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ALEXITHYMIA AND HOSTILITY IN JAMAICAN ADULTS

By

David Rose

A THESIS

**Submitted to
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ABSTRACT

ALEXITHYMIA AND HOSTILITY IN JAMAICAN ADULTS

By

David Rose

Alexithymia is the inability to identify or describe one's feelings and is associated with a wide variety of psychopathology and behavioral problems. However, while the theoretical literature argues that high alexithymia levels should predict high levels of hostility, little empirical research currently exists in this area. This study used the Toronto Alexithymia Scale-20, a self-report measure of alexithymia, and the Hostility Dimension of the BSI to survey 352 Jamaican adults. Simultaneous regressions revealed that high alexithymia levels predicted high levels of hostility. In addition, alexithymia was higher among lower SES Jamaicans as opposed to higher SES Jamaicans, and alexithymia was higher among Jamaican males than among Jamaican females. Further, only males with lower SES had significantly higher levels of alexithymia. Results suggest that teaching adult Jamaicans with alexithymia how to correctly identify and label their hostile feelings may help them to gain control over and reduce their frequency of hostile and violent behaviors.

Dedicated to the memory of my grandmother, Mary Olive Rose, for always believing in me and for the delicious chocolate chip cookies.

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INTRODUCTION

Externalizing and antisocial behaviors such as oppositional defiant disorder (ODD), conduct disorder (CD), antisocial personality disorder (APD), wife battering, child abuse, and violent criminal behavior are alarmingly frequent and thus are a major societal problem. One violent crime occurs every 17 seconds in the United States (Tsytarev & Grodnitzky, 1995) and more than 2 million people are the victim of physical attack (Kassinove & Sukhodolsky, 1995). A wife is battered every 15 seconds (Geffner & Rosenbaum, 1990) and 30% of couples will experience at least one episode of marital aggression during their lifetime. The United States has a higher homicide rate than any other industrialized, Western nation (Tsytarev & Grodnitzky, 1995). The prevalence rates of conduct disorder are estimated to be 6-16% for boys and 2-9% for girls, while prevalence rates of antisocial personality disorder are estimated to be 3% for males and 1% for females in community samples (American Psychiatric Association, 1994).

Hostility, anger, and aggression are major components of all categories of externalizing behavior disorders (Feindler, 1995). A number of psychiatric disorders such as oppositional defiant disorder (ODD), conduct disorder, and antisocial personality disorder are associated with hostility and anger. The major characteristics of ODD are: a pattern of hostile and defiant behavior, frequent outbursts of temper, anger and resentment, and a tendency to argue with adults. In conduct disorder, the violation of the rights of others accompanies the hostile and angry behaviors of ODD. Both ODD and CD apply only to children who are age 17 or younger. When the symptoms of CD

continue to occur past the age of 17, a diagnosis of antisocial personality disorder is given (American Psychiatric Association, 1994). Empirical research has demonstrated that psychopaths, individuals with antisocial traits, have elevated levels of hostility (Blackburn & Lee-Evan, 1985). The following excerpt of an individual with antisocial personality disorder highlights the accompanying high levels of hostility:

I had so much anger... I was just like a bomb... it's just ticking, and it's just a matter of seconds before this bomb blows up, and you're trying to get out of there... and the way I'm going, that bomb was going to blow up in me. I wouldn't be able to get away from it... going to be a lot of people hurt... I'm not going out without taking somebody with me... (Barlow & Durand, 1995, p. 533).

In addition, externalizing behaviors such as spouse battering and child abuse, which are not considered to be psychiatric disorders, are also associated with high levels of hostility and anger. A consistent finding in the research literature is that male batterers have higher levels of hostility (Else, Wonderlich, Beatty, Christie, & Staton, 1993; Gavazzi, Julian, & McHenry, 1996; Tolman & Bennett, 1990) and general trait anger (Deffenbacher, Oelting, Lynch, & Morris, 1996) than non-batterers. Leonard and Senchak (1996) found that both husband and wife hostility predict marital aggression one year later. Men who commit acts of domestic violence have also been found to have anti-social personality traits (Else et al., 1993). Anger control problems have been found in perpetrators of physical child abuse (Barnett, Miller-Perin, & Perrin, 1997). Widom (1978) found that female criminal offenders also had elevated levels of hostility. In summary, individuals with high levels of hostility are at an increased risk for a number of negative outcomes including psychopathology, violent physical altercations, frequent verbal arguments, poor communication abilities, strained interpersonal relationships,

destruction of property and belongings, occupational maladjustment (Deffenbacher et al., 1996) and low self-esteem (Tsytaev & Grodnitzky, 1995).

Despite overwhelming evidence which highlights the problematic nature and clinical relevance of high levels of hostility and anger, relatively little research has been conducted specifically on hostility and anger compared with to other emotional states. Kassino and Sukhodolsky (1995), in a search of the PSYC INFO data base, discovered that the negative feelings of depression and anxiety have been the focus of much more research than either hostility or anger. The authors speculate that this is because hostility and anger are more difficult to behaviorally operationalize and measure than depression and anxiety. Further, they pointed out that this is an excellent example of how research in the laboratory falls short of providing useful information for clinicians who are working in the field.

Because hostility and anger create severe personal, family, and vocational distress, they often become the primary focus of clinical intervention. "In fact, disruptive behavior disorders represent the largest referrals for psychotherapy intervention (Feindler, 1995, p. 233). Unfortunately, treatment outcomes for hostility and anger related behavior problems are generally much poorer than for internalizing disorders (Robins, 1979). Patterson (1996) reports that the effectiveness of treatment interventions for conduct disorder rapidly decline after the age of 8. A review of the literature on conduct disorder concludes that clinical interventions are generally of limited effectiveness (Offord & Bennett, 1994). In regards to treatment of antisocial personality disorder (APD), Barlow and Durand (1995) state that because treatment outcomes are so poor, most of these individuals are incarcerated to prevent them from harming others. In

a 10-year survey of treated and untreated male batterers, Dutton (1995) found that the treated men had reduced subsequent arrests for assault by a mere 3%, subsequently the effectiveness of abuse counseling remains debatable (Barnett et al., 1997).

Clearly, more research needs to be conducted on hostility and anger because of their clinical importance and because of the currently poor treatment effectiveness of behaviors associated with hostility and anger. This study looks at the relationship between alexithymia (the inability to identify and describe one's feelings) and hostility. If alexithymia is found to predict hostility levels, then treatments designed to help hostile, angry individuals to correctly label and accurately communicate their feelings may help to reduce levels of hostility and anger and thereby improve treatment outcomes.

First, I will define and describe alexithymia, discuss why alexithymia is important to understand, and present some of the literature regarding the etiology of alexithymia. Second, I will define and describe hostility and discuss the rationale for why alexithymia may be an important factor in the etiology of hostility. Third, I will discuss the literature that has directly looked at the relationship between alexithymia and hostility. Fourth, I will discuss why it is important to study alexithymia and hostility in adult Jamaicans. Fifth, I will discuss why this study of alexithymia and hostility is important in terms of contributing to the knowledge base in the literature and specific hypotheses for this study will be given. Finally, I outline the methods and analyses that I will perform in order to discover the relationship between alexithymia and hostility.

Chapter 1

ALEXITHYMIA

What is Alexithymia? Definition and Description

Alexithymia is a widespread, but little known condition which affects the way people experience and express emotion. More specifically, alexithymia, which literally means “no words for feelings” (Sifneos, 1972), is the inability to identify, describe, and distinguish between subjective feelings. The prevalence of alexithymia in psychiatric outpatients is estimated to be 39.8% (Taylor, Parker, Bagby, & Acklin, 1992).

Individuals with alexithymia have difficulty in the three following areas: 1) they have difficulty identifying feelings, 2) they have difficulty describing and expressing feelings, and 3) they have an externally oriented cognitive style which reflects the inability to think about or reflect upon their own internal affective experiences (King, Mallinckrodt, & Coble, 1996). As a result, individuals with alexithymia often can't tell whether they feel sad, angry, or anxious, despite being aware of sensations of negative arousal (Krystal, 1988).

The externally oriented thinking associated with alexithymia is believed to stem from a cognitive condition known as ‘pensee operateire’ {thought operating} (Montreuil, Jouvent, Carton, Bungener, & Widlocher, 1991). Because the alexithymic can't understand their inner environment, their perception of the external environment changes and consequently they tend to focus on concrete objects and the surface dimensions of objects. As a result these individuals usually present as dull, mundane, unimaginative, utilitarian and their verbal descriptions resemble a sequential recitation of

concrete facts. Not surprisingly, individuals with high levels of alexithymia demonstrate impaired creativity and fantasy (Clerici, Albonnetti, Pupa, Penata, & Invenizzi, 1992).

Alexithymics also suffer from aprosody, or lack of affect in speech, and a deficit in the generation of spontaneous facial expressions. Alexithymics can accurately identify various emotional stimuli, but these same emotional stimuli do not produce subjective feelings (Berenbaum & Prince, 1994). According to Buck (1988), emotion has the following three components: 1) subjective feelings, e.g., “I feel sad.”, 2) physiological arousal, e.g., increases in heart rate or skin conductance, and 3) facial and bodily elements of expression, e.g., frown, smile, crying, laughter, and voice tone. Thus, alexithymia can be defined as a deficit of the ability to identify and communicate the first component of emotion, subjective feelings.

Alexithymia is a rather recently defined construct, and there is still much debate as to what alexithymia actually measures. On the one hand, some theorists argue that the key characteristic of alexithymia is that there is a cognitive deficit in the symbolic representation of emotion (Clerici et al., 1992). This implies that subjective feelings are “normal” in terms of intensity and degree of differentiation and the problem is primarily a linguistic deficit in which subjective feelings are not semantically and verbally encoded.

Conversely, theorists such as Krystal (1988) believe that alexithymia is the result of a self-protective, homeostatic mechanism against excessive psychological distress and pain. According to this theory, if the level of psychological pain that one consciously experiences is too great they will die, as in cases of psychogenic death. Therefore, as the level of psychological pain reaches a certain threshold, a mechanism is triggered that

causes a freezing of behavior and dampens the amount of pain that is experienced. However, this mechanism tends to stay in place because the individual is motivated not to experience these painful feelings. As a result, the individual feels less feelings. According to this theory then, alexithymia is not caused by a deficit in the ability to linguistically encode feelings, but rather is caused by feelings that are weak in intensity or absent altogether and therefore are difficult to differentiate or even detect. The small amount of empirical evidence that is available supports the hypothesis that alexithymia results from the diminished intensity of feelings. Quinland (1993) found that individuals with alexithymia did not suffer from difficulties in linking non-verbal images, such as emotions, from sensory modalities with their verbal linguistic code. This indicates alexithymia is not related to deficit in the ability to link words with feelings. Therefore, it is most likely that alexithymia is related to attenuated affective intensity.

Why is Alexithymia Important? Comorbidity and Consequences

Further support for Krystal's hypothesis (1988) that alexithymia develops as a form of protection against negative affect comes from the research literature which examines the comorbid psychopathology which is associated with alexithymia. Alexithymia tends to be found in populations that are exposed to painful and distressing circumstances. Alexithymia has been found in high levels in brutally traumatized populations with post-traumatic stress disorder (PTSD) such as concentration camp survivors (Krystal, 1988), military combat veterans (Hyer, Woods, Summers, Boudewyns, & Harrison, 1990), and survivors of repeated sexual abuse (Zeitlin, McNally, & Cassiday, 1993).

Hyer et al. (1990) studied the relationship between PTSD and alexithymia in a sample of Vietnam Veterans ($N = 227$). They found 85% of the PTSD patients to be alexithymic. In addition, these researchers observed clinically that PTSD patients and alexithymics share several similar characteristics. PTSD patients cannot read their own emotions and they tend to have many physical complaints, much like patients with alexithymia. Other research has shown that alexithymia and PTSD patients have similar patterns of neurotransmitters (Henry, Haviland, & Cummings, 1992). Both groups were found to have abnormally high norepinephrine levels, suggesting greater activation and effort of the left hemisphere compared to normals.

Alexithymia has also been found in high levels in populations that have been exposed to less acute traumatic situations, which are nonetheless psychologically painful such as in depression and anxiety disorders (Taylor et al., 1992), dysfunctional families and abusive relationships (King et al., 1996), and in stages of racial identity believed to involve poorer adjustment and greater distress (Davis-Dinsmore & Mallinckrodt, 1996).

Because individuals who have high alexithymia levels have difficulty identifying emotion, it is difficult for them to use feelings as cues for self-regulation and the maintenance of homeostasis. Accordingly, alexithymics have difficulty regulating glucose levels, and high levels of alexithymia positively correspond with high rates of diabetes, bulimia nervosa, and anorexia nervosa (Abramson, McClelland, Brown, & Kellner, 1991; Taylor et al., 1992). The difficulty that alexithymics have in identifying their feelings also leads to poor functioning in interpersonal relations, especially those that are intimate (Swiller, 1988). Additionally, alexithymia predicts poor treatment outcomes, especially when psychotherapeutic interventions emphasizing the insight to

and expression of emotions are used. According to Krystal (1982), alexithymia may be the single most important impediment in treatments involving psychoanalysis and psychodynamic psychotherapy.

As previously mentioned, though alexithymics can not identify and describe their feelings, they do experience undifferentiated and unpleasant sensations of negative arousal. It is suggested that individuals with alexithymia may attempt to modulate these negative sensations through food, the use of psychoactive substances, and compulsive behaviors. This may help to explain the high comorbidity of alexithymia with eating disorders, substance abuse, psychopathic deviance, impulsive and acting out behaviors, and pathological gambling (King et al., 1996). Further, Greenberg, Rice, and Elliott (1993) argue that psychopathology originates, in part, because of the inability to identify and express emotion. Thus, alexithymia can be seen as detrimental to the ability to process information regarding one's immediate environment.

Rates of psychosomatic disorders are also high among patients with alexithymia (Krystal, 1988). Headaches, numbness, constipation, pain in joints, dry mouth, and heartburn all correlate positively with alexithymia. Psychosomatic disorders are approximately twice as common among alexithymics as compared to the general population (Kauhanen, Kaplan, Julkunen, Wilson, & Salonen, 1993; Taylor et al., 1992). Additionally, alexithymia correlates positively with impairment of the immune system (Todarello et al., 1994).

What Factors Lead to Alexithymia? The Etiology of Alexithymia

Alexithymia has two primary sources. Primary alexithymia has a biological basis which involves disconnection of either or both: 1) interhemispheric areas of the

neocortex via the corpus callosum, and 2) cortico-limbic pathways. Secondary alexithymia is related to psychosocial factors, which are believed to result in a psychogenic “functional disconnection” of these neuroanatomical pathways (TenHouten, Hoppe, Bogen, & Walter, 1985). There are three possible sources of secondary alexithymia noted in the literature. First, as previously mentioned, exposure to traumatic situations in the past, or proactive trauma, is related to alexithymia. Second, fear of psychological distress in the future, or retroactive trauma, can give rise to alexithymia. Third, social factors and family environments impact the incidence of alexithymia.

Primary Alexithymia: Neuropsychological Factors. Neuropsychological research suggests that alexithymia is related to a deficit in communication between the two cerebral hemispheres. Historically, alexithymia was noted to have occurred in the “split-brain” patients of the 1960’s. These patients had their corpus callosums severed in an attempt to lessen the severity of intense epileptic seizures. Since the corpus callosum connects the right and left hemispheres of the brain at the level of the cortex, it was hypothesized that alexithymia was caused by a lack of communication of information between the two hemispheres (TenHouten et al., 1985). Buck (1994) states that humans lack connections between the two hemispheres at the subcortical level and thus, the corpus callosum of the cortex is the primary route for interhemispheric communication. Zeitlin, Lane, and O’Leary (1989) used the tactile finger location task to determine the level of callosal transfer in non-neurologically impaired individuals. They found a positive correlation between high alexithymia scores and deficits in interhemispheric transference. Dewaraja and Sasaki (1990) found that alexithymics suffer from a deficit

in transferring nonlinguistic information from the right to the left hemisphere, but not from a deficit in the callosal transfer of linguistic information.

In the paralimbic cortex of the right hemisphere is a structure known as the insula. Ross, Homan, and Buck (1994) propose that the insula may be a node for emotional comprehension, much like Wernicke's area is a node for semantic comprehension in the left hemisphere. Of all the cortical areas known, the insula has the most intense reciprocal connection with the amygdala a structure associated with the experience and expression of emotion. Lesions to the insula lead to deficits in the ability to emotionally respond to painful or threatening stimuli (Ross et al., 1994). It is possible that in alexithymia the emotional information processed by the insula does not reach the left hemisphere and therefore cannot be communicated. This also helps to explain why alexithymics can identify emotional stimuli (because there is no interhemispheric language deficit), but do not have subjective feelings in response to these stimuli (because there is a deficit in the transference of nonlinguistic information from the right to the left hemisphere).

Secondary Alexithymia: Proactive Trauma As previously mentioned, there is much evidence to suggest that previously occurring psychological distress and trauma, or proactive trauma, is a factor in the etiology of alexithymia. The intensity of an emotion that can be tolerated by anyone at anytime is finite. People who have experienced emotional distress beyond a certain threshold often experience automatization, robotization, freezing and momentary paralysis, or even psychogenic death in extreme cases (Krystal, 1988). This going beyond the threshold *is trauma*, and it is associated with the degree to which one feels completely helpless in a certain situation. Therefore,

as one approaches this threshold, one is motivated to initiate activity to block or evade conscious recognition of their emotions.

The blocking of intense affect that is associated with alexithymia may actually serve an adaptive function in some situations. In environments that are emotionally painful or where emotional expression is potentially harmful, alexithymia may act as a buffer from the environment and may allow the individual to cope with an environment which the individual is unable to change (Davis-Dinsmore & Mallinckrodt, 1996). However, if the blocking of painful affect causes permanent and long-lasting change in one's own functioning, then a psychopathological state will ensue (Krystal, 1988). Once the affect barrier is in place, it is extremely difficult to remove because the individual is highly motivated to avoid re-experiencing the intense and negative affect that was associated with the traumatic event.

Secondary Alexithymia: Retroactive Trauma. Retroactive trauma is the fear of overwhelming psychological distress in the future. The individual believes they are completely helpless to avoid the anticipated negative affect. Alexithymia is found in patients who are diagnosed with terminal illnesses and medical conditions, such as cancer. Fukinishi, Saito, and Ozaki (1992) found that alexithymia increased in patients after the initiation of hemodialysis therapy. The researchers speculate that the increase in alexithymia may be due to the activation of denial-defense mechanisms against psychological distress engendered by the hemodialysis treatment.

Secondary Alexithymia: Social and Family Factors. Research has also shown that alexithymia is related to social factors. In a massive study of middle-aged men in Finland ($N = 2,682$), alexithymia correlated positively with lower levels of education,

less annual income, poor social support, and lower occupational status (Kauhanen et al., 1993). A possible explanation for these results is that all of these factors are associated with greater levels of psychological distress and that alexithymia develops as a self-protective coping mechanism. Thus, alexithymia may develop as a way to fend off the chronic negative affects associated with lack of status, lack of power, and social isolation in one's social environment.

Berenbaum and James (1994) found that certain childhood family environments correlate highly with alexithymia. The best predictor of alexithymia was having grown up in a home where little positive and supportive communication existed. Alexithymia rates were found to be high in people that grew up in family environments where family members were not permitted or felt unsafe expressing their feelings. Thus, this is another example where alexithymia is believed to result from exposure to a psychologically distressing environment. These findings can also be attributed to a lack of parental role models who expressed emotion and to a lack of practice identifying and describing one's feelings as a child.

Chapter 2

HOSTILITY

What is Hostility? Definition and Description

In the 1950's, Silvan Tomkins conducted a series of studies which examined emotion across different cultures. On the basis of this research, Tomkins identified nine primary affects, which he argues are innate in all human beings. Tomkins further argues that these affects are the primary motivators of human behavior and that they have survival value for both the individual and the community. Each affect has a nonlinguistic message attached to it, instructing the organism to behave very quickly in a rather specific fashion. According to Tomkins (1963), anger is triggered when the individual perceives that something bad is occurring. Anger is the affect which says, "Do Something", as a response to the aversive stimulus. For example, when an individual experiences hurt feelings, especially when those feelings are attributed to the actions of another, anger is likely to follow in response. Consequently, anger occurs primarily in an interpersonal context (Tsytarev & Grodnitzky, 1995).

Anger can be conceived of as either state anger or trait anger. State anger is a state or condition where an individual experiences physiological arousal, stereotyped body movements and facial expressions, and subjective feelings that vary in intensity from mild irritation or annoyance to intense rage and fury (Spielberger, Reheiser, & Sydeman, 1995). Trait anger refers to the frequency and intensity with which anger is experienced over time.

Hostility refers to trait anger and thus is considered to be a personality trait evidenced by cross-situational patterns of anger, possibly in combination with criminal

aggression (Tsytarev & Grodnitzky, 1995). Individuals who score high on measures of hostility and trait anger differ from low hostility individuals in three important ways. First, persons high in hostility are more likely to experience more frequent and intense anger in situations perceived as frustrating or annoying. Second, high hostility individuals perceive a greater number of situations, especially those of an interpersonal nature, to be anger provoking (Spielberger et al., 1995). Third, individuals high in hostility are more likely to respond in an uncontrolled manner. Spielberger et al. (1995) state that, "Although hostility usually involves angry feelings, this concept has the connotation of a complex set of attitudes that motivate aggressive behaviors directed toward destroying objects or injuring other people." Therefore, the distinction between anger and hostility is important and also is supported by the literature.

Closely related to anger and hostility is the concept of aggression. "While anger and hostility refer to feelings and attitudes, the concept of aggression generally implies distinctive or punitive behavior directed towards other persons or objects" (Spielberger, Jacobs, Russell, & Crane, 1983, p.16). Aggression is generally divided into two major types. Hostile aggression refers to aggressive behavior which is motivated by the urge to attack when one is feeling angry whereas instrumental aggression refers to goal directed behavior which is carried out for an extrinsic purpose when the behavior is not motivated by hostility (Spielberger et al., 1995). Dodge (1991) also makes a similar distinction between reactive and proactive aggression. Reactive aggression is characterized by high levels of hostility, rage, a hot temper, is triggered in response to perceived threat, and is similar to hostile aggression. Proactive aggression, like instrumental aggression, differs from reactive aggression in that it is associated with low arousal, a lack of hostility, and

object acquisition. Moyer (1976) uses the analogy of the behavior of a cat to differentiate reactive from proactive aggression. In reactive aggression, the cat arches its back, hisses and growls, its hair stands on end, and the cat may attack by scratching and biting. In proactive aggression the cat makes little emotional display as it slinks close to the floor while stalking a mouse.

Chapter 3

WHY MIGHT ALEXITHYMIA BE A RISK FACTOR FOR HOSTILITY?

Some of the research suggests that genetic factors account for a small percentage of the variance associated with the development of hostility (Miller, Smith, Turner, Guijarro, & Hallet, 1996), however the bulk of the research has identified that a history of physical abuse and exposure to family violence as a child is a major risk factor for the development of high levels of hostility (Hoglund & Nicholas, 1995; Leonard & Senchalk, 1996; Tolman & Bennett, 1995). Research studies indicate that a history of physical abuse as a child is a risk factor for marital aggression among male batterers (Else et al., 1993; Tolman & Bennett, 1990). Leonard and Senchak (1996) found that hostility is mediating factor in the relationship between history of family violence and marital aggression.

What is the process by which exposure to physical abuse or family violence as a child leads to high levels of hostility? Much of literature has focused on cognitive processes which are altered in hostile and reactive aggressive individuals in such a manner that hostile intentions are attributed to others in ambiguous social situations (Blackburn & Lee-Evans, 1985; Dill, Anderson, Anderson, & Deuser, 1997; Dodge, 1991; Feindler, 1995). Dodge has undertaken a program of research which shows that reactive aggression is associated with a history of trauma, abuse, and deprivation (Dodge, 1991), and that only reactive aggressive children show a hostile attributional bias (Crick & Dodge, 1996). Reactive aggressive boys displayed a bias toward attributing hostile intentions to peers. They also demonstrated deficits in accurately interpreting others' intentions, a deficit in linking interpretations to behavior responses, and hypervigilance

toward hostile cues. The hostile attributions are exacerbated under conditions of threat in reactive aggressive individuals, but not in controls (Dodge & Somberg, 1987).

According to Weiss & Dodge (1992), harsh discipline (beyond spanking or slapping) leads to this maladaptive social information processing style, which in turn leads to hostile aggression. Indeed, a hostile attributional bias predicts levels of hostile aggression (Crick & Dodge, 1994). Additionally, Dodge and Somberg's (1987) explanation for hostile attributional bias in aggressive boys is that they engage in preemptive processing, where a specific cue leads to abandoning formal logic and adopting a less sophisticated, more impulsive response pattern. In a relaxed condition, the hostile aggressive child uses logic to infer intent from facial expressions. Conversely, under threat, the aggressive child invokes a preemptive rule. This rule says that all provocations are to be met with a defensive and retaliatory response.

From this, it follows that cognitive interventions aimed at invalidating hostile beliefs should be effective in reducing levels of aggressive and externalizing behaviors. However, the link between change of social cognitions and changes in aggressive behaviors has not been demonstrated (Offord & Bennet, 1994). "To date, efforts to produce such effects have not been successful, or those that seem successful could not be replicated (Patterson, 1996, p. 86)." Patterson (1996) suggests that the reason for the lack of treatment effectiveness of aggression levels with cognitive approaches may be because the variance accounted for in the hostile attributional bias model is typically less than 10%. Therefore, it is important to identify other factors which may be involved in the development of hostility. One factor very well may be alexithymia.

High levels of alexithymia have been found in emotionally dysfunctional families (Lumley, Mader, Gramzow, & Papineau, 1996). Further, Berenbaum (1996) found that child abuse is related to alexithymia. An effect size of ($d = .58$) was found for the prediction of the inability to identify feelings from a history of child abuse. Berenbaum (1996) interprets his findings as indicating that alexithymia is associated with the degree to which individuals felt unsafe physically and emotionally during childhood. These studies establish that a history of child abuse predicts alexithymia.

In addition, much literature indicates that alexithymia is related to hostile behaviors. Clinical reports indicate high levels of alexithymia are typically associated with psychopathy and sociopathy (Sifneos, Apfel-Savitz, & Frankel, 1977; Sifneos 1991, 1994, & 1996). Sifneos et al. (1977) state that this may be related to an increased tendency for alexithymics to act impulsively and to be action-oriented. Krystal (1982) noted that alexithymics have violent bursts of emotional behavior, but are unaware of the feelings expressed during such outbursts. Hofeller (1982) states that male batterers tend to lack verbal communication skills. Yelsma (1996) found that both male and female perpetrators of marital violence were significantly more alexithymic than nonabusive individuals.

A number of authors have suggested that developing a greater and more accurate understanding of one's feelings is important in the treatment of hostile behaviors. In a review of the literature on male batterers, Tolman and Bennett (1990) conclude that developing a greater awareness of feelings may be important for the treatment of these individuals. Feindler (1995) notes that aggressive children and adolescents show an excess of nonverbal, direct action-oriented solutions in response to social problems

which is due to the inability to accurately identify and label one's feelings. "Aggressive children have a distorted affect-labeling process, and are inclined to label any situation that elicits physiological arousal as an anger situation, rather than consider it as a sadness, fear, guilt, or anxiety situation" (Feindler, 1995, p. 185). Consequently, treatment of hostile aggressive children should consist of helping the child to label arousal properly. Similarly, Marohn (1992) identifies alexithymia as a factor contributing to adolescent violence. Accordingly, treatment should include increasing the understanding of affects so one can understand oneself better and communicate with others better. Marohn (1992) argues that properly labeling and communicating the feeling of anger helps to convert violent motor behavior to verbal behavior.

Berkowitz (Finman & Berkowitz, 1989) has developed a theory on the cognitive processes associated with hostility.

Employing depth of processing notions, Berkowitz suggests that the rudimentary feelings initially activated by an unpleasant event can be affected or even transformed by additional cognitive processing involving appraisals, attributions, or other interpretations. This higher order, controlled processing does not always operate but has to be activated by an incentive to think more extensively and "deeply" about the available information (Harkness, DeBono, & Borgida, 1985). Once activated, however, this processing can differentiate the initial experience, intensify or suppress the feelings that come into focal awareness, determine what ideas come to mind, and regulate the overt displays of feelings and behavior. This controlled processing thus influences the extent to which the negative affect generated anger, hostility, and instigation to aggression are revealed openly (Finman & Berkowitz, 1989, p.72).

Therefore, in order to activate these cognitive regulatory mechanisms, one must pay attention to one's feelings in order to increase the awareness of these feelings.

Research by Finman and Berkowitz (1989) supports this argument. The greatest display of overt hostility occurred when participants were distracted so as to minimize their

awareness of their feelings. Further research indicates that awareness of hostility and aggression reduces hostile feelings, whereas not being aware of expressed hostility maintains hostile feelings (Caprara, Passerini, Pastorelli, Renzi, & Zelli, 1986).

Therefore, it seems likely that alexithymia would be a risk factor for the development of hostility and the expression of hostility related behaviors and that research looking at the relationship between these two constructs may very useful and instructive.

Chapter 4

ALEXITHYMIA AND HOSTILITY IN JAMAICAN CULTURE

Hostile and aggressive behaviors are currently widespread and constitute severe social problems in Jamaica. The Jamaica Constabulary Force (1998), the police force in Jamaica, reports that in January of 1998 alone there were 74 homicides in Jamaica. At this rate, Jamaica will have nearly 900 homicides in 1998, which is an extremely high rate, considering the population of Jamaica is only 2.5 million people (Barrow, 1996). Perhaps even more distressing, the number of homicides associated with domestic violence have skyrocketed 58% from January 1997 to January 1998 (The Jamaica Constabulary Force, 1998). However, the high levels of violence and aggression found in Jamaica have not yet been the focus of empirical research. Clearly, it is important to discover the etiological factors involved in these behaviors, so that they can be effectively prevented and treated. Two factors that may play major roles in the development of violence in Jamaica are alexithymia and hostility.

Social and family factors may play a major role in the development of alexithymia among Jamaican adults. As children, Jamaicans are taught to be quiet and stay out of the way of adults (Barrow, 1996). Thus, starting at an early age there is a lack of verbal communication in the typical Jamaican home. This also includes the expression and sharing of feelings with other family members. In addition, Jamaican youth are reinforced for passive and submissive behaviors (Lambert, Weisz, & Knight, 1989). Therefore, Jamaicans may learn to inhibit expression of feelings as children and may continue to suppress their feelings as adults.

Also, child discipline is very harsh and severe in Jamaica. Children in Jamaica are commonly beaten and flogged for such things as crying too much and interrupting or talking back their parents (Barrow, 1996). What typically happens in Jamaican families is the mother, who is generally the primary caregiver, loses her temper and hits the child with a stick, strap, or a belt. The father, who tends to act in a more peripheral role in the Jamaican family, generally uses severe threats to discipline children. However, when Jamaican fathers do physically punish their children, the beatings tend to be very severe (Barrow, 1996). Also, Jamaican teachers tend to use severe corporal punishment within the classroom (M. C. Lambert, personal communication, March 27, 1998). Jamaican teachers commonly use straps and belts to discipline students and bruising often occurs. In one case, a Jamaican child was beaten with a belt so severely by a teacher that he lost an eye.

Therefore, the disciplining practices of the Jamaican family and Jamaican schools may give rise to both alexithymia and hostility. Alexithymia may develop in Jamaican children because they are discouraged from and feel threatened by expressing their feelings in their family environments. In addition, a history of severe child disciplining practices and the potential for child abuse predicts alexithymia (Berenbaum, 1996). A history of physical abuse and exposure to family violence as a child is also a strong predictor of hostility. In fact, history of family violence predicts marital aggression and this relationship is mediated by hostility. This provides an explanation for a potential link between Jamaican child disciplining practices and the high levels of domestic violence found in Jamaica. Also, because hostile attributions increase under threatening conditions, the fear of harsh physical punishment experienced by many Jamaican

children may result in increased levels of hostility (Dodge & Somberg, 1987). Barrow (1996) points out that many Jamaican boys are abandoned by their families because they are uncontrollable. Perhaps this is an illustration of children who become more hostile because they feel threatened living with their families. Therefore, it is very reasonable to speculate that conditions exist within Jamaican society which are risk factors for the development of pathological levels of alexithymia and hostility.

There are three main hypotheses as to why child beating is so common in Jamaica (Barrow, 1996). First, since most Jamaicans were African slaves taken by the British, harsh child treatment may originate in the harsh treatment African-Jamaicans were exposed to as slaves. Second, mothers and fathers may displace their frustration and anger towards their children. Low SES families tend to experience greater levels of stress and thus may be expected to exhibit more severe child discipline practices. For example, the greater of an the economic burden the children are on the family, the more severe their discipline tends to be (Barrow, 1996). Therefore, higher rates of both alexithymia and hostility may be associated with low SES in Jamaica.

Religious background and practices may also contribute to physically harsh methods of child discipline, resulting in alexithymia. Jamaicans are highly religious (Barrow, 1996) and most identify themselves as Christians who follow the teachings of the Bible. Moreover, the Bible warns followers if they spare the rod and then they will spoil the child. Thus, pithy folk “wisdom” may unintentionally be responsible for increased severity of child discipline practices and subsequent increases in violence.

In addition to differences in alexithymia and hostility by SES, there also may be gender differences associated with these variables in Jamaica. Research on Jamaican

children indicates that boys have greater numbers of externalizing disorders, while girls have greater numbers of internalizing disorders (Lambert, Knight, Taylor, & Achenbach, 1996; Lambert, Knight, Taylor, & Newell, 1993). This seems to be a consistent finding across cultures (Lambert et al., 1996). Because externalizing behaviors are harshly rebuked in Jamaica, it is likely that boys are physically punished more severely than girls. Also, while Jamaican girls are encouraged to express their feelings, Jamaican boys are discouraged from demonstrating and expressing their feelings (Lambert et al., 1997, July). Because of these childhood experiences, it is likely that Jamaican males have higher alexithymia and hostility levels than females.

Currently, most studies on Jamaican psychopathology focus on comparing child behavior problems in Jamaica with child behavior problems in other countries. Lambert and his colleagues have undertaken a systematic program of research which indicates that that while children in Jamaica and the United States have about the same total problem levels, adolescents (ages 12 - 18) and clinic referred children in Jamaica tend to have greater numbers of internalizing versus externalizing behavior disorders as compared with their counterparts in the United States (Lambert, Lyubansky, & Achenbach, in press; Lambert et al., 1989). Lambert et al. (1989) suggest that this pattern occurs because the British and African traditions which currently influence Jamaican culture both are more intolerant of externalizing and undercontrolled behaviors, whereas in the United States, a certain degree of nonconformity and brashness is expected.

The previously discussed distinction between reactive/hostile aggression and proactive/instrumental aggression can help us to understand the paradox of high rates of violent crime in Jamaica, despite a culture that is very disapproving of undercontrolled

and externalizing behaviors. As previously mentioned, proactive and instrumental aggression arise from operant conditioning. Proactive and instrumental aggression develop when an individual has a history of being rewarded for the use of aggressive behaviors to achieve goals and obtain objects (Dutton, 1995). Therefore, proactive and instrumental aggression should be culturally sensitive; levels of proactive and instrumental aggression should vary to the degree that they are suppressed or facilitated by the culture.

Conversely, reactive and hostile aggression does not develop from operant conditioning, but rather is influenced more by rage associated with physical abuse, shame, and abandonment (Dutton, 1995), and is therefore less influenced by the cultural reinforcement of desired behaviors. Instead, hostile aggression is related to the frequency and severity of child abuse in a culture. It is likely that hostile/reactive aggression is high in Jamaica, because of the harsh and severe child discipline practices which occur there. This is consistent with statistics from Jamaica which suggest that aggressive behavior associated with violent crime is much more of the hostile and reactive type as opposed to the instrumental and proactive type (The Jamaica Constabulary Force, 1998). Thus, the attempt by Jamaican parents to reduce externalizing behaviors may unintentionally have the opposite effect and increase externalizing behaviors. The methods used to discipline Jamaican children are so severe that they may inadvertently increase hostile aggression by way of increasing alexithymia. Because there is good reason to suspect that alexithymia and hostility play a role in the etiology of the high rates of violent crime and homicide that currently exist in Jamaica, it is important to review the literature to see what studies have been done in these areas.

Chapter 5

PREVIOUS STUDIES THAT HAVE EXAMINED THE RELATIONSHIP BETWEEN ALEXITHYMIA AND HOSTILITY

Currently, very few studies exist which examine Jamaican adult psychopathology (Lambert et al., 1997, July). The studies on adult Jamaican psychopathology which do exist usually look at the experiences of Jamaican immigrants in other countries (Hohn, 1996). No studies currently exist in the literature which examine alexithymia in adult Jamaicans. A recent study found that confusion about one's feelings predicted elevated levels of psychopathology in a sample of adult Jamaicans (Lambert et al., 1997, July). Much more research needs to be done in all areas of Jamaican adult psychopathology, and it seems especially important to focus on alexithymia in Jamaica because it's development may be facilitated by the culture.

Relatively few studies have examined the relationship specifically between alexithymia and hostility. Several studies conducted in the 1980s yielded conflicting results, probably because the methods used to assess hostility and alexithymia in these studies have poor psychometric properties. For example, Keltikangas-Jarvinen (1982) used the TAT and the Rorschach to assess both hostility and alexithymia. She concluded that hostility was lower in alexithymics versus controls. Conversely, a Finnish study found alexithymia and hostility were positively correlated (Julkunen, Hurri, & Kankainen, 1988). These researchers used the Rorschach to assess both alexithymia and hostility. A member of these earlier studies applied the Gotschalk-Glaser method content analysis to participants responses to measure both alexithymia and hostility. Because the Gottschalk-Glaser method is not psychometrically sound (von Rad, Drucke, Knauss, & Lolas, 1979),

it should not be surprising all three studies using this method came to different conclusions. One study found a positive correlation between alexithymia and hostility (Ten Houten et al., 1985), another found a negative correlation (von Rad et al., 1979), while a third found no differences in hostility between high and low alexithymia groups (Taylor & Doody, 1995).

A more recent study by Fukunishi (1994) is the only study in the literature which uses relatively sound psychometrically measures of both alexithymia and hostility. In this study of Japanese college students ($N = 215$), the Toronto Alexithymia Scale (TAS) was used to assess alexithymia and the MMPI Hostility scale was used to assess hostility. The results of this study indicate a significant and positive relationship between alexithymia and hostility ($r = .33, p < .01$). The author concludes that alexithymia may be an important risk factor for the development of hostility. A major limitation of this study was that the TAS-26 was used as opposed to the newer version, the TAS-20 (Bagby, Parker, & Taylor, 1994). The TAS-26 consisted of several items that have little apparent relationship to emotional introspection, for example, “daydreaming is a waste of time,” “I like to let people know where I stand on this,” and “Its not enough for me that something gets the job done: I need to know why and how it works.” A newer 20 item version of the TAS has been constructed because of the poor psychometric properties of the TAS-26. The TAS-20 is currently the most psychometrically sound measure of alexithymia in existence. Therefore, I propose a study examining the relationship between alexithymia and hostility using the newer and updated version of the Toronto Alexithymia Scale, the TAS-20, should be conducted to add to the knowledge base.

Hypotheses

This study will have four key purposes. Since no study currently exists where the TAS-20 is used to measure alexithymia in relation to hostility, this study aims to use the TAS-20 to study alexithymia and hostility. Second, the study will be conducted with a Jamaican population because of the alarmingly high frequency of violence that currently exists in the country and the current dearth of research regarding psychopathology among adult Jamaicans. I predict that a positive correlation between alexithymia and hostility will be found. Third, because low SES children may be exposed to harsher disciplinary practices than higher SES children, and because severe corporal punishment is related to alexithymia, I predict a negative correlation between SES and alexithymia. Fourth, I predict that men are more likely to have high alexithymia scores than women because Jamaican boys may be treated more harshly than girls and because Jamaican boys are dissuaded from expressing their feelings more than girls.

Chapter 6

METHOD

Research Participants

We sampled 223 Jamaican men ages 15 to 64 ($M = 29.4$, $SD = 8.3$) and 129 Jamaican women ages 17 to 67 ($M = 30.5$, $SD = 8.7$). A random sample of participants was recruited from persons visiting a large hospital in Kingston and from other government agencies in Jamaica. Measures of SES such as income which are commonly used in North America do not work in Jamaica because Jamaicans have several sources of non-monetary income that they do not report (Lambert et al., 1997, July). Accordingly, socioeconomic status (SES) was determined by looking at what appliances and material goods one has in one's home (e. g., quality of toilet facilities, where water is obtained, quality of indoor lighting, type of stove, etc.). Because SES has been found to be negatively correlated with psychopathology (Dohrenwend, B. P. et al., 1992), we regressed our total SES ($M = 16.2$, $SD = 3.2$) score and several other potential indices of SES onto the Global Severity Index of the Brief Symptom Inventory (BSI; Derogatis, 1993). Results indicated that the formula for calculating SES in our Jamaican sample was predictive of the global severity of psychopathology as other measures of SES have done in other populations; higher SES scores predicted lower global psychopathology scores.

Measures

Toronto Alexithymia Scale (TAS-20). The TAS-20 is a 20-item self-report questionnaire designed to assess alexithymia (Bagby, Parker, et al., 1994). The 20 items are rated on a 5-point scale, where 1 = strongly disagree and 5 = strongly agree. The

TAS-20 consists of the following three subscales: 1) difficulty identifying feelings, i.e., “I am often confused about what emotion I am feeling.”, 2) difficulty describing feelings, i.e., “It is difficult for me to reveal my innermost feelings, even to close friends.”, and 3) externally oriented thinking, i.e., “I prefer talking to people about their daily activities rather than their feelings”. The internal consistency reliability for the three factors were found to be .78, .75, and .66 respectively in a large sample ($N = 965$) of Canadian undergraduates. The test-retest reliability is .77 for the total scale score with a 3-week interval in between testing was found using a separate and smaller sample ($N = 72$) of Canadian college undergraduates. The TAS-20 also demonstrates good convergent validity. In a sample of ($N = 85$) Canadian undergraduates, the TAS-20, as predicted, was negatively correlated with measures of psychological mindedness ($r = -.68, p < .01$), need for cognition ($r = -.55, p < .01$), openness for experience ($r = -.49, p < .01$), and positive emotions ($r = -.36, p < .01$) and positively correlated with a measure of neuroticism ($r = .27, p < .01$) (Bagby, Taylor, & Parker, 1994). Using this same sample, the TAS-20 was found to have adequate discriminant validity as it was not significantly related to either measures of agreeableness ($r = .09$) or conscientiousness ($r = -.21$) (Bagby, Taylor, et al., 1994).

Brief Symptom Inventory (BSI) Hostility Dimension. The BSI is a self-report symptom inventory with 53 items designed to assess psychopathology. Each item is rated on a five point Likert scale from 0 to 4, where 0 indicates no distress and 4 suggests extreme distress. The BSI is currently widely used for both research and clinical assessment with such diverse topics as cancer patients, psychoneuroimmunology, pain assessment and management, therapeutic intervention, HIV research, hypertension, and

student mental health (Derogatis, 1993). The BSI has a total of nine symptom dimensions of which one is Hostility. The other eight dimensions include: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Phobic Anxiety, Paranoid Ideation, and Psychoticism. The internal consistency reliability for the nine factors were found to be very good, ranging from .71 on the Psychoticism dimension to .85 on the Depression dimension in a sample ($N = 719$) of psychiatric outpatients (Derogatis, 1993). The internal reliability for the Hostility dimension was .78. The BSI also demonstrates excellent test-retest reliability. The stability coefficient for the Global Severity Index was found to be .90, and coefficients for the nine BSI dimensions ranged from .69 for the Somatization dimension to .91 for the Phobia dimension, in a sample of nonpatients ($N = 60$) tested across a two-week interval. The Hostility dimension of the BSI had a test-retest coefficient of .81. The dimensions of the BSI also show impressive convergent validity with major measures of psychopathology, including the MMPI and the SCL-90-R Derogatis, 1993). In a sample of symptomatic volunteers ($N = 209$), the Hostility dimension of the BSI was positively correlated ($r = .42$) with the Depression scale of the MMPI.

The BSI Hostility dimension has five items which include: “Feeling easily annoyed or irritated”, “Temper outbursts that you could not control”, “Having urges to beat, injure, or have someone”, “Having urges to break or smash things”, and “Getting into frequent arguments”. The BSI Hostility subscale was chosen as the measure of hostility in this project for several reasons. First, it is very quick and easy to administer, which was necessary for data collection. Second, the BSI has very solid psychometric

properties. Finally, the BSI is easily understood by Jamiacans, and therefore it could be administered without revision.

Method of Data Analysis

First, because both the TAS-20 and the BSI were normed using North American samples, I will first conduct Confirmatory Factor Analyses (CFA) on both measures to determine if their factor structure is the same in Jamaica as in North America. The measures must meet all of the following goodness of fit criteria in order for the original factors to be retained. First, the Goodness of Fit Index (GFI) must exceed .90. Second, the chi-square must be non-significant, ($p > .05$). Third, the Root Mean Square Error of Approximation (RMSEA) Estimate, which is similar to the mean square error in a regression, must be significant, ($p < .05$). If the structure of the measures is the same for the Jamaican sample, then these factors will be used in further analyses. If the North American factors are not replicated in the Jamaican sample, then Exploratory Factor Analyses (EFA) will be performed to determine item loadings on the Jamaican factors. Principle components analyses would be performed on both the TAS-20 and the BSI. The criteria for retention of factors will be an eigenvalue $> \text{or} = 1.0$. These factors will then be rotated to a varimax solution.

Second, I will test for main effects of age, gender, and SES by conducting a wave of simultaneous regressions that controls for the effects of each variable, using each factor of the TAS-20 as a criterion variable to be considered separately. This will allow me to test if, as predicted, alexithymia is negatively correlated with SES and if males score higher on alexithymia than females. Then I will test if there are interactions between the predictor variables of age, SES, and gender and the alexithymia factors,

which are the criterion variables. This will allow me to test the effects of the predictor variables as well as control them.

Third, a second wave of regressions will be conducted where age, SES, gender, and the alexithymia factors will be the predictor variables which will be regressed onto the criterion variable of hostility. This will test our main hypothesis to see if alexithymia and hostility are positively correlated and it will also allow for detection of any direct relationships between SES, gender, and age. The predictor variables will be tested for interactions, and predictor variables which do interact with alexithymia will be entered into a stepwise regression to control for them.

Chapter 7

RESULTS

Data Analyses

Confirmatory Factor Analysis. Confirmatory Factor Analyses were performed on both the TAS-20 and the BSI to determine if the factor structure of these instruments is the same in Jamaica as in North America. In order for the North American factors to be replicated in the Jamaican sample, all three of the following goodness of fit criteria must be met: the GFI must exceed .90, the chi-square must be non-significant ($p > .05$), and the RMSEA Estimate must be significant ($p < .05$) (Loehlin, 1992; McDonald, 1985).

The results indicate that neither the factor structure of the TAS-20 nor the BSI was replicated in the Jamaican sample. For the TAS-20, only one of the three criteria for goodness of fit was met, as the GFI was .91, whereas the chi-square was significant ($p < .0001$), and the RMSEA was not significant ($p < .06$). None of the criteria for goodness of fit was met by the BSI: the GFI was .77, the chi-square was significant ($p < .0001$), and the RMSEA was not significant ($p < .07$).

Exploratory Factor Analysis. Because the North American factors/dimensions of both the TAS-20 and the BSI were not replicated, exploratory factor analyses were performed to determine item loadings on the Jamaican factors. Principal components analyses were performed on both the TAS-20 and the BSI to identify their factor structures for Jamaicans. An eigenvalue ≥ 1.0 was used as criteria to determine how many factors to retain. The factors were then rotated to the varimax orthogonal criterion.

For the TAS-20, only one factor with an eigenvalue of 1.0 or greater emerged. Twelve items with factor loadings of .30 or above were identified (see Table 1). Most of

these items are related to a confusion or lack of understanding of one's own feelings or bodily sensations. Therefore, this factor was labeled Confusion About Feelings.

Six factors with an eigenvalue of 1.0 or greater emerged from the BSI. An orthogonal varimax rotation was performed on the 6 factors and the factors were comprised of items that had the greater loading on each factor. One of these 6 dimensions was a new hostility factor, which included the original 5 hostility items and three additional items (see Table 2). The three new items on the hostility dimension are: "feeling others are to blame for most of your troubles", "having to check and double check what you do", and "feeling so restless you couldn't sit still".

First Wave of Regressions

Gender, age, and SES were used as predictor variables and Confusion About Feelings was criterion variable in the first wave of simultaneous regressions (see Table 3). As predicted, Jamaican males experienced significantly higher Confusion About Feelings than Jamaican females ($p < .02$). Also as hypothesized, SES negatively predicted Confusion About Feelings ($p < .0003$). Thus, persons of low SES had high ratings on Confusion About Feelings. However, a significant three-way interaction between gender, SES, and age was found ($p < .004$). The three-way interaction was analyzed by breaking it down into three separate two-way interactions. All three of these interactions were significant, including gender X age ($p < .04$), SES X age ($p < .02$), and SES X gender ($p < .0001$). The one-way components of SES and age were not examined because both are continuous variables. However, the one-way components of both SES X gender, and age X gender were analyzed. No significant effects were found in the age X gender interaction. In the SES X gender interaction, no significant effects were found

for females ($p < .18$), however males with lower SES had significantly higher levels of Confusion About Feelings ($p < .0009$).

Second Wave of Regressions

A second wave of regressions was conducted where gender, SES, age, and Confusion About Feelings were the predictor variables and the new Hostility dimension was the criterion variable (see Table 4). As predicted, Confusion About Feelings significantly positively predicted Hostility ($p < .0001$). Neither gender, SES, nor age were significant predictors of hostility. However, a significant three-way interaction between these variables and hostility was found ($p < .03$). The three-way interaction was then broken down into three separate two-way interactions. There was a significant interaction between gender and age ($p < .02$) and between SES and age ($p < .03$), while no interaction was found between gender and SES. The two-way interaction between age and SES could not be examined because both are continuous variables. Further analyses of the two-way interaction between gender and age indicated that younger females experienced higher levels of hostility than older females ($p < .02$), whereas age did not have a significant impact upon hostility in males.

Chapter 8

DISCUSSION

The main hypothesis, which argued that high alexithymia levels predict high levels of hostility in Jamaican adults was supported, as Confusion About Feelings significantly predicted Hostility ($r = .30$). This finding supports the notion that a lack of awareness of one's feelings leads to an increase in hostility and is consistent with research that indicates overt hostility increases as one pays less attention to their feelings (Finman & Berkowitz, 1989). Other research indicates that awareness of expressed hostility reduces hostile feelings, but that lack of awareness of one's own expressed hostility maintains hostile feelings (Capara et al., 1986). Since alexithymia is the inability to identify or describe one's feelings, these individuals lack the ability to introspect their hostile feelings. As a result, they are more likely to act out the hostile feelings than employ cognitive mechanisms to help self-regulate hostile behaviors. The greater the awareness of one's feelings, especially anger and hostility in this case, the more they have the ability to modulate and control them (Marohn, 1992).

A second hypothesis predicted that Jamaican males would have higher alexithymia levels than Jamaican females. This hypothesis was supported, as Jamaican males reported experiencing significantly higher Confusion About Feelings than Jamaican females. There are two potential explanations for this finding, both based on differences in child rearing practices of boys and girls in Jamaica. First, Jamaican boys are discouraged from expressing and demonstrating their feelings while Jamaican girls are encouraged to express their feelings (Lambert et al., 1997, July). Second, it is likely Jamaican boys are punished more severely than Jamaican girls because Jamaican boys

exhibit greater numbers of externalizing behaviors than Jamaican girls (Lambert, Knight, Taylor, & Achenbach, 1996; Lambert, Knight, Taylor, & Newell, 1993), and externalizing behaviors tend to be punished more severely and harshly than internalizing behaviors. Being the recipient of harsh physical punishment as a child is both a risk factor for the development of alexithymia (Berenbaum, 1996), and hostility (Hoglund & Nicholas, 1995; Leoneard & Senchalk, 1996; Tolman & Bennett, 1995). Thus, Jamaican boys are exposed to more risk factors for the development of alexithymia and hostility than are Jamaican girls.

The third hypothesis argued that low SES scores should predict high levels of alexithymia. This hypothesis was also supported, as individuals with lower SES scores reported higher Confusion About Feelings than individuals of high SES. Although this study does not test for SES, stress, and punishment effects, it might support the notion that lower SES Jamaican families employ more physically harsh methods of child disciplining than high SES Jamaican families because low SES parents experience greater levels of stress (Barrow, 1996). This stress is then displaced by the low SES parent onto their children in the form of severe corporal punishment, which in turn leads to high alexithymia scores.

One should interpret this finding with caution, as the SES effect was moderated by an SES X gender interaction. This finding indicates that SES predicted high alexithymia levels only in males, and not in females. As previously noted, Jamaican boys are much more likely to be the recipients of severe corporal punishment as compared to Jamaican girls. The low SES Jamaican parent is more likely to experience greater levels of stress. By virtue of a culture that endorses corporal punishment, especially in boys,

lower SES parents are more likely to use physically harsh disciplinary practices than high SES Jamaican parents when they discipline their sons. The interaction of these two factors helps to explain why only boys are at an increased risk for alexithymia in low SES Jamaican families.

While the results from this study are intriguing, they must be interpreted with caution because of the limitations of this study. First, both of the measures used in the study relied on the self-report of participants. Research has shown that self-report measures fail to distinguish between the psychologically healthy and defensive deniers (Shedler, Mayman, & Manis, 1993). This is an especially salient issue because individuals who experience high in alexithymia are likely to have difficulty introspecting and self-reporting accurately. Second, while the TAS-20 and the BSI were tested for equivalent factor structures in the Jamaican sample and were subjected to EFA's when equivalence was refuted, the original items were generated to reflect the concerns of North Americans. The measures were not originally designed for Jamaicans, and thus they may lack the breadth of emotions, experiences, and problems experienced by Jamaicans. Third, the sampling was limited to Kingston and the surrounding areas. Thus, these results may not represent the entire country of Jamaica. Fourth, because the study is a cross-sectional design, age effects cannot be solely attributed to developmental processes, as cohort effects cannot be ruled out as a confounding variable.

Further research is recommended to overcome the shortcomings of this study. In order to get a better understanding of the influence of age on alexithymia across time, future studies should employ a longitudinal design. Sampling in future studies should be conducted more widely throughout Jamaica, so as to ensure a more representative sample

of all of Jamaica. It would be helpful to utilize measures of alexithymia and hostility that do not rely on self-report. Perhaps alexithymia could be measured by using emotion provoking pictures or slides and asking research participants to describe their feelings in response to these stimuli. Hostility could be measured by depicting ambiguous social situations on videotape and asking for participants' interpretations of the motives of the actors in a manner similar to Dodge's studies (Dodge & Somberg, 1987). Also, the items for these measures should be specifically generated from the Jamaican population in an exploratory manner and then exploratory factor analyses should be conducted to identify the underlying Jamaican factor structures of these new Jamaican alexithymia and hostility measures.

Despite these limitations, this study makes several valuable contributions to our understanding of the relationship between alexithymia and hostility. It suggests that addressing alexithymia in Jamaicans may be an important step in reducing their hostility levels. For example, teaching adult Jamaicans with alexithymia how to correctly identify and label their hostile feelings may help them to gain control over and reduce their frequency of hostile and violent behaviors. This step may be especially important in Jamaica where the rates of hostile and violent behavior are extremely high (Jamaica Constabulary Force, 1998).

Additional findings from this study indicate that lower SES Jamaicans and especially lower SES Jamaican males are at greater risk for developing high levels of alexithymia. Further, results indicate that low SES predicted high alexithymia levels only in Jamaican males. Since other research (Barrow, 1996) suggests that lower SES parents utilize harsh disciplinary practices and these practices in turn result in higher

alexithymia scores, interventions aimed at improving parenting skills may be appropriate. Also important is stress management intervention for lower SES parents who are prone to use severe punishment, especially when they discipline boys.

In summary, this study provides important contributions to our knowledge of alexithymia, and hostility and violence in Jamaica. This was the first study conducted using the TAS-20 to study the relationship between alexithymia and hostility. It was found that alexithymia has a moderately strong effect on hostility in Jamaican adults. Additionally, the study suggests that low SES, Jamaican males are at greatest risk for developing pathologically high levels of alexithymia. Despite its limitations, this study serves as an important foundation for future research on alexithymia and hostility in Jamaica.

APPENDICES

APPENDIX A

Table 1

Item Loadings of the TAS-20 onto the Confusion About Feelings Factor

TAS-20 Item	Item Loading
1. I am often confused about what emotions I am feeling.	.62*
2. It is difficult for me to say how I feel.	.60*
3. I have physical feelings that even doctors don't understand.	.52*
4. I am able to talk about my feelings easily.	.23
5. I prefer to think through problems rather than just talk about them.	.02
6. When I am upset, I don't know if I'm sad, frightened, or angry.	.41*
7. I am often confused about sensations in my body.	.67*
8. I prefer to just let things happen rather than to understand why they turned out that way.	.32*
9. I have feelings that I don't understand.	.62*
10. Being in touch with your feelings is a must.	.12
11. I find it hard to say how I feel about people.	.46*
12. People tell me to say more about my feelings.	.43*
13. I don't know what's going on inside me.	.46*
14. I often don't know why I am angry.	.49*
15. I prefer talking to people about what they are doing than about how they feel.	.22

Table 1 (cont'd)

16. I prefer to watch “light” entertainment shows rather than serious shows.	.13
17. It is difficult for me to tell my innermost feelings, even to close friends.	.41*
18. I can feel close to someone, even when there is no talking.	.10
19. I find looking into my feelings helps me solve my personal problems.	.09
20. Looking for hidden meanings in movies or plays takes away the fun.	.26

Values greater than 0.3 have been flagged by an ‘*’.

APPENDIX B

Table 2

Item Loadings of the Hostility Dimension of the BSI from Principle Components

Analysis

Hostility Dimension Item	Item Loading
<hr/>	
4. Feeling other people are to blame for most of your troubles.	.42
6. Feeling easily annoyed or irritated.	.56
13. Temper outbursts that you could not control.	.52
26. Having to check and double-check what you do.	.51
40. Having urges to beat, injure, or harm someone.	.58
41. Having urges to break or smash things.	.58
46. Getting into frequent arguments.	.52
49. Feeling so restless you couldn't sit still.	.49

APPENDIX C

Table 3

Summary of First Wave of Simultaneous Regression Analyses (standardized beta weight) and Interactions for Independent Variables Predicting scores of the Confusion About Feelings (CAF) Factor

Predictors	<u>B</u>	<u>SE-B</u>	B	p
Gender	-2.251	.995	-.117	.024*
Age	.007	.056	.007	.899
SES	-.542	.150	-.186	.0003***
Interactions				
Gender X Age X SES	-.004	.973	-.149	.004**
Gender X Age	-.049	.023	-.107	.0001***
Gender X SES	-.192	.047	-.200	.0001***
Age X SES	-.006	.003	-.120	.02*

*p<.05 **p<.01 ***p<.001

APPENDIX D

Table 4

Summary of Second Wave of Simultaneous Regression Analyses (standardized beta weight) and Interactions for Independent Variables Predicting scores of the Hostility Dimension of the BSI

Predictors	<u>B</u>	<u>SE-B</u>	B	p
CAF	.172	.030	.297	.0001***
Gender	.079	.573	.007	.891
Age	-.084	.032	-.132	.009**
SES	.125	.087	.074	.151
Interactions				
Gender X Age X SES	-.002	.001	-.110	.034*
Gender X Age	-.031	.014	-.118	.023
Gender X SES	-.021	.028	-.037	.460
Age X SES	-.003	.002	-.113	.030*

*p<.05 **p<.01 ***p<.001

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