PSYCHOPATHIC BEHAVIOR: AN INFORMATION PROCESSING PERSPECTIVE

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In contrast to syndromes such as schizophrenia, depression, and the various anxiety disorders in which the contribution of some disordered psychological process is taken for granted, there is considerable skepticism regarding the existence of psychopathy in psychopaths. When a person has difficulty regulating thoughts or feelings we find it natural to attribute the problem to psychopathy but, when it is a person’s behavior that is poorly regulated, we are more inclined to attribute the problem to inadequate motivation or malicefulness. In other words, we find it plausible that thoughts and feelings may escape voluntary control, but we seem to have trouble thinking about behavior in the same way.

I believe that our disinclination to conceptualize psychopathy as a psychological deficit as opposed to an inherently antisocial condition is a major factor impeding progress in the understanding and treatment of this disorder. In this vein, it is important to recognize that psychopaths not only engage in antisocial behavior that is hurtful to others, much of their behavior is self-defeating and results in considerable personal suffering. Though it may be difficult to evoke sympathy for adult psychopaths with a long history of callous, exploitative behavior, a developmental perspective suggests an alternative view. If, as I believe, children at risk for psychopathy suffer from an information processing deficit that interferes with effective self-regulation, then our failure to appreciate the existence of this problem and our consequent reactions to the child’s behavior are likely to be compounding their risk.

The principal goal of this chapter is to articulate an information processing deficiency that might plausibly account for the psychopath’s chronic failures of self-regulation. Specifically, I propose that psychopaths have a cognitive processing deficiency that hampers their ability to accommodate the meaning of contextual cues while they are engaged in the active organization and implementation of goal-directed behavior. To advance this hypothesis, I will (a) briefly discuss the relation between psychopathy and cognitive processing deficiencies; (b) examine clinical portrayals of the psychopath that support the plausibility of an information processing deficiency; (c) present experimental evidence that substantiates and clarifies the nature of the deficiency; and (d) examine the relation between the proposed information processing deficit and other relevant hypotheses and evidence concerning psychopaths’ failure to make use of contextual cues.

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BACKGROUND

Historically, the term "psychopathy" has been used to describe individuals who display adequate intellectual functioning but who appear to have a profound affective or inhibitory defect that impairs their ability to conduct themselves properly. Pritchard, for instance, stated that in psychopaths "the power of self-government is lost or greatly impaired" (see Milon, 1981). In his classic book "The Mask of Sanity" which provides the foundation for the current concept of psychopathy, Cleckley (1976) clearly de-emphasized antisocial motivation. According to Cleckley, psychopaths are not especially disposed to violence or other strong urges but, given an urge to respond, psychopaths are especially unlikely to restrain it. Whereas antisocial behavior may be the most salient and clinically meaningful characteristic of psychopathy, the psychopath's lack of restraint may be the most integral.

Before discussing the evidence for a cognitive processing deficiency in psychopathy, I want to clarify my use of this expression. Kendall and Dobson's (1995) draw a distinction between cognitive deficiencies and distortions: "Deficiencies refer to the lack of certain forms of thinking (e.g., the absence of information processing where it would be beneficial), whereas distortions refer to active but dysfunctional thinking processes" (p. 10).

The focus of this chapter is on cognitive deficiencies rather than cognitive distortions. Readers are referred to Milon (1981), Serin and Korychuk (1994) and Widom (1976) for information on cognitive distortions in psychopaths. To date, investigators have paid relatively little attention to cognitive deficits in psychopathy. It seems likely that the neglect of cognitive factors relates, in part, to early descriptions of psychopathy which de-emphasized and even ruled out thought disorder. Indeed, Pinel (1801) used the term Manie sans defile to highlight this group's intact reasoning. Cleckley (1976) concluded that in the psychopath: "logical thought processes may be seen in perfect operation no matter how they are stimulated or treated under experimental conditions... All judgments of value and emotional appraisals are sane and appropriate when the psychopath is tested in verbal examinations" (p. 369).

In lieu of cognitive explanations, researchers focused on the concept "arousal" and motivational explanations for psychopathy. In retrospect, however, it is interesting to contemplate the extent to which this emphasis on motivational as opposed to cognitive explanations was driven by the nature of psychopathy versus the theoretical concepts and laboratory techniques that were available to researchers at the time the theories were proposed. For example, in his classic paper setting out the "low-fear hypothesis", Lykken (1957) labeled Cleckley's characterization of the psychopath too "subjective and unreliable" to be useful and recommended instead "expressing this putative defect...in terms of the anxiety construct of experimental psychology" (p. 6). Lykken's decision to substitute low fear/anxiety for Cleckley's more abstruse characterization of the problem proved to be a fruitful one which, as he predicted, stimulated a good deal of research. An important consequence of this decision, however, was that Lykken (1995) and others attributed the symptoms of psychopathy to insufficient motivation as opposed to the cognitive-affective deficiency proposed by Cleckley (1976).

Of course, a lot has changed in the 40 years since Lykken first offered his timely observation. The field of psychology has been transformed by a "cognitive revolution"...
of active integrative processes..." which causes him to remain "oblivious to the drawbacks or complications that would give another person pause and might otherwise give him pause as well." (p. 149). According to Shapiro (1965), the cognitive/affective process by which a passing thought or whim normally accrues interest and emotional support owing to its association with preexisting aims and interests is "short-circuited" in psychopaths.

Regarding the nature of this process, Shapiro wrote "In the normal person, the whim or the half-formed inclination to do something is the beginning of a complex process, although, if all is well, it is a smooth and automatic one" (p. 149). The "automatic" generation of meaningful associations, in turn, lends context to one's goals, relationships, and decisions. To the extent that we are cognizant of the relation between present circumstances and future goals, our ability to tolerate frustration and exercise restraint in the present is enhanced. To the extent that our feelings for and commitments to another person are represented in awareness, we are more likely to behave in an empathic and responsible manner because awareness of future interactions enhances accountability. Of course, sound judgment also relies on accessing past experiences and future considerations. To the extent that past experiences are automatically primed by similar circumstances, it is possible to benefit from them. Indeed, Shapiro's (1965) insightful chapter provides a cogent argument for linking this integrative process with the development of sustained goals, affective depth, lasting affections, self-restraint, sound judgment, and what is often referred to as "conscience" (see also Newman & Wallace, 1993).

Although Cleckley (1976) and Shapiro (1965) appeared to have similar perceptions of the psychopathic deficit, Shapiro's view is more explicitly cognitive: "The cognition of impulsive people is characterized by an insufficiency of integrative processes that is comparable to the insufficiency of integrative processes on the affective side." (p. 299). Indeed, the clinical literature on psychopathy provides numerous examples of this problem: "I always know damn well I shouldn't do these things, that they're the same as what brought me to grief before. I haven't forgotten anything. It's just that when the time comes I don't think of anything else. I don't think of anything but what I want now." (Grant, 1977, p. 60). Referring to a similar example, Shapiro (1965) noted: It is "not pertinent information that was lacking or unavailable to this man but rather the active, searching attention and organizing process that normally puts such information to use." (p. 149).

These classic descriptions of the psychopath provide a relatively specific characterization of the psychopathic deficit. In particular, the descriptions suggest that psychopaths are deficient in the ability to realize and be guided by the "meaning" of their actions. Thus, psychopaths appear to be characterized by a subtle, but crucial and pervasive problem placing their actions in perspective. Whereas most people automatically anticipate the consequences of their actions, automatically feel shame for unkind deeds, automatically understand why they should persist in the face of frustration, automatically distrust propositions that seem too good to be true, and are automatically aware of their commitments to others, psychopaths may only become aware of such factors with effort.

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This emphasis on automatic versus effortful processing is consistent with Shaprio's (1965) portrayal of the psychopath's cognitive deficiency and suggests an explanation for Cleckley's (1976) observation that psychopaths' difficulty understanding the implications of their behavior is specific to circumstances in which they are behaving as opposed to discussing their actions. Whereas psychopaths may use their excellent intellectual faculties to provide thoughtful answers in response to verbal questions, they must rely on relatively automatic processes to guide their actions while denying their intellectual capacity to achieving immediate goals. This does not mean that psychopaths are incapable of regulating behavior, only that self-regulation will be more effortful (i.e., capacity demanding) for psychopaths. Consequently, their self-regulation will be especially vulnerable to disruption when circumstances reduce available capacity, as when their attention is committed to goal-directed behavior, when they are reacting emotionally to a situation, or when they have been using drugs that reduce attentional capacity. Furthermore, owing to this deficiency, it might be especially easy for psychopaths to ignore the "affective components of experience" when it suits them to do so.

EXPERIMENTAL EVIDENCE

Paralleling these clinical accounts of psychopathy, my colleagues and I have proposed a laboratory-based model that focuses on the psychopath's failure to accommodate potentially significant, contextual cues while engaged in goal-directed behavior. Though based on a physiological model involving the consequences of septal lesions in animals (Goenestein & Newman, 1980), our theorizing about psychopathy has focused on psychological (i.e., perceptual, learning, motivational, attentional, and affective) processes contributing to disorganized behavior (see Patterson & Newman, 1993). The key concept in this model is response modulation. Response modulation involves suspending a dominant response set in order to accommodate feedback from the environment. In animal studies, deficient response modulation typically involves response perseveration or a tendency to continue some goal-directed behavior (e.g., running down the arm of a maze) despite punishment or frustrating nonreward (i.e., extinction). The focus of such studies is on the consequences of deficient response modulation (i.e., the failure to make use of potentially relevant information to adjust responding) rather than on information processing per se.

In applying the concept to people, we have found it useful to define response modulation in attentional terms. Specifically, we define response modulation as a brief and relatively automatic shift of attention from the organization and implementation of goal-directed action to its evaluation. Defined in this manner, the concept of response modulation is quite general and may apply whenever a person has to modify ongoing behavior in accord with environmental or prospective feedback. If behavior is deemed appropriate it continues, if slight modification is necessary then adjustments are made, and

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1 I realize that the word "automaticity" has been used in diverse ways by different investigators and is therefore problematic (see Logan, 1988). My use of the term is most similar to Schneider, Dunais, & Shiffrin's (1984) who emphasize the ability of potentially significant stimuli to attract attention and prime related associations in a relatively fast, effortless, and autonomous fashion.
if the behavior is viewed as inappropriate it is likely to be inhibited and replaced with another response strategy. Despite the fact that response modulation involves a relatively primitive and largely automatic process, it subserves more elaborate cognitive and affective processing which, in turn, provides a meaningful context for evaluating one's behavior and exercising adaptive self-regulation (see Patterson & Newman, 1993, for more details).

The hypothesis derived from the septal model is that psychopaths have a cognitive processing deficiency that hampers their ability to accommodate the meaning of contextual cues while they are engaged in the active organization and implementation of goal-directed behavior (i.e., a response modulation deficit); and secondarily, that their poor self-regulation represents a situation-specific failure to suspend ongoing behavior and reallocate attention.

Over the years, our research on the response modulation hypothesis has shifted as the most pressing questions have changed. Our first concern was determining whether psychopaths do, in fact, have difficulty altering an ongoing "response set" (i.e., way of perceiving and responding to the environment). Similar to the research with animals, these early investigations examined the consequences of deficient response modulation. Next, we explored the circumstances that produce deficient response modulation in psychopaths to evaluate the generality of their information processing deficiency and specify the circumstances that give rise to it. To the extent that psychopaths' information processing deficiency is situation specific, the circumstances engendering the problem may be informative about the nature of the problem. In the third and fourth phases of the research program, we have tried to be more specific in our measurement of the response modulation process. In the third phase, we attempted to assess our subjects' tendency to stop and evaluate the consequences of their behavior (i.e., reflectivity) and the implications of reflectivity for self-regulation. In the fourth stage, we have been investigating the extent to which psychopaths' failure to accommodate contextual cues is associated with "automatic" (i.e., involuntary) as opposed to "effortful" (i.e., voluntary, deliberate) processes.

The participants in these studies were 18 to 40 year old male inmates from a minimum security prison in southern Wisconsin who had 4th grade or better reading skills, had no history of psychosis, and were not taking psychoactive medications. In all cases, interview and file information were used to diagnose psychopathy using the Psychopathy Checklist (Hare, 1980) or Psychopathy Checklist-Revised (PCL-R; Hare, 1991). Subjects earning 32 or greater on the PCL or 30 or greater on the PCL-R were classified as psychopaths and those scoring 20 or less on the PCL or 22 or less on the PCL-R were classified as nonpsychopathic controls. The PCL and PCL-R have proven to be highly reliable and valid measures of psychopathy (Hare, 1991; Hare, Harpur, Hakstian, Forth, Hart, Newman, 1990; Kosson, Smith & Newman, 1990; Serin, 1992).

With the exception of our earliest studies, psychopathic and nonpsychopathic groups were subdivided into high- and low-anxious subgroups using the Welsh Anxiety Scale (Welsh, 1956). The rationale for this procedure is three-fold: (1) Historically, investigators have distinguished between primary and secondary psychopathy in an effort to distinguish offenders whose predisposition to antisocial behavior is "primary" rather than a "secondary" consequence of negative emotionality (i.e., neuroticism); (2)
PHASE II: UNDER WHAT CIRCUMSTANCES DO PSYCHOPATHS DISPLAY DEFICIENT PASSIVE AVOIDANCE?

According to the response modulation hypothesis, the psychopath's poor passive avoidance learning derives from their difficulty suspending and evaluating ongoing, goal-directed behavior (i.e., modulating dominant response sets) as opposed to a general intellectual, motivational, or inhibitory deficit. Thus, psychopaths' deficient passive avoidance learning should be relatively specific to situations requiring them to alter a dominant response set for reward (see Patterson & Newman, 1993).

This aspect of the response modulation hypothesis has been evaluated using a go/no-go discrimination (passive avoidance) task with monetary incentives to motivate performance. The basic task involves eight, two-digit numbers (e.g., 68, 23) which are presented one at a time on a computer monitor. Each of the eight numbers appears 10 times during the task and subjects must learn, by trial and error, to use the numbers to know when to press a button and when not to press a button. In the basic reward-punishment (R+P) condition, subjects win 10 cents for responding to "go" numbers and lose 10 cents for responding to "no-go" numbers. In a punishment-only (PUN) control condition, subjects lose 10 cents for responding to no-go numbers and also lose 10 cents when they fail to respond to go numbers. In both conditions, incorrect responses to go-go stimuli represent a failure to inhibit a punished response and thus provide a measure of passive avoidance. To the extent that psychopaths are characterized by a general intellectual, motivational or inhibitory deficit in passive avoidance learning, they would perform more poorly than controls in both conditions. To the extent that their poor passive avoidance involves difficulty suspending a dominant response set for reward to process the cues for punishment, psychopaths and controls should differ in Condition R+P only.

Consistent with the more specific prediction derived from the response modulation hypothesis, psychopaths committed more passive avoidance errors than controls in Condition R+P but did not differ from controls in Condition PUN. Although both groups had more difficulty in Condition PUN than in Condition R+P, evidence for deficient passive avoidance learning in psychopaths was specific to the condition requiring subjects to alter a dominant response set for reward (Newman & Kosson, 1986; see also Thompkins & Zuckerman, 1995).

In addition to Condition PUN, we have employed a number of other control conditions to assess psychopaths' passive avoidance when demands for response modulation are minimized. In one condition, for instance, the task design forced subjects to process both reward and punishment contingencies from the outset — a procedure which theoretically prevents the reward contingency from predominating and, thus, eliminates the need to alter a dominant response set during the task (Newman, Patterson, Howland, & Nichols, 1990). Other studies have used relatively long intertrial intervals which reduce the demand for efficient response modulation by providing subjects with ample time to process response feedback and revise their response strategy (Arnett, Howland, Smith, & Newman, 1993; Newman et al., 1987). Supporting the specificity of the response modulation hypothesis, our measures of passive avoidance and behavioral inhibition did not differentiate the performance of psychopaths and controls under these conditions (i.e., when demands for response modulation were minimized; see Newman & Wallace, 1993 for a review).

PHASE III: DO PSYCHOPATHS STOP AND EVALUATE THEIR GOAL-DIRECTED BEHAVIOR WHEN CONFRONTED WITH NEGATIVE RESPONSE FEEDBACK?

Whereas the tasks discussed in Phases I and II require response modulation to avoid losing money, they assess the consequences of response modulation (i.e., passive avoidance) as opposed to the response modulation process per se. To assess response modulation more directly, we began recording response times after correct (i.e., reward) and incorrect (i.e., punished) responses to observe the extent to which subjects paused to process response feedback following mistakes (i.e., passive avoidance errors). More specifically, the computer administering the task was programmed to record how long subjects paused following correct and incorrect responses as the response feedback was being displayed. By subtracting subjects' response times after reward from their response times following punishment, it is possible to estimate how long subjects suspend their goal-directed behavior to process unexpected, negative feedback (i.e., response modulation). Based on the response modulation hypothesis, we predicted that low-anxious psychopaths would pause less than low-anxious controls.

As predicted, low-anxious psychopaths paused less following punishment than did low-anxious controls. Moreover, consistent with regarding this difference in response times as a measure of reactivity (i.e., pausing to evaluate one's behavior), there was a significant relationship between pausing after punishment and passive avoidance learning. The longer that subjects paused after punishment relative to pausing after reward, the fewer passive avoidance errors they made. Finally, consistent with the observed relationship between pausing after punishment and passive avoidance learning and consistent with earlier research, low-anxious psychopaths committed significantly more passive avoidance errors than low-anxious controls. There was no evidence that these group differences were related to speed-accuracy tradeoffs or overall response speed (Newman et al., 1990).

Similar findings have also been observed using other performance measures. One study examined performance on a computerized version of the Wisconsin Card Sorting Task that involved monetary incentives. Subjects were instructed to "place" cards (i.e., four-symbol displays) into one of four piles (i.e., by pressing one of four buttons) based on the features of the display (i.e., color, shape, & number of symbols). After each 10 consecutive correct responses, the sorting rule was changed (e.g., from color to shape) without warning and subjects therefore had to use the negative feedback from incorrect responses to interrupt and revise an established sorting strategy. Unfortunately, chance differences in intelligence complicated interpretation of the main findings and convinced
us not to publish the study\(^2\). Nevertheless, low-anxious controls displayed pronounced inhibition after rule changes as predicted whereas low-anxious psychopaths did not. In fact, psychopaths actually responded more quickly following the first rule change when controls displayed the greatest behavioral inhibition (i.e., reflectivity). This significant group difference was not related to intelligence or altered by matching psychopaths and controls based on intelligence scores (Newman & Howard, 1987).

Another related finding was recently reported by Asmett, Smith, and Newman (in press) who used a continuous motor task. Subjects sat at a small table-top apparatus which had five buttons arranged in a semi-circle and a sixth button placed in the center, equidistant from the others. In addition, there were two small lamps (i.e., dimmed lights; one green and one red) placed above each of the outer buttons and two larger lamps placed above the center button. At the beginning of the task, the center green lamp was lit indicating the reward-only phase of the task was in effect. After one minute, however, the center red lamp was also lit indicating that subjects might be required to inhibit reward-seeking to avoid a relatively large punishment (i.e., the equivalent of 10 rewards) and, thus, needed to be more cautious. Relative to nonpsychopathic controls, low-anxious psychopaths displayed significantly less response modulation following the onset of the center red light. As in the Wisconsin Card Sorting Task, this group difference was greatest on the first trial.

**PHASE IV: IS THE PSYCHOPATH'S FAILURE TO ACCOMMODATE PERIPHERAL CUES SPECIFIC TO PUNISHMENT STIMULI?**

As already noted, in comparison to theories postulating low fear or a general insensitivity to punishment cues, the response modulation hypothesis postulates a more circumscribed insensitivity to punishment stimuli. It predicts that psychopaths are less sensitive to punishment cues to the extent that processing such stimuli relies on automatic processing or, in other words, when they are engaged in the organization and implementation of goal-directed behavior so that their effortful processing resources are being allocated elsewhere. As noted above, the evidence on passive avoidance learning appears to support the situational specificity of psychopaths' insensitivity to punishment stimuli: When punishment contingencies are "latent" (e.g., Lykken, 1957) or otherwise peripheral to a participant's dominant response set (see Newman & Wallace, 1993), psychopaths appear relatively insensitive to punishment stimuli. Conversely, when the requirement to attend to punishment is salient and/or explicit from the outset, before subjects have established an alternative response set, then psychopaths appear to perform as well as controls.

Equally important, however, the response modulation hypothesis may be distinguished from other prominent theories of psychopathy by the greater generality of its predictions. The response modulation hypothesis predicts that psychopaths will be less influenced by the meaning of affectively-neutral stimuli as well as by the meaning of affectively-significant stimuli, provided that such information is peripheral to their ongoing goal-directed behavior. We recently evaluated this prediction using a task developed by Gernsbacher and Faust (1991). The task is ideally suited to measuring the extent to which the meaning of peripheral or "contextual" cues (i.e., pictures or words) automatically interrupt the dominant response set of psychopathic and nonpsychopathic offenders (Newman, Schmitt, & Voss, 1996).

The task involves 160 trials during which subjects must determine if two pictures or two words are conceptually related. Subjects press one button to indicate that the two stimuli are related and another button to indicate that they are unrelated. This is subjects' primary task and they win money according to the speed and accuracy of their responses. The first stimulus or "context display" always involves the simultaneous presentation of a picture and a word. On picture trials, the word in the context display is irrelevant (i.e., to-be-ignored) whereas on word trials, the picture in the context display is irrelevant. Each trial begins with the presentation of a "P" or a "W" so that participants know to focus on the picture or word component of the context display. Importantly, the to-be-ignored contextual cues may also be either conceptually related or unrelated to the subsequent "test" display. Although the relation of the contextual cues to the test display is irrelevant for correct responding, this relationship has a significant bearing on performance. Specifically, when the primary task stimuli are unrelated, subjects respond significantly more slowly when the contextual cue is related to the test display than when it is not (Gernsbacher & Faust, 1991). In light of the fact that contextual cues are irrelevant and subjects are instructed to ignore them, it is reasonable to assume that interference by the contextual cues is relatively automatic.

Because the response modulation hypothesis holds that processing the meaning of contextual cues is less automatic for psychopaths than for controls while they are engaged in effortful goal-directed behavior, we predicted that the contextual cues would produce less interference in low-anxious psychopaths than in controls. Similar to other "normal samples" (e.g., Gernsbacher & Faust, 1991), low-anxious controls responded approximately 60 ms slower on interference trials than when the to-be-ignored stimuli were unrelated to the test display. Low-anxious psychopaths, on the other hand, displayed no interference. Psychopaths responded just as quickly when the contextual cues were related to the test stimuli as when they were unrelated (see Figure 1). The results of this experiment provide differential support for the response modulation hypothesis: Psychopaths' lack of responsiveness to affectively-neutral contextual cues while actively engaged in an alternative task, is consistent with the response modulation hypothesis but is not easily explained by the low-fear hypothesis or related models which attribute psychopaths' lack of responsiveness to fear stimuli to inadequate motivation.

Combined, the results from these four phases of research suggest that while they are engaged in reward seeking, psychopaths are (a) less likely to reflect on relevant feedback that would help them benefit from experience (phase 3); (b) less likely to process the meaning of contextual cues (phase 4); and (c) less likely to revise a response strategy when changing circumstances make continuation of the response set maladaptive (phase 1). On the other hand, psychopaths appear to perform as well as nonpsychopaths when they are not expected to process peripheral cues or otherwise alter a dominant response set for reward (Phase 2).
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deficit that interferes with the psychopath's ability to use contextual cues to enhance self-regulation. Moreover, as noted by these clinicians, the problem does not appear to involve lack of information or lack of ability to manipulate information when doing so is the focus of attention. Rather, the psychopath's deficiency appears to involve comprehending the potential significance of contextual cues when processing them relies on relatively automatic shifts of attention.

Though I have emphasized deficient information processing in characterizing the psychopath's inadequate self-regulation, it is important to note that the present proposal is not necessarily at odds with proposals involving low fear, neurophysiological deficits, or other processing anomalies which diminish the influence of affectively significant stimuli on behavior. Indeed, there is considerable overlap between the response modulation hypothesis (see also Newman & Wallace, 1992; Patterson & Newman, 1993) and a number of these alternative perspectives. Although space limitations preclude a rigorous comparison of these alternative perspectives, I believe that even a brief analysis of the similarities and differences is worthwhile because it will (a) reinforce the plausibility of some (i.e., affective or cognitive) processing deficiency and (b) suggest a number of hypotheses that are worthy of investigation.

The low-fear hypothesis

According to the low-fear hypothesis, "the primary psychopath has an attenuated experience, not of all emotional states, but specifically of anxiety or fear" (Lykken, 1995, p. 118). Owing to their "below average endowment of innate fearfulness" (Lykken, 1985, p. 154), psychopaths are more difficult to socialize using typical parenting methods which rely on a child's being motivated to avoid punishment.

Of course, most of the evidence regarding poor passive avoidance learning in psychopaths is consistent with the low-fear hypothesis as well as with the response modulation hypothesis. Indeed, Lykken's (1957) classic investigation of psychopathy used a measure of passive avoidance learning to evaluate the low-fear hypothesis, though it may be significant that he used a latent avoidance learning task. Lykken (1957) used the term "latent" to describe the fact that subjects were not told that shocks were contingent on responses (i.e., could be avoided). Although the publication does not describe the procedure, subjects were apparently told that they would receive shocks from time to time to facilitate performance on the primary task, which involved learning a complex sequence of responses to traverse a "mental maze". Using a similar task, Schmuk (1970) replicated Lykken's finding using electric shocks but observed adequate passive avoidance learning in a condition involving loss of money.

The difference between the low-fear and response modulation hypotheses relates to situation factors (i.e., controlling variables) which served to differentiate psychopaths and controls. Unlike the low-fear hypothesis which asserts that psychopaths are less motivated to perform the secondary avoidance contingencies, the response modulation hypothesis holds that psychopaths have greater difficulty recognizing the significance of secondary/non-dominant information while engaged in goal-directed behavior. The findings reported by Schmuk (1970) appear to be more consistent with the low-fear hypothesis than with the response modulation hypothesis because although the avoidance contingency was "latent" in both conditions, group differences were only observed in the

Thus, psychopaths appear to be characterized by an information processing deficiency that hampers their awareness of potentially relevant contextual information and interferes with their ability to regulate dominant response inclinations. Although further research is needed to replicate these findings and rule out alternative interpretations, a number of the findings are already supported by related evidence (e.g., Newman et al., 1990; Siegel, 1978; Thoensquist & Zuckerman, 1995).

RELA TED PROPOSALS

As already noted, the main purpose of this chapter is to demonstrate the plausibility and potential utility of an information processing perspective on psychopathy. Paralleling Cleckley's (1976) and Shapiro's (1965) clinical observations, our laboratory investigations of response modulation in psychopaths highlights a subtle but potentially consequential
condition involving electric shocks (i.e., fear). However, the procedure that Schmauk (1970) used to deliver monetary punishments was quite likely to make it more conspicuous than the shock contingency. Specifically, he used an elaborate video set-up showing a stack of 40 quarters which was present from the outset of the experiment. Combined with the absence of monetary incentives on the primary task, this procedure must have made the avoidance contingency quite salient (i.e., not latent) from the beginning. Indeed, across groups, subjects displayed superior avoidance learning in the monetary condition relative the shock condition. To the extent that the avoidance contingency was a primary focus of attention from the outset, group differences in response modulation would be irrelevant.

As already noted, recent evidence employing monetary rewards and punishments indicates that psychopaths commit more passive avoidance errors than controls even when the consequences of passive avoidance errors involve loss of money (e.g., Newman & Konos, 1986; Newman et al., 1987; 1990; Siegel, 1978). Although such findings are not easily explained by the low-fear hypothesis, they are predicted by the response modulation hypothesis. Moreover, the fact that psychopaths performed as well as controls in avoiding monetary punishments when these were the only incentives (cf. Schmauk, 1970) suggests that psychopaths' difficulty modulating a response set for reward in Condition R-P was instrumental in determining their poor avoidance learning. Finally, the fact that psychopaths were also less sensitive than controls to affectively-neutral contextual cues (e.g., Newman et al., 1996a) is predicted by the response modulation hypothesis but is not easily explained by the low-fear hypothesis.

With regard to psychopaths' use of peripheral stimuli to inform goal-directed behavior, the response modulation hypothesis predicts that predictions that are, at once, more specific and more far reaching. On the other hand, the low-fear hypothesis predicts weaker skin conductance responses (SCRs) to threatening stimuli — a prediction that has received substantial research support. Although this prediction is less straightforward for the response modulation hypothesis, a post-hoc interpretation of such findings is that SCRs reflect a subject's registration of the significance of particular stimuli and that this encoding of stimulus significance is less automatic for psychopaths than controls under certain conditions (Amott et al., in press; Newman & Brinkley, in press; see Newman & Wallace, 1993 for a more detailed discussion of the low-fear hypothesis).

The weak BIS hypothesis
Another perspective warranting consideration concerns Fowles' (1980) proposal relating Gray's (1987) Behavioural Inhibition System (BIS) construct to psychopathy. The weak BIS hypothesis has much in common with the low-fear hypothesis (see Lykken, 1995) as well as with the response modulation hypothesis (see Patterson & Newman, 1993). The BIS is a hypothetical construct which characterizes the psychological processes of the septo-hippocampal system. The BIS is activated by cues for punishment, nonreward, and novel stimuli and, once activated, serves to increase nonspecific arousal, interrupt ongoing goal-directed behavior, and direct attention to relevant environmental stimuli (Gray, 1982). Gray (1982; 1987; 1991) often characterizes inputs to the BIS as "mismatches" to indicate that stimuli which activate the BIS are unexpected (i.e., represent a mismatch between a person's expectations and actual events). Such mismatches, in turn, normally trigger an automatic attention response that enables individuals to examine the unexpected feedback, evaluate their response strategy, and revise expectations concerning the consequences of their behavior (see Gray, 1987).

The weak BIS and response modulation hypotheses have much in common. Indeed, both hypotheses are modelled on the function of the septo-hippocampal system and, thus, involve a number of overlapping propositions. For instance, both hypotheses involve the relatively automatic interruption of behavior and reallocation of attention in response to potentially significant cues. Because the BIS is a general construct with multiple functions, it is broad enough to subsume most predictions and findings generated by the response modulation hypothesis. In its most general form, the weak BIS hypothesis holds that psychopaths are deficient in every aspect of BIS functioning. That is, they are less responsive to punishment cues, less likely to inhibit responding in the presence of cues for punishment, and less likely to process (i.e., allocate attention to) environmental stimuli associated with punishment. Such a proposal is obviously encompassing, but may lack specificity. For this reason, we have advocated using Gray's model as a general framework for conceptualizing multiple pathways to behavioral dysregulation (e.g., Newman, in press; Newman & Wallace, 1993b).

Without specifying which component of BIS functioning is dysfunctional in psychopaths, it is difficult to contrast the weak BIS hypothesis with other proposals, including the response modulation hypothesis. Most discussions of the weak BIS hypothesis (e.g., Fowles, 1980; Lykken, 1995), however, focus on psychopaths' relative insensitivity to punishment cues. If psychopaths are less sensitive to punishment cues, the cues would produce less BIS activation and weaken all of its other functions. To the extent that the weak BIS hypothesis is characterized this way, it is, as suggested by Lykken (1995), basically an elaboration of the low-fear hypothesis. In which case, our discussion contrasting the low-fear and response modulation hypotheses is relevant to the weak BIS hypothesis as well (see Newman, in press and Patterson & Newman, 1993 for a more detailed comparison of these hypotheses).

However, the BIS subserves a variety of other processes that might contribute to the psychopath's deficit in self-regulation. Thus, investigators may also conceptualize the BIS as a fundamental psychological mechanism that enables people to commit attentional and cognitive processing resources to a particular task while "automatically" monitoring contextual cues so that they may shift the focus of attention and alter their behavior when circumstances demand it (e.g., Newman, in press; Newman et al., 1996b). Because the BIS is activated by cues for punishment, nonreward, and novel stimuli, it would be well-equipped to serve this function. Once activated, it would initiate an automatic "call for processing" and, in turn, more detailed processing of the unexpected or, otherwise, potentially significant information. Conceptualized in this manner, the weak BIS hypothesis would be quite similar to the response modulation hypothesis.

At present, the weak BIS hypothesis seems broad enough to be consistent with both the low-fear and the response modulation hypotheses. Differentiating these proposals will require greater specificity regarding which aspects of BIS functioning are hypothesized to differentiate psychopaths and how (see Newman, in press).
Damasio's neuropsychological model

Another theoretical perspective that overlaps with the current proposal is Damasio's (1994) "somatic marker" hypothesis (see also, Gorenstein, 1991). The primary focus of Damasio's work involves the consequences of ventromedial frontal lesions in humans, but he has repeatedly compared the resulting syndrome to psychopathy (e.g., Damasio, Tranel, & Damasio, 1990). The concept of somatic markers refers to affect-related associations that come to be associated with (i.e., mark) particular stimuli and responses. According to Damasio (1994), somatic markers are "created in our brains during the process of education and socialization, by connecting specific classes of stimuli with specific classes of somatic state" (p. 177). Once formed, somatic markers facilitate decision making and behavior regulation by calling to mind the positively or negatively valenced outcomes that have been associated with particular situations or followed particular responses. Referring to their role in avoidance learning, Damasio (1994) wrote that a somatic marker "functions as an automated alarm signal which says: Beware of danger ahead..." (p. 173).

To illustrate the consequences of a deficit in applying somatic markers, Bechara, Damasio, Damasio, and Anderson (1994) developed a card game that resembles the one used by Siggel (1978) and Newman et al. (1987) with psychopathic offenders. The game involves four piles of playing cards. Playing cards from either of two decks yields relatively large rewards but will occasionally result in relatively large losses as well. Playing cards from the other two piles results in smaller rewards but also entails much smaller losses. Although participants initially prefer the high payoff decks, they tend to shift to the safer choices after experiencing the large losses. Contrary to the typical pattern, patients with ventromedial frontal damage continue to prefer the high payoff deck and ultimately lose more money than controls owing to the large and unpredictable losses that they encounter. In describing this study, Damasio (1994) suggests that appropriate responding relies on "a nonconscious process gradually formulating a prediction for the outcome of each move, and gradually telling the mindful player, at first softly but then ever louder, that punishment or reward is about to strike if a certain move is indeed carried out" (p. 214). Damasio further suggests that patients with ventromedial frontal lesions, and psychopaths, are deficient in this process. Notably, Damasio (1994) does not attribute this failure to benefit from such "predictions" to a motivational defect. With regard to his patients, he argues that "they are still sensitive to punishment and reward but neither punishment nor reward contributes to the automated marking or maintained deployment of predictions of future outcomes..." (p. 216). Whereas the somatic marker hypothesis is similar to the low-fee and weak BIS hypotheses in emphasizing the failure of punishment cues to influence behavior, it resembles the response modulation hypothesis in relating psychopaths' poor self-regulation to their difficulty processing meaningful associations that are normally primed by proprioceptive and environmental stimuli with learned associations to relevant outcomes (i.e., conditioned stimuli).

In contrast to the response modulation hypothesis, the somatic marker hypothesis appears to be specific to affective markers whereas the response modulation hypothesis applies to affectively-neutral as well as affectively-significant, contextual cues. Moreover, Damasio's hypothesis appears to target a generalized deficit in the formation and/or utilization of affective associations whereas the response modulation hypothesis posits a more situation-specific deficiency involving the ability to accommodate such associations

while controlled processing resources are allocated elsewhere. Damasio, for example, notes that his patients have difficulty making decisions regarding personal preferences because the affective valence associated with the options are less available to them (Damasio, 1994, p. 193-4). Though psychopaths do not appear to be impaired in this way, their ability to form and/or access somatic markers may be impaired to a lesser degree than patients with frontal lesions (see also Hart, Forth, & Hare, 1990; Smith, Arnett, & Newman, 1992) or their impairment may involve a different component of the neuropsychological mechanism responsible for effective use of somatic markers.

Affective processing deficits

Although I have characterized the current proposal as an information processing deficiency, in actuality it is difficult to dissociate a deficit accommodating meaningful associations generated by contextual cues from one involving the experience of affect in conjunction with affect-eliciting stimuli. Even Shapiro (1965), in setting out the perspective that guided our proposal, expressed doubts about the feasibility of dissociating the cognitive and affective components of the psychopath's deficit. He noted that "both areas of functioning and the modes that respectively characterize them exist together, each is hardly imaginable without the other, and, in all likelihood, they develop together" (p. 154-155). Similarly, Newman and Wallace (1993) noted that the same problem which hampers psychopaths' ability to exercise sound judgment (i.e., evaluate the wisdom of their behavior) "apparently interferes with their ability to appreciate the emotional and moral significance of events..." (p. 300).

Thus, the current proposal also connects with recent proposals positing affective processing deficits in psychopathic offenders (e.g., Hare, Williamson, & Harpur, 1988; Patnick, 1994). Following up on Cleckley's (1976) characterization of the psychopath, Williamson, Harpur, and Hare (1991) noted that the "inability to experience or appreciate the emotional significance of everyday life events" (p. 260) appears to be a fundamental problem for psychopaths. Based on prior research with lexical decision (i.e., designating a string of letters as a word or nonword) tasks which shows that subjects identify words with affective significance more quickly than "neutral" words, Williamson et al. (1991) predicted that this effect would be less apparent in psychopaths than in controls. As predicted, psychopaths showed less behavioral and electrophysiological differentiation between the affective and neutral words. In another, more recent study which presented psychopathic and nonpsychopathic offenders with "emotional" and neutral slides, psychopaths were less likely than controls to show the typical "narrowing of attention with negative emotion" that leads to enhanced memory for central as opposed to peripheral features of a slide (Christianson, Forth, Hare, Strachan, Lidberg, & Thoret, 1996).

Further evidence suggesting that psychopaths process affective stimuli differently than controls is provided by Patrick and his colleagues (e.g., Patrick, Bradley, & Lang, 1993). Based on the impressive literature demonstrating that the magnitude of a startle response is potentiated when people are processing aversive stimuli and inhibited while they are processing positive stimuli relative to neutral stimuli, Patrick and colleagues predicted that affective context would play a less significant role in modulating startle magnitude in psychopaths. As predicted, nonpsychopathic controls displayed the typical pattern (i.e., greater startle magnitude during negative than during neutral slides plus
greater startle magnitude during neutral than during positive slides). Psychopaths, however, failed to display this linear trend, as their startle magnitude was smaller during negative slides than during neutral slides.

The response modulation hypothesis resembles these proposals regarding deficient processing of affective stimuli in proposing that psychopaths are less affected by the meaning of affectively significant stimuli. In contrast to Williamson et al. (1991), however, we do not believe that psychopaths’ failure to process contextual cues is specific to affective stimuli. Patrick’s (1994) emphasis on deficient processing of negative affect is even more specific and, thus, more at odds with the current proposal.

Further research is needed to investigate the extent to which psychopaths’ information processing deficits are specific to affectively significant stimuli using well matched, affectively-neutral control conditions. Our findings on the picture-word task appear to show that psychopaths are less affected by the meaning of affectively-neutral cues and are, thus, more consistent with a general deficiency in information processing. Conversely, the fact that the psychopaths in Patrick et al.’s (1993) study did not show the expected potentiation of startle during negative versus neutral slides appears more consistent with a specific processing deficit involving negative affect. Because the Williamson et al. (1991) lexical decision study found less facilitation in psychopaths in response to positively as well as negatively valenced stimuli and the Christianson et al. (1996) study assessed the effects of negative affect only, these studies do not clearly support one position or another.

After discussing research by Cook, Stevenson, and Hawk (1993) which showed “dramatic startle potentiation during unpleasant imagery whereas low negative emotionality subjects showed no such effect.” (p. 324), Patrick (1994) noted that “the observed absence of startle potentiation in psychopaths (Patrick et al., 1993) may reflect a temperamental deficit in the capacity for negative affect…” (p. 325). The fact that Patrick’s findings have been relatively specific to the emotional detachment factor (i.e., factor 1) as opposed to antisocial behavior factor (i.e., factor 2) of the PCL also supports this contention because trait measures of neuroticism/negative emotionality are negatively related to factor 1 and positively related to factor 2 (–.23 and +.31, respectively in Patrick’s study). The relation between neuroticism and startle magnitude, however, also raises a complex interpretive issue. Owing to its significance in predicting a subject’s reaction to punishment cues, we have argued that investigators should control for neuroticism when comparing psychopaths and nonpsychopaths on measures of “sensitivity to punishment” (Newman & Brinkley, in press). Without controlling for neuroticism, it is difficult to determine whether group differences in response to punishment stimuli are related to neuroticism or psychopathy. Similarly, it will be important to examine the extent to which group differences in startle potentiation during aversive slides is related to psychopathy and/or neuroticism.

In judging the conclusiveness of the evidence from the startle magnitude paradigm, it is also worth noting that psychopaths and controls did not differ significantly in their startle magnitude during negative stimuli. The effects of affect on startle magnitude are analyzed by comparing the within group linear trends (i.e., from positive to neutral to negative affect). Moreover, because these data are standardized, a group’s startle response during negative slides is not independent of their reaction to positive and neutral slides. Thus, localizing the nature of any group difference can be quite complex.

Attentional anomalies

Not surprisingly, the information processing perspective presented in this chapter also overlaps with earlier proposals regarding modulation of attention in psychopaths. Both Hare (e.g., 1978) and Lykken (e.g., 1995) have proposed that psychopaths have a propensity to “quit out” aversive stimulation. In particular, these authors have interpreted the combination of heart rate acceleration and low EDA in anticipation of aversive stimuli as evidence for a reflex-like coping strategy that reduces the impact of aversive stimulation. Of immediate relevance to the current proposal, Hare (1978) noted that while this reaction may serve to reduce fear, it may also prevent psychopaths from processing information that would facilitate avoidance learning.

Kosson and Harpur (in press) have provided an excellent summary of research on attentional processes in psychopaths. Based on the review, they tentatively rule out problems in sustained attention (i.e., vigilance), excessive exogenous shifts of attention (i.e., excessive reactivity to environmental changes); and inhibition of return (disinhibition to return to previously attended stimuli). Instead, they conclude that (a) “psychopaths may be overly responsive to cues inducing endogenous shifts of attention in some situations…” (b) “Such overresponsiveness may also be affected by the allocation of left hemisphere resources or right-handed responses”, (c) psychopaths appear to be characterized by “excessively narrow attention in situations involving multiple contingencies and multidimensional stimuli;” and (d) psychopaths’ reduced breadth of attention may help to explain observed deficits in passive avoidance and inter-level shifts of attention” (p. 29-30).

As evidence for “reduced breadth of attention”, Kosson (in press) cites evidence indicating that psychopaths commit more commission errors than nonpsychopaths when a secondary feature of a stimulus display indicates that subjects should not respond to that display (i.e., it is a distractor rather than a target stimulus). Such secondary features may involve the orientation of the frame surrounding the stimulus (i.e., horizontal or vertical), the overall pitch of a tone sequence (high versus low), or the color of a visual character string (red versus blue). In each case, the secondary stimuli are peripheral to subjects’ primary task which requires them to (a) locate and respond to specific target letters; (b) discriminate among letter-only, number-only, or mixed character strings; and (c) discriminate among ascending, descending, or steady tone sequences. Thus, Kosson’s (in press) proposal regarding breadth of attention is quite consistent with the current proposal: In both cases, psychopaths are said to be less influenced by peripheral stimuli while they are devoting effortful processing resources to a primary task involving the organization and implementation of goal-directed behavior (i.e., response readiness). Moreover, the psychopaths’ difficulty processing the secondary characteristics of stimuli displays apprises consistent with a deficiency in automatically accommodating the meaning of nondominant cues.

Kosson (in press) contrasts the breadth of attention hypothesis with an “interference hypothesis”, noting that the former predicts weaker processing of peripheral components of a single display (e.g., a frame around a target stimulus), whereas the latter relates to shifting attention from one display to another. The evidence from his program of
research with psychopathic offenders provides differential support for the reduced breadth of attention explanation. Although both the interference and breadth of attention hypotheses appear to involve shifting attention, the demand to shift attention is more salient in his tests of the interference hypothesis than in his tests of the breadth of attention hypothesis. When a second stimulus is presented as it is in the tests of the interference hypothesis, the demand to shift attention is explicit. Conversely, in the single display used to assess the breadth of attention hypothesis, subjects must (a) automatically accommodate the significance of this contextual cue in order to label it a “distractor” and inhibit their dominant response set; or (b) deliberately (i.e., using effortful as opposed to automatic processing) remember to check the peripheral elements of the display before enacting their dominant response set.

The response modulation and breadth of attention hypotheses appear to yield similar predictions with regard to processing the “distractor” status of displays in Kosson’s research. A more discriminating test of the breadth of attention hypothesis would seem to involve assessing psychopathic’s processing of central and peripheral components of a display where neither component is accorded a priori significance. The response modulation hypothesis would predict adequate processing of peripheral cues under such circumstances because there is no demand to alter a dominant response set. The breadth of attention hypothesis would seem to predict weaker processing of peripheral cues. The latter prediction appears inconsistent with the recent report by Christianson et al. (1996) which examined processing of central and peripheral aspects of visual slides and found no overall differences.

SUMMARY AND CONCLUSIONS

Despite this historical and contrary, the clinical and experimental literatures on psychopathy provide numerous indications that the psychopath’s inability to achieve a stable, prosocial adjustment may, indeed, involve information processing deficits. Moreover, even allowing for the selectivity of this brief review, the literature provides a relatively consistent characterization of the psychopathic deficiencies. Relative to nonpsychopaths, psychopaths appear to be less adept at allocating processing resources to secondary tasks while engaged in goal-directed behavior. Such secondary tasks may include (a) the major components of self-regulation (i.e., self-monitoring, self-evaluation, and self-control; see Kanfer & Gaeckle, 1986), (b) linking immediate actions and environment stimuli with past experiences, and (c) decoding the cognitive and affective significance of contextual cues.

There is not yet good agreement concerning the circumstances that give rise to the psychopath’s deficient processing of secondary information. Cleckley (1976) noted that their deficiency becomes apparent “when the test of action comes to him” (p. 246) as opposed to abstract discussions about behavior. Similarly, my colleagues and I have proposed a situation-specific deficit in information processing that occurs when relevant information is peripheral to the psychopath’s dominant response set (Newman & Wallace, 1993; Patterson & Newman, 1993). Kosson and Harpur (in press) proposed that psychopaths’ information processing anomalies may relate to their “difficulty interrupting left hemisphere-based attentional allocations” (p. 27). Reports by Hare and his colleagues most often (though not always) indicate that psychopaths’ deficient information processing is specific to aversive or other affective stimuli (e.g., Hare, 1978; Williamson et al., 1991). More research is needed to clarify the circumstances which differentiate psychopaths and controls. Such research should be given high priority because, in addition to differentiating among the proposals reviewed in this chapter, identifying the circumstances that engender psychopaths’ performance deficits will almost certainly clarify the nature of the information processing limitation.

Research is also needed to investigate the extent to which psychopaths’ apparent insensitivity to peripheral information reflects low fear, a dysfunction in some aspect of BIS functioning, or some neuropsychological, affective, or attentional deficit. As already noted, these proposals are not mutually exclusive but do have important implications for conceptualizing the psychopathic deficit and mobilizing interventions to counteract it. In most cases, these proposals are specific enough to generate differential predictions. As investigators begin to conduct studies contrasting predictions from the alternative perspectives (e.g., Arnett et al., in press; Kosson, in press; Newman & Kosson, 1986), we can expect the proposals to become more differentiated and better developed.

The purpose of this chapter was not to generate strong conclusions regarding the nature of psychopaths’ deficient self-regulation. Rather, my goal was to encourage greater breadth of theory and hypothesis testing. Motivational (e.g., low fear) theories have dominated research and theory on psychopathy for forty years. Though this perspective has generated many significant findings over the years, we believe that it also has important limitations which commend consideration of alternative perspectives (Newman, in press; Newman & Brinkley, in press; Newman & Kosson, 1986; Newman & Wallace, 1993; Patterson & Newman, 1993). I hope that this chapter has convinced the reader regarding the plausibility of such alternatives.

References


AN INFORMATION PROCESSING PERSPECTIVE


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PSYCHOPATHY, AFFECT AND BEHAVIOR

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INTRODUCTION
Psychopathy is a socially devastating personality disorder defined by a constellation of affective, interpersonal, and behavioral characteristics, including egocentricity, manipulativeness, deceitfulness, lack of empathy, guilt or remorse, and a propensity to violate social and legal expectations and norms (Checkley, 1976; Hare, 1995, 1996). In this chapter I selectively review recent research on the role played by emotional processes in the disorder. Because some of the most illuminating insights into the emotional life of psychopaths are provided by close scrutiny of their psycholinguistic processes, I emphasize work that has implications for understanding the complex interplay of the psychopath's language, affect, and predatory behavior.

Clinicians and researchers often are stunned by the apparent ease with which psychopaths engage in cold-blooded, instrumental behavior. They also are puzzled by the apparently cold—yet superficial and mechanical—manner in which many of these individuals describe their actions, their feelings about what they have done, and the impact their behavior might have had on others. Their expressions of remorse are unconvincing to astute observers, and their use of emotional words and phrases seem like mere mimicry.

Some psychopaths are perfectly frank about their inability to understand or experience what others describe as intense emotional feelings. "There are emotions—a whole spectrum of them—that I know only through words, through reading and in my immature imagination. I can imagine I feel these emotions but I do not," wrote convicted killer Jack Abbott (1981). With the help of several prominent people, including writer Norman Mailer, Abbott secured his release from prison and promptly stabbed to death an unarmed waiter. The depth of Abbott's emotional concern for the man he killed, an aspiring actor, is apparent from the following remarks, "There was no pain, it was a clean wound... He had no future as an actor—chances are he would have gone into another line of work" (see Hare, 1993, pp. 42-43). Here we have an otherwise intelligent man who describes a killing in a dispassionate, matter-of-fact manner, and who cannot comprehend what the fuss is all about. To say that there is something unusual about people like Abbott is an understatement. While the cognitions and interpersonal interactions of most members of our species are heavily laden with emotion (Damasio, 1994), the inner life, experiences, and behaviors of psychopaths seem shallow and emotionally barren.

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D.J. Cooke et al. (eds.), Psychopathy: Theory, Research and Implications for Society. 105-137.