scored when an image depicts a change from an active to a passive mode of mastery of affect. For example, a subject might have seen himself being hit rather than see himself hitting someone else;

3. Denial. This is scored when an anxiety producing element(s) of the requested image is omitted, e.g., "I see the grimace but not the fist.";

4. Reaction formation. This is scored when behavior and affect imaged is polar opposite to the image depicted in the story, e.g., instead of seeing a fight with the parents the subject images a supportive conversation with his parents;

5. Displacement. This is scored when an image of an object is replaced by one that is less objectionable, e.g., when the subject reports hitting a criminal instead of a parent.

Two raters practiced on sample protocols after having received instructions on the specific defenses.

Procedure

Before entering the laboratory, subjects were given a consent form and notified in writing that they should feel free to terminate the experiment at any time without the loss of course credit. In a matter-of-fact tone of voice, the experimenter asked the subject to come into the laboratory where he was seated and given the following instructions (Moses, 1977):

> Now I'd like you to sit down in this chair, pushing it all the way back, and position yourself in order that your fingers can easily depress the telegraph keys. (Experimenter adjusts the length of the keys to the subject's reach and then tapes the keys in place.)

The subject was tested for the ability to form visual images upon request:

> Now I'd like you to close your eyes and visualize an image of an automobile. Please describe it for me when you see it. (Experimenter lets subject describe the image for 30 seconds.)

Since resistance to visual imagery was expected (Burns & Reyher, 1976; Morishige & Reyher, 1975; Reyher, 1963), it was managed as follows (Moses, 1977).

If the subject stopped describing imagery short of the allotted 30 seconds or asked what he should do next, the experimenter replied, "I'd like you to just keep describing the automobile for a little

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If the subject stopped describing imagery short of the allotted 30 seconds or asked what he should do next, the experimenter replied, "I'd like you to just keep describing the automobile for a little

while longer." If the subject asked any questions about the procedure or opened his eyes, the experimenter merely repeated the initial request, "I'd like you to close your eyes and get an image in your mind's eye of an automobile." If the subject reported he could not form the requested image, the experimenter responded, "Just wait for an image of a car or any other image to come into your mind's eye and describe it." If the subject asked any other questions, the experimenter replied, "I know you may have some questions concerning this experiment, and I will be glad to answer them at the end of the experiment." If the subject could not image anything after one minute, the experimenter terminated the proceedings by asking the subject, "For the purpose of my interest in imagery, could you tell me how you felt when I requested you to close your eyes and when I asked you to image."

Practice Stimulus Narrative

The experimenter gave the subject the following instructions before reading a practice story:

> Keeping your eyes closed, I would like to rehearse what we'll be doing during the experiment. Any time you get the same imagery that I am describing, depress the telegraph key on your right and hold it down with your forefinger. Any time you visualize any other image, please release the right key and depress the key on your left and hold it down. When you do not see any images release both keys. Let me briefly review. Only the right key is held down whenever you see the images that I am describing. Only the left key is held down when you are visualizing images different from my directions. For example, if I am describing an image of a car you would hold the right key down. If you suddenly get a different image, for example, you see a book, then you would release the right key and depress the left key. And, finally, whenever there are no images in your mind's eye, simply release both keys. To help you separate

> your right from your left with your eyes closed, we've put some tape on the right-hand key whereas the left key has nothing on it. Before we begin, could you please review what you have to do for this experiment. Now I would like you to close your eyes and follow in your imagery the following story that I am going to read. Any time that you are following the story in images, hold the right key down. Anytime you are seeing images other than those described in the story, hold the left key down. When you do not see any images, release both keys.

After reading the rehearsal story, the experimenter checked with the subjects as to their understanding of the procedure.

Experimental Stimulus Narratives

The four experimental stimulus narratives were administered in a counterbalanced order. Upon completion of the last narrative, the subjects were handed a brief questionnaire concerning their expectations and reactions to the experiment. The subjects also were asked, "Was there anything about this experiment that was upsetting or bothersome to you?"

After each stimulus narrative, the experimenter inquired, where appropriate: "I noticed when I described the image _____ you signalled that you were seeing some other image. Can you recall what it was?"

Also, when appropriate, the experimenter queried, "I noticed when I described the image _____you signalled that you were not having any images," to confirm the absence of the subject's pressing the key.

RESULTS AND DISCUSSION

The classical Freudian defenses depicted in substitute imagery as catalogued by Moses (1977) proved to be applicable in the present investigation. Agreement levels (Table 1) between codifiers were low but acceptable for research purposes, except for Turning Against Self (25%). There was a primary and secondary codifier, the latter codifying a random subset of 25% of the reported substitute imagery.

Table 2 presents the mean rank of the two undergraduate assistants for each of the four stimulus dimensions. Thus, it is apparent from their high mean ranks that Oedipal-sex (32.75), Anger-aggression (33.35), and Smoking (28.80) were successful. Oedipal-sex was slightly to moderately anxiety-producing and believable. Oedipal dynamics apparently were not piqued in the two male, undergraduate students who did the rankings. Perhaps the student rankers were not burdened with residual dynamics associated with a childhood Oedipus complex. Alternatively, this might have been determined by demand characteristics implicit in the procedures or the situation. This must be assessed in future research. Whatever the case, their average (combined rankings) serve as a baseline or standard for assessing experimental and group effects.

The Anger-aggression stimulus narrative was highly anxiety-producing and implausible. It also was moderately sexualized. Smoking was high on anxiety and moderately high on both aggression and implausibility. It was only slighty sexualized. By the nature of the

Table 1

Percentage of Agreement among Codifiers for Categories of Defense

Defense	Percent
Displacement	81
Denial	74
Attenuation of Affect	78
Reaction Formation	66
Turning Against Self	25

Table 2

Mean Rank of Scenes Constituting Each Stimulus Narrative on the Four Stimulus Dimensions

Narrative	Sex	Aggression	Anxiety	Implausibility
Oedipal Sex	32.75	14.9	13.70	17.15
Aggression	19.35	33.35	21.30	30.00
Smoking	5.20	25.15	28.80	24.35
Flying	24.70	4.60	19.40	6.50

scenes, it seems probable that its moderately high mean rank on aggression represents self-directed anger-aggression.

The Flying stimulus narrative was very low on aggression, moderately low on anxiety, and very believable. It was distinguished by a moderately high mean rank on sex. Freud functionally equated flying and the sex drive. Such equivalence is achieved through the operation of primary process thinking, namely, condensation and displacement.

The reliability of the ranking and dichotomizing procedures was assessed by comparing the constituative scenes of the Anger-aggression stimulus narrative for the two investigations. Moses and Reyher used three undergraduate male students from the same university (Michigan State). Spearman rank order correlations between the two rankings of the ten scenes constituting the Anger-aggression stimulus narrative were .65 and .54 for aggression and implausibility, respectively. Although these correlations are unimpressive, they probably underestimate the "true" correlations because the scenes from the Anger-aggression stimulus narrative were interspersed with scenes from stimulus narratives that the two investigations did not have in common. When the ten scenes were dichotomized at the median to form high and low blatancy categories for aggression and implausibility, only two of the scenes were miscategorized when compared to their categorization in the present investigation. One scene was miscategorized on each of the two dichotomized stimulus dimensions. The correlation between aggression and implausibility was -.97 and -.93 for Moses and Reyher and the present investigation, respectively.

The correlations among the four stimulus dimensions (Table 3) appeared to be internally consistent and normative. Aggression was

Table 3

Intercorrelation among Variables

	Aggression	Sex	Implausibility	Anxiety
Aggression		-.52**	.79**	.27
Sex			.36*	.65**
Implausibility				.21

*p < .05
**p < .01

related negatively to sex, but it was positively related to anxiety and implausibility, whereas anxiety and implausibility were positively related. Although the correlation between anxiety and implausibility did not reach significance, it was in the expected direction.

Image Disparity

The number of image failures (f_{no}) and image substitutes (f_{sub}) were converted to proportions of the high blatancy scenes (n = 20) and low blatancy scenes (n = 20), as determined by the average ranking of the two undergraduate codifiers. Although these proportions tended to be very small for the different types of image substitutes, the large number of observations (n = 40) per subject in combination with a within subjects error term enabled very small proportions to enter into significant relationships (Table 4). The proportions for the high and low blatancy categories for each stimulus dimension were subjected to a single factor ANOVA (high and low blatancy) with repeated measures (within subjects) over scenes. Seventy-six percent of the subjects indicated f_{no}, and 89% indicated f_{sub} on 14% of the scenes.

Table 4

Within Group Comparisons

Summary of Mean Proportions for Image Failure and Image Substitution
Over Stimulus Dimensions and Across Groups
Entries in the Body of the Table are Mean Proportions

		Stimulus Dimension[b]											
		Aggression			Sex			Anxiety/fear			Implausibility		
Response Type	Group[c]	High	Low	Diff.	High	Low	Diff.	High	Low	Diff.	High	Low	Diff.
						Image Failure[d]							
	1	.25	.09	.16**	.14	.21	-.07*	.24	.12	.12**	.22	.13	.09**
	2	.17	.08	.09**	.11	.15	-.04	.18	.08	.10**	.16	.09	.07**
	3	.12	.13	-.01	.16	.09	.07*	.14	.11	.03	.11	.13	-.02
						Image Substitution							
					(Grand mean = .05)								
	1	.06	.03	.03	.03	.07	-.04*	.07	.03	.04*	.06	.03	.03
Denial	2	.05	.03	.02	.03	.05	-.02	.05	.02	.03*	.03	.04	-.01
	3	.06	.03	.03	.04	.04	.00	.07	.02	.05**	.05	.04	.01
					(Grand mean = .05)								
	1	.05	.03	.02	.04	.05	-.01	.04	.05	-.01	.05	.04	.01
Displacement	2	.09	.07	.02	.08	.08	.00	.10	.05	.05*	.08	.07	.01
	3	.02	.03	-.01	.03	.02	.01	.03	.02	.01	.02	.03	-.01
					(Grand mean = .04)								
	1	.05	.01	.04	.03	.04	-.01	.04	.02	.02	.05	.01	.04*
Atten.	2	.09	.01	.08*	.05	.08	-.03	.08	.05	.03	.10	.02	.08**
	3	.07	.01	.06*	.04	.05	.01	.06	.02	.04*	.07	.02	.05*
					(Grand mean = .01)								
	1	.02	.01	.01	.01	.02	-.01	.02	.01	.01	.02	.01	.01
Reaction Formation	2	.02	.01	.01	.01	.02	-.01	.02	.01	.01	.02	.01	.01
	3	.02	.01	.01	.01	.01	.00	.02	.01	.01	.02	.01	.01
					(Grand mean = .01)								
	1	.02	.01	.01	.01	.02	-.01	.02	.01	.01	.02	.01	.01
Turning Against Self	2	.01	.00	.01	.01	.00	.01	.01	.00	.01	.01	.00	.01
	3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

* $p < .05$ ** $p < .01$

[b] Values listed are proportions of the total number of Image Failures and Image Substitutes produced by each group for high and low blatancy of stimulus dimensions.

[c] Group I (n=16): No Symptom/Complaint
Group II (n=16): Fear of Flying Group
Group III (n=15): Smokers Group

[d] Grand means are the average of the mean proportions for each defense.

Image Failure

Table 4 presents the proportions of image failure for within group comparisons (high versus low blatancy). To facilitate the identification of patterns of mean differences between high and low blatancy for the three groups across the four stimulus dimensions, only the direction and significance of these mean differences are presented in Table 5. These results were obtained by performing single factor ANOVAs (high and low blatancy) involving repeated measures. An inspection of Table 5 revealed that Group 1 (No complaint/symptom) was significantly affected by high blatancy imagery on the stimulus dimensions of aggression, anxiety, and implausibility. Anomalously, low blatancy was more influencing than high blatancy for sex. This finding is consistent with the negative correlation between sex and implausibility; perhaps the low blatancy sex scenes were not very plausible. Group 2 (fear of flying) displayed the same pattern (><>>) on the four stimulus dimensions. This pattern probably reflects the regulating effects of societal norms acting through the subjects' strivings to avoid forming negative self-other conceptions (disapproval) in the mind of the experimenter. Henceforth, it will be referred to as the normative pattern. It is a set of security operations that wittingly and unwittingly maximize the anticipation of approval and minimize the anticipation of disapproval.

Group 3 (Smoking) did not show this pattern. Sex was significant and its direction was reversed and anomalous; that is, high blatancy of depiction was more influencing than was low blatancy of depiction. These findings suggest that student subjects who designated themselves as problem smokers were motivated by distinctive sexual strivings in this research situation.

Table 5

Within Group Comparisons

Within Group Comparisons of Image Failure and Image Substitution Associated with High and Low Blatancy of Depiction for the Three Experimental Groups
Entries in the Body of the Table are Inequality Symbols (> or <)

	Stimulus Dimensions											
	Aggression			Oedipal sex			Anxiety/fear			Implausibility		
Group	High	Low	p	High	Low	p	High	Low	p	High	Low	p
Image failure (Grand mean proportion = .14)[a]												
No Complaint/Symptom	>		.01	<		.05	>		.01	>		.01
Fear of Flying	>		.01	<		ns	>		.01	>		.01
Smokers	<		ns	>		.05	>		ns	<		ns
Image substitution												
Denial (Grand mean proportion = .05)												
No Complaint/Symptom	>		ns	<		.05	>		.05	>		ns
Fear of Flying	>		ns	<		ns	>		.05	<		ns
Smokers	>		ns	=		ns	>		.01	>		ns
Displacement (Grand mean proportion = .05)												
No Complaint/Symptom	>		ns	<		ns	<		ns	>		ns
Fear of Flying	>		ns	=		ns	>		.05	>		ns
Smokers	<		ns	>		ns	>		ns	<		ns
Attenuation of Affect (Grand mean proportion = .04)												
No Complaint/Symptom	>		ns	<		ns	>		ns	>		.05
Fear of Flying	>		.05	<		ns	>		ns	>		.01
Smokers	>		.05	<		ns	>		.05	>		.05
Reaction Formation (Grand mean proportion = .01)												
No Complaint/Symptom	>		ns	<		ns	>		ns	>		ns
Fear of Flying	>		ns	<		ns	>		ns	>		ns
Smokers	>		ns	=		ns	>		ns	>		ns
Turning Against Self (proportion = .01)												
No Complaint/Symptom	>		ns	<		ns	>		ns	>		ns
Fear of Flying	>		ns	>		ns	>		ns	>		ns
Smokers	=		ns	=		ns	=		ns	=		ns

[a]Grand means are the average of the mean proportions for each defense.

Tables 6 and 7 present the results of analyses of covariance using implausibility as a covariate. As in Moses and Reyher, implausibility permeated the stimulus narratives. The unit of observation was scenes instead of subjects because implausibility was an attribute of scenes, not subjects. This involved a reduction of degrees of freedom from 538 to 38, but this loss of power (correctly rejecting Ho) is compensated by an increase in the stability of the basic statistics: image failure for each scene is summed over subjects. Despite the disparity in degrees of freedom, the two units of observation provided equivalent F values.

Using implausibility as a covariate, two ANCOVAs (Group 1: sex, and Group 2: aggression) failed to retain the significance of the original ANOVAs; however, the mean differences were in the same direction (Tables 6 and 7). If this statistical operational definition is taken at face value, then the significant findings that remained can be attributed to defense against anger-aggression. Accordingly, Group 1 defended against aggression and anxiety; Group 2 defended against anxiety only; and Group 3 defended against sex only. Could the anxiety of Group 2 be free floating anxiety deriving from multiple sources? This would suggest a failure of signal anxiety, an ego function.

Those significant (ANOVAs) mean differences that did not survive the ANCOVAs imply that avoiding disapproval in the pursuit of security (Sullivan, 1953) was the causal factor. In terms of this line of logic, security operations were more easily elicited by sex for Group 1 and by aggression for Group 2. This differential elicitation of security operations across groups suggests that a particular stimulus dimension (the processes it represents) tends to render the subjects in a

Table 6

Within Group Comparisons ANCOVA[a]

Summary of Group Means for Image Failure and Image Substitution
Over Stimulus Dimensions and Across Groups

		Stimulus Dimension								
		Aggression			Sex			Anxiety		
Response Type	Group[b]	High R	Low R	Diff.	High R	Low R	Diff.	High R	Low R	Diff.
					Image Failure					
	1	4.05 1	1.65 1	2.4*	2.30 1	3.40 1	-1.1	3.85 1	1.85 1	2.0**
	2	2.60 1	1.45 1	1.15	1.70 1	2.35 1	-.65	2.85 1	1.20 1	1.65**
	3	1.75 1	2.00 1	-.25	2.35 1	1.40 1	.95*	2.20 1	1.55 1	.65
					Image Substitution					
	1	1.1 2	.45 3	.65	.50 3	1.05 2	-.55	1.05 2	.50 3	.55
Denial	2	.75 4	.45 4	.30	.45 4	.75 4	-.30	.85 4	.35 4	.50
	3	.85 3	.45 2	.40	.60 2	.70 3	-.01	1.0 2	.30 3	.70*
	1	.85 3	.60 2	.25	.65 2	.80 3	-.15	.60 4	.85 2	-.15
Displacement	2	1.35 3	1.20 2	.15	1.30 2	1.20 3	.10	1.65 2	.85 2	.80*
	3	.30 4	.40 3.5	-.10	.40 4	.30 4	.10	.45 4	.40 2	.05
	1	.80 4	.25 4	.55	.45 4	.60 4	-.15	.70 3	.35 4	.35
Atten.	2	1.45 2	.55 3	.90	.75 3	1.25 2	-.50	1.20 3	.80 3	.40
	3	.95 2	.40 3.5	.55	.55 3	.80 2	-.25	.95 3	.40 2	.55
	1	.30 6	.10 6	.20	.15 6	.25 6	-.10	.30 5.5	.10 6	.20
Reaction Formation	2	.35 5	.10 6	.25	.10 5.5	.35 5	-.25	.35 5	.10 5	.25
	3	.25 5	.10 5	.15	.15 5	.20 5	-.05	.25 5	.10 5	.15
	1	.35 5	.15 5	.20	.20 5	.30 5	-.10	.30 5.5	.20 5	.10
Turning Against Self	2	.10 6	.00 6	.10	.10 5.5	.00 6	.10	.10 6	.00 6	.10
	3	.05 6	.00 6	.05	.00 6	.05 6	-.05	.05 6	.00 6	.05

[a]Ranks done separately for each group on high and low blatancy image failure and image substitution means for each stimulus dimension.

[b]Group I (n=16) No complaint/sympton
Group II (n=16) Fear of Flying Group
Group III (n=15) Smokers Group

* $p < .05$

** $p < .01$

Table 7

Within Group Comparison ANCOVA

Within Group Comparisons of Image Failure and Image Substitution
Associated with High and Low Blatancy of Depiction
for the Three Experimental Groups
Entries in the Body of the Table are Inequality Symbols (> or <)

	Stimulus Dimensions								
	Aggression			Sex			Anxiety		
Group	High	Low	p	High	Low	p	High	Low	p
	Image failure (Grand mean proportion = .14)[a]								
No Complaint/Symptom	>		.05	<		ns	>		.01
Fear of Flying	>		ns	<		ns	>		.01
Smokers	<		ns	>		.05	>		ns
	Image substitution								
	Denial								
No Complaint/Symptom	>		ns	<		ns	>		ns
Fear of Flying	>		ns	<		ns	>		ns
Smokers	>		ns	<		ns	>		.05
	Displacement								
No Complaint/Symptom	>		ns	<		ns	<		ns
Fear of Flying	>		ns	>		ns	>		.05
Smokers	<		ns	>		ns	>		ns
	Attenuation of Affect								
No Complaint/Symptom	>		ns	<		ns	>		ns
Fear of Flying	>		ns	<		ns	>		ns
Smokers	>		ns	<		ns	>		ns
	Reaction Formation								
No Complaint/Symptom	>		ns	<		ns	>		ns
Fear of Flying	>		ns	<		ns	>		ns
Smokers	>		ns	<		ns	>		ns
	Turning Against Self								
No Complaint/Symptom	>		ns	<		ns	>		ns
Fear of Flying	>		ns	>		ns	>		ns
Smokers	>		ns	<		ns	>		ns

[a]Grand means are the average or the mean proportions for each defense.

particular group more vulnerable to anticipated disapproval/rejection vis a vis certain strivings. If this line of reasoning has merit, then subjects in Group 1 (No complaint/symptom) were especially anxious about their sexual strivings in interpersonal relationships, whereas the subjects in Group 2 (Phobics) were especially anxious with respect to their anger-aggression.

The above findings suggest that defense and security operations are reciprocal; that is, successful defense reduces the need for security operations. Furthermore, when defense is less effective, a person would become more aware of strivings, particularly drive related impulses, that would be objectional to significant others. An intention to self-disclose would cue anticipation of disapproval/ rejection. This is presumed to be the personal-interpersonal matrix that generates security operations (Reyher, 1978).

Tables 8 and 9 present the pairwise comparisons (Newman Keuls) for single factor ANOVAs performed on the three groups for each stimulus dimension. Group 1 (No complaint/symptom) was significantly greater than the other two groups on high blatancy implausibility. This is in accord with their alleged extrinsic motivation which, presumably, disposes them to be more cautious, terse, reticent, and dissembling. The mean for Group 2 (Phobics) was greater on high implausibility, albeit nonsignificantly, than the mean for Group 3 (Smokers). Accordingly, they also were greater on aggression and anxiety presumably because of the high implausibility of the constitutive scenes. The reversal in the magnitude of the means between these two groups on high sex is puzzling. This reversal could mean either one of two things: (a) Group 2 got more involved in the Oedipal-tinged stimulus narrative, or (b)

Table 8

Between Group Comparisons[a]

Summary of Mean Proportions for Image Failure and Image Substitution
Over Stimulus Dimensions and Across Groups
Entries in the Body of the Table are Mean Proportions

Response Type	Blatancy of Stimulus	Stimulus Dimensions[b]											
		Aggression			Oedipal Sexuality			Anxiety/fear			Implausibility		
		Group[c]			Group[c]			Group[c]			Group[c]		
		1	2	3	1	2	3	1	2	3	1	2	3
Image Failure													
	High	.25[de]	.17[d]	.12[e]	.14	.11	.16	.24[de]	.18[d]	.14[e]	.22[de]	.16[d]	.11[e]
	Low	.09	.08	.13	.21[de]	.15[d]	.09[e]	.12	.08	.11	.13	.09	.13
Image Substitution													
Denial	High	.06	.05	.06	.03	.03	.04	.07	.05	.07	.06	.03	.05
	Low	.03	.03	.03	.07	.05	.04	.04	.02	.02	.03	.04	.04
Displace-ment	High	.05[d]	.09[de]	.02[e]	.04[d]	.08[de]	.03[e]	.04[d]	.10[de]	.03[e]	.05[d]	.08[de]	.02[e]
	Low	.03	.07	.03	.05	.08[e]	.02[e]	.05	.05	.02	.04	.07[d]	.03[d]
Atten.	High	.05	.09	.07	.03	.05	.04	.04	.08	.06	.05	.10	.07
	Low	.01	.01	.01	.04	.08	.05	.02	.05	.02	.01	.02	.02
Reaction Formation	High	.02	.02	.02	.01	.01	.01	.02	.02	.02	.02	.02	.02
	Low	.01	.01	.01	.02	.02	.01	.01	.01	.01	.01	.01	.01
Turning Against Self	High	.02[de]	.01[d]	.00[e]	.01	.01	.00	.02	.01	.00	.02	.01	.00
	Low	.01	.00	.00	.02[de]	.00[d]	.00[e]	.01[de]	.00[d]	.00[e]	.01	.00	.00

[a] Newman Keuls pairwise comparisons

[b] Values listed are proportions of the total number of Image Failures and Image Substitutes produced by each group for high and low blatancy of stimulus dimensions.

[c] Group I (n=16): No Complaint/Symptom
Group II (n=16): Fear of Flying Group
Group III (n=15): Smokers Group

[d,e] Proportions with the same superscript are significantly different, $p<.05$

Table 9

Pairwise Comparisons[a] Between the Three Experimental Groups
(1: No Complaint/Symptom; 2: Fear of Flying; 3: Smokers)
with Respect to Proportion of Image Failure and
Image Substitution for High and Low Blatancy Depiction

	Between group comparisons							
	Stimulus Dimensions							
Response Type	Aggression		Sexuality		Anxiety/fear		Implausibility	
	High	Low	High	Low	High	Low	High	Low
Image Failure	1>2* 1>3* 2>3	1>2 1<3 2<3	1>2 1>3 2<3	1>2* 1>3* 2>3	1>2* 1>3* 2>3	1>2 1>3 2<3	1>2* 1>3* 2>3	1>2 1=3 2<3
Image Substitution								
Denial	1>2 1=3 2<3	1=2 1=3 2=3	1=2 1<3 2<3	1>2 1>3 2>3	1>2 1=3 2<3	1>2 1>3 2=3	1>2 1>3 2<3	1<2 1>3 2=3
Displacement	1<2* 1>3* 2>3*	1<2 1=3 2>3	1<2* 1>3 2>3*	1<2 1>3 2>3*	1<2* 1>3 2>3*	1=2 1>3 2>3	1<2* 1>3 2>3*	1<2 1>3 2>3*
Attenuation	1<2 1<3 2>3	1=2 1=3 2=3	1<2 1<3 2>3	1<2 1<3 2>3	1<2 1<3 2<3	1<2 1=3 2>3	1<2 1<3 2>3	1<2 1<3 2=3
Reaction Formation	1=2 1=3 2=3	1=2 1=3 2=3	1=2 1=3 2=3	1=2 1>3 2>3	1=2 1=3 2=3	1=2 2=3 2=3	1=2 1=3 2=3	1=2 1=3 2=3
Turning Against Self	1>2* 1>3* 2>3	1>2 1>3 2=3	1=2 1>3 2>3	1>2* 1>3* 2=3	1>2 1>3 2>3	1>2* 1>3* 2=3	1>2 1>3 2>3	1>2 1>3 2=3

[a]Newman Keuls pairwise comparisons *p < .05.

Group 3 had greater anxiety associated with Oedipal-tinged sex. The second alternative arose earlier in connection with the within group comparisons (high versus low blatancy) wherein Group 3 was distinctive on sex. Recall that the mean rank for sex on the Smoking stimulus narrative only was 5.2 and that its mean rank on aggression was moderately high. This divergence between the two undergraduate assistants, who were nonsmokers, reinforces the implication of a sexualized component to cigarette smoking for smokers.

Analysis of covariance adjustments could not be made on the between groups comparisons because implausibility was attached to scenes, not subjects. However, the dichotomization of scenes into high and low blatancy is a nonstatistical method for unconfounding implausibility. This probably was not accomplished equally across stimulus dimensions, depending upon how many filler scenes were in the low blatancy category. If the high blatancy categories showed the same pattern of group differences as low categories, then it could be concluded that the addition of thematic content had no effect on that particular type of image disparity. A comparison of high and low blatancy categories across each row reveals that the same pattern obtains in both categories. High blatancy, however, tended to intensify the pattern, that is, the pairwise comparisons were more often significant. This was true for aggression. For sex and anxiety, there was an interaction between blatancy and type of image disparity. For sex, the pattern is intensified for low blatancy Turning Against Self. The same inversion if present for anxiety. The clearest separation between high and low on implausibility is for image failure. Again, this is consistent with the interpretation that image failure is primarily a security operation.

An inspection of type of image disparity under each level of blatancy reveals that the pattern varied. This variation is associated with group differences; more specifically, group effects interacting with type of image disparity. Furthermore, an examination across rows (e.g., Displacement) shows that a distinctive pattern is preserved across stimulus dimensions for both levels of blatancy. This consistency in pattern of group differences suggests that type of self-protective response is the same across type of conflict (thematic content). Moreover, it suggests that all six types of image disparity are security operations. This interpretation is at variance with the within group comparisons wherein implausibility of scenes was parcelled out, and wherein group (repeated measures) analyses are more powerful than between group analyses. Accordingly, it would be premature to discount the within group analyses.

Image Substitution

Image substitution was much less frequent than image failure. The proportions ranged from .00 to .10 and .08 to .25 for the former and latter, respectively. The two distributions of proportions only overlap slightly. Not reporting anything (image failure) would appear to be less risky (eliciting disapproval in the experimenter) than offering some other image than what was requested. This large difference in occurrence between the two types of responses is consistent with the interpretation offered by Moses and Reyher (Note 1) that image failure most likely is a security operation, whereas image substitution most likely is a defense (a derivative of conflict).

Denial. Tables 4 and 5 show that all three groups utilized this type of substitute image significantly more often for high blatancy

anxiety. Once again, Group 1 (No complaint/symptom) showed a reversal on sex; that is using this substitute more on low blatancy scenes. This finding is consistent with the interpretation that the subjects in this group were highly motivated to avoid presenting themselves unfavorably to the experimenter. Only the difference between high and low blatancy of depiction for Group 3 (Smokers) on anxiety remained significant after implausibility was added as a covariate. This finding coupled with the normative pattern (><>>) indicates that Denial is used predominantly as a security operation. Group 3 was an exception. These subjects tend to deny anxiety. Perhaps their anxiety includes fear of disease and death due to smoking.

Tables 8 and 9 show that Group 1 was greater than the other two groups on high blatancy implausibility, and that Group 2 was less than Group 3. Group 1 also was larger than or equal to its comparison group for the other stimulus dimensions except for sex wherein Group 3 (Smokers) was greater than its comparison groups. These results are consistent with the interpretation that the subjects in Group 1 are characterized by heightened self-protective strivings, and that there is a sexualization of smoking (Group 3). Its (Denial's) ease of elicitation as a security operation in Group 1 is followed in turn by Groups 2 and 3.

Displacement. Table 6 reveals that only Group 2 (Phobics) used this type of image substitute differentially with respect to high and low blatancy of depiction. High blatancy of depiction of threats to physical well-being (anxiety) were significantly greater than were low blatancy threats. This preferential use of Displacement by phobic subjects is strikingly consistent with Freud's contention that

Displacement plays a primary role in the avoidance of internal (intrapsychic) sources of anxiety in phobic (anxiety hysteria) patients. Since Displacement was unaffected by removing variance associated with implausibility, it would appear to function preferentially as a defense against anxiety generated by the activation of repressed strivings in the subjects of Group 2. However, Displacement appeared to function primarily as a security operation for Group 3 (Smokers). It was associated with the normative pattern of mean differences between high and low blatancy of depiction.

Tables 8 and 9 show that Group 2 was significantly greater than each of the other two groups on implausibility and for every other comparison within stimulus dimensions for high blatancy of depiction. This outcome suggests that Displacement either is a generalized security operation or a defense with respect to sexual and aggressive strivings as well as anxiety per se. The within group analysis (ANCOVA) is consistent with the latter.

Attenuation of affect. Tables 4 and 5 show that this type of image substitute differentiated between high and low blatancy for all stimulus dimensions except sex. However, none of these retained their significance when implausibility was partialed out in an ANCOVA. Since all the mean differences were normative, this image substitute appears to function primarily as a security operation.

Tables 8 and 9 require a modification of the above conclusion. Table 9 reveals that Group 1 (No complaint/symptom) was less, not greater as would be expected from other comparisons, than the other two groups in pairwise comparisons on high blatancy implausibility. As would be expected, they were equal to or less than them in the high

blatancy categories for the other stimulus dimensions. It was Group 2 (Phobics) that were more apt to use this image substitute. It was followed in turn by Groups 3 and 1. This makes sense if phobics are conceptualized, according to Freud, as suffering an insufficiency of repression resulting in free floating anxiety that is reduced (partially gratified) when they focus on the phobic object or activity.

Reaction formation. This image substitute was infrequent in occurrence and failed to differentiate between high and low blatancy categories (Tables 4 and 5). However, its pattern of mean differences was normative before and after implausibility was parcelled out by ANCOVAs.

Tables 8 and 9 show that all three groups were about equal in the ease in which this image substitute, most probably a security operation (normative pattern), was elicited.

Turning against self. This image substitute also was infrequent in occurrence and failed to differentiate between high and low blatancy categories (Tables 4 and 5). When implausibility was included as a covariate (Tables 6 and 7), the ANCOVAs removed the equal signs in Table 5 and revealed that the pattern of mean differences was normative for Groups 1 (No complaint/symptom) and 2, but Group 3 showed a reversal on sex. Once again Smokers distinguished themselves on the stimulus dimension of sex.

Tables 8 and 9 show that Group 1 was greater than the other two groups on high blatancy of depiction for implausibility as well as the other stimulus dimensions. Also, Group 2 was uniformly greater than Group 3. These results suggest that Turning Against Self is a security operation that is most easily elicited in Group 1 and is followed in ease of elicitation by Groups 2 and 3.

Stability of Image Disparity

To assess the stability of the six different types of image disparity, Kendall's coefficient of concordance (W) was utilized. W is equivalent to the average Spearman coefficient of correlation. First, the consistency in the order of the six types of image disparity was assessed for each group, after the means were adjusted by ANCOVAs (Table 6), across the high blatancy categories of the three stimulus dimensions (aggression, sex, and anxiety). These Ws were: .88, .95, and .96 for Groups 1, 2, and 3. The Ws for the low blatancy categories were comparable: .96, 1.0, and .93 for Groups 1, 2, and 3. All of these coefficients were highly significant ($p < .01$). Thus, the stability in order of occurrence of the six types of image disparity within groups across the three stimulus dimensions was most impressive. Next, consistency across groups within each stimulus dimension was assessed. The Ws for the high blatancy category across groups for aggression, sex, and anxiety were: .86, .78, and .87, and the Ws for low blatancy were: .89, .78, and .86. All were highly significant ($p < .01$). The relatively low W for sex (.78) reflects the reversals between high and low blatancy and the high number of significant pairwise comparisons on low blatancy sex. However, because of the stability in the extreme types of image disparity (image failure versus Reaction Formation and Turning Against Self), changes in the order of the types in the middle (Displacement and Attenuation of Affect) did not affect W very much.

Organization of Self-Protective Mechanisms: Defenses and Security Operations

Table 6 shows that Displacement was the most common self-protective mechanism after implausibility had been parcelled out by ANCOVAs. It was followed by Attenuation of Affect, Denial, Reaction Formation, and Turning Against Self. However, the variation in order (ranks) among Displacement, Denial, and Attenuation of Affect may have important consequences for personality organization. Following image failure, Group 1 preferentially used Denial, Displacement, and Attenuation of Affect. Group 2 preferentially used Displacement, Attenuation of Affect, and Denial, and Group 3 preferentially used Attenuation of Affect, Denial, and Displacement. This variation seems minor when considered in the context of the overall stability of the data (Ws), but it might reveal important differences in the personality organization of the subjects in the three groups. This possibility is reinforced when it is recognized that there are two qualitatively different types of defenses against affects that differentiate these image substitutes. One is a change in object. Another is change of affect (Fenechel, 1953). Both Displacement and Turning Against Self involve a change in object, whereas Denial, Reaction Formation, and Attenuation of Affect modulate or distort affect.

Since defense against impulses have interpersonal consequences, it is reasonable to suppose that they also function as security operations. The individual in whom there occurs a displacement of repressed strivings onto external objects or activities must rationalize or justify (both security operations) his or her anxiety and avoidance of the feared object or activity. Both Reaction Formation and Turning Against Self can be conscious mechanisms designed to salvage self-esteem in an

interpersonal relationship. It also is possible that a given image substitute can function solely as a security operation. Reyher (1978) argues that a security operation may not have an intrapsychic origin (e.g., making excuses for failure). The results of the present investigation suggest that Displacement has a relatively large intrapsychic component. The individual in whom there occurs a displacement of repressed strivings onto external objects or activities must rationalize or justify (both security operations) his or her anxiety and avoidance of the feared object or activity.

High Versus Low Blatancy

The low blatancy categories in Table 9 generally reinforce the interpretation generated by the high blatancy categories. That is, there is the same general order of Groups 1, 2, and 3 for Image Failure, Denial, Turning Against Self, and Self Formation. Group 1 exhibited these image substitutes most prominently, whereas Group 3 exhibited them least prominently. However, low blatancy depiction of sex differentiated the groups better than high blatancy. There were seven significant pairwise comparisons for low blatancy sex, whereas high blatancy only was associated with three. This inversion is further highlighted by the overall greater differentiating effects of high blatancy. The ratio of significant pairwise comparisons for high to low is 18/10. Image failure and Turning Against Self contributed six of the seven pairwise comparisons on low blatancy depiction of sex. Low blatancy sex appears to permit different self-protective measures to be employed by the several groups. In addition to its differentiating power with respect to low blatancy sex, Turning Against Self also was associated with two significant pairwise comparisons for low blatancy anxiety. In view of

the absence of significant pairwise comparisons for implausibility, the unique contributions of Turning Against Self probably is not an artifact. This outcome suggests that this image substitute discriminates best under conditions of low blatancy because it is elicited preferentially under minimal threat (low blatancy) in Group 1. Under conditions of greater threat (high blatancy), Turning Against Self probably is superceded by other self-protective measures.

Overall (high plus low blatancy) sex was the most powerfully (number of significant comparisons) differentiating stimulus dimension among groups (Table 9). Unfortunately, there is no way of knowing the extent to which its incestuous component contributed to its power to differentiate among groups. Displacement, which was identified as a defense, most powerfully differentiated among groups under conditions of high blatancy of depiction, and it was uniformily associated with Group 2 (Phobics). Group 3 was distinguished by being less than or equal to the other two groups across blatancy of depiction and type of stimulus dimension. This can be interpreted in two ways: either its subjects were more highly motivated intrinsically (to receive help) or they generally were less burdened by self-protective measures. The former alternative seems more likely.

Aggression provided no surprises, as did sex and anxiety. We suspect that its low blatancy scenes were more believable than the low blatancy scenes for sex (subjects' aunt scrubbing the floor). Anxiety, of course, was not the same across groups because of the inclusion of subjects with a flying phobia.

SUMMARY OF RESULTS

The combined ranking of the forty scenes (ten for each stimulus narrative) revealed that Oedipal dynamics were not piqued in the two undergraduates who had done the ranking. Otherwise the mean rankings of the four stimulus narratives on the four stimulus dimensions was internally consistent except for a sexualized component to flying and an aggressivized component to smoking. The correlations among the four stimulus dimensions also were rational and internally consistent, and the reliability and validity of the procedures were reinforced by a commonality with the findings of Moses and Reyher (Note 1).

ANOVAs resulted in a consistency in the direction of mean differences, except for Group 3 (Smokers) on sex, for image failure across the four stimulus dimensions. This was interpreted to reflect norms acting through security operations on the dependent variable (image failure and image substitutes). When implausibility was used as a covariate in ANOVAs, the comparisons that remained significant were considered to index the component of the disparity originating in defense against impulses activated by the stimulus narrative. If this interpretation is correct, Group 1 (No complaint/symptom) exhibited defense on the stimulus dimensions of aggression and anxiety, Group 2 (Phobics) exhibited defense on anxiety, and Group 3 (Smokers) exhibited defense on sex.

With respect to image substitutes, Denial seemed to function mainly as a security operation for Groups 1 and 2. The subjects in Group 3 (Smokers), however, might have used it as a defense against anxiety associated with dying. Displacement functioned primarily as a

defense for Group 2 (Phobics). Attenuation of Affect also appeared to function as a defense for Phobics, although it was clearly a security operation for the other two groups. Reaction Formation also functioned chiefly as a security operation as did Turning Against Self. Turning Against Self appeared to function as a security operation for Group 3 only for minimal threat; however, the variation in Denial, Displacement, and Attenuation of Affect across groups suggest qualitative differences in the personality organization between Groups 2 (Phobics) and the other two groups. The decisive factor may be a change in object in the defenses used by the former group.

Group 1 (No complaint/symptom) was heavily burdened by security operations allegedly because of its extrinsic motivation, whereas Group 3 (Smokers) was the least burdened allegedly because of its greater intrinsic motivation. Reversals between high and low blatancy of depiction (within group comparisons) on sex and reversals in pairwise comparisons on sex (between group comparisons) strongly implicate a connection between sex and smoking, and there is a suggestion that the subjects in Group 3 defended themselves against anxiety originating in threats to their physical well-being.

GENERAL DISCUSSION

The results of this study amply illustrate that image failure and image substitution frequently occur during an instructed imagery procedure. The findings are in accord with those of earlier investigations (Kazdin, 1979; Moses, 1977; Reyher, 1977a, 1978; Weitzman, 1967) which together show that neither the clinician nor the researcher can be assured of congruence between reported and requested visual imagery. It is apparent that image disparity is a function of implausibility which cues psychodynamic processes associated with self-esteem maintenance. It is less apparent that repressed processes were activated by the stimulus narratives. Evidence in favor of this, the latter possibility, was contributed by Group 2 (Phobics) in their preferential use of displacement primarily as a defense, and by the recurrent connection between smoking and sex (Oedipal sex). The celebration of intercourse with the lighting of a cigarette and sensual drags provide anecdotal (weak) support for this interpretation.

The results clearly indicate that image disparity must be considered in the context of interpersonal and intrapsychic processes. It also is clear that Moses and Reyher (Note 1) somewhat oversimplified this domain of phenomena by equating image failure primarily with security operations and image substitutes (derivatives) with defenses against impulses. The findings strongly suggest that all types of image substitutes may function either as a security operation or a defense, and it seems reasonable to assume that all defenses have interpersonal

consequences that cue security operations, especially when repression is insufficient. Hypothetically, as repression lessens, security operation comes into play, at least more conspicuously.

The method of subject recruitment is a powerful factor that is not sufficiently taken into account in contemporary research. Whether subject motivation for participation is intrinsic or extrinsic is crucial (Reyher, 1977b, 1980). The most conspicuous differences among the three groups could be explained on this basis. Recall that the subjects in Group 1 were not, like those in Groups 2 and 3, recruited to participate through ads relating treatment of a personal problem to the objectives of the research. Hence, subject wishes to contribute to personally relevant research or fantasies concerning treatment benefits probably were not operative during their participation. In many respects, they were more like subjects in investigations by Moses (1977) and Schofield and Platoni (1976) who simply wanted to earn course credit through their participation. Like the subjects in these investigations, those in the present investigation consistently did not report implausible, bizarre or embarrassing imagery. Rather, they resembled the "volunteer" subjects described by Reyher and Maria Della Corte (Note 2) whose participation was rewarded by credit points, but who never reported bizarre, drive-laden visual imagery so common to clients undergoing emergent uncovering psychotherapy (Reyher, 1977a, 1978). Neither are they as suggestible as subjects volunteering on their own initiative for treatment oriented research (Reyher, 1977b) nor are they in such great need of approval (Reyher, 1978).

The subjects' hope of receiving a treatment benefit (Groups 2 and 3) may interact with the setting and experimental procedures. Prominent

in this complex situation is a reclining chair and the soothing voice of a woman reading the sexual and aggressively-laden narratives. These factors may have provided the conditions necessary to foster a regressive transference (Reyher, 1980) in these groups. Such a transference is encouraged by the professional demeanor of the experimenter and the connotations of care and treatment implicit in the research. A state of mind is created wherein painful self-involvement in the procedures vis a vis a professional, helping person results in the lowering of defensiveness or, in Sullivan's terms, security operations. The development of a regressive transference also is accompanied by an increase in suggestibility and strivings for approval (Reyher, 1980).

The preferential use of Displacement as a defense by Group 2 is in accordance with Freud's formulation of anxiety hysteria (phobia). The elicitation of Attenuation of Affect as the next most frequent image substitute is consistent with the phobics struggle with containing the affect of anxiety. The sexualization of flying (Table 3) is particularly germane to Freud's formulation of the sexual etiology of anxiety hysteria. Not to be overlooked is the possibility that hysterical disorders, as conceived by Freud, are associated with a particular cognitive style (Shapiro, 1965) and display a taint of neurological deficit (Bendefeldt, Miller, and Ludwig, 1976). The results also are in accord with psychoanalytic formulations (Fenichel, 1953) wherein smoking (Group 3) affords for the gratification of oral eroticism. Nicotine allegedly diminished inhibitions, heightens, self-esteem, and wards off anxiety. Consonant with this formulation, Smokers exhibited fewer instances of image disparity in most comparisons and showed reversals, suggestive of conflict in their sexual (Oedipal) strivings.

Using implausibility as a covariate enables the investigator to differentiate operationally between defenses and security operations. Any outcome is a meaningful one. Even when implausibility rankings are made by unselected nonparticipants in the research procedures, as in the present investigation. They provide a standard against which groups differences can emerge. If these rankings are sensitive to the strivings of the persons doing the rankings, then their usefulness as nomothetic criteria is compromised. The integration of the statistical findings may change with different reference groups doing the rankings of the scenes. This would be of keen interest in its own right. In future research, the subjects themselves should rank the scenes on all dimensions. Furthermore, if the subjects possess implausibility scores for each of the scenes, both within and between group ANCOVAs become possible. The confounding of thematic content with implausibility, however, does not reduce the relevance of image disparity of clinical and research methods using instructed visual imagery. Imagery integrity is fragile. An investigator or therapist cannot take for granted that a person has indeed formed an image that he or she was requested to image.

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REFERENCE NOTES

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