

RACIAL PROFILING AS A CONSEQUENCE OF THE
USE OF AN AFFECT HEURISTIC

MARK W. WARREN



Racial Profiling as a Consequence of the Use of an Affect Heuristic

by

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Abstract

The current study was an attempt to establish a link between the use of an affect heuristic and racial bias in the context of a decision-making task. It was hypothesized that participants' ratings of criminality related to an alleged perpetrator of a crime, at least for participants under time-pressure, would be determined by the perpetrator's race and that this would, in turn, depend on the level of affect aroused by the crime. Two hundred participants (136 females and 64 males) read one of four possible versions of an experimenter-constructed newspaper article describing a crime and were asked to make several criminality judgements about the perpetrator. The four versions of the newspaper article differed such that the race of the alleged perpetrator (black vs. white perpetrator), as well as the affect associated with the impact on the victim (strong negative affect vs. weak negative affect) were manipulated. Also, in order to explore the possibility of heuristic information processing, half of the participants were asked to complete the experimental task before a given deadline expired while the remaining participants were given as much time as need in order to complete the experimental task. The results of the study indicate that, despite evidence for the use of an affect heuristic by participants who were under time-pressure, contrary to predictions the alleged perpetrator was rated no more unfavorably on the criminality measures when his race was black than when his race was white. The implications of the current study regarding racial profiling are discussed.

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Racial Profiling as a Consequence of the Use of an Affect Heuristic

In order to engage in effective law enforcement activities, law enforcement agents must be vested with substantial discretionary decision making powers. Specifically, law enforcement officials are responsible for deciding whom to investigate for possible criminal activity and whom to ignore, thereby defining the parameters of who enters the criminal justice system. With such substantial discretionary powers, questions have been and will continue to be raised as to whether law enforcement officials exercise their discretion fairly and without discrimination (Batton & Kadleck, 2004; Cleary, 2000). In this regard, racial disparities in the justice system have long been of interest to researchers who have documented disproportionate numbers of racial and ethnic minorities at virtually every level of the justice system (Harris, 1999). Moreover, the most recent issue that has attracted scholarly attention with respect to race is racial profiling, a term generally used to describe situations in which law enforcement officials use race or ethnicity as an indicator of criminal propensity. However, although there is an ever-increasing literature demonstrating the existence of racial profiling, very little theory-based empirical research has been conducted that contributes to an understanding of how and why it occurs.

The purpose of the present research was to test a theoretical decision-making model, which might be applied to a criminal setting in order to explain the occurrence of racial profiling. Before the present research is described in more detail, a review of the current literature on racial profiling is provided in order to provide a context for the

current laboratory experiment.

Racial Profiling

In order to investigate the process of racial profiling it is necessary to define what this concept is, since any analysis concerning the nature, scope or accuracy of allegations of racial profiling will depend largely on how it is defined. The term profiling generally refers to the police practice of viewing certain characteristics as indicators of criminal activity. Profiling as a law enforcement technique began in the 1950's and can be divided into two categories: reactive and proactive (Heumann & Cassak, 2001). Reactive profiling involves applying concepts of behavioral science to aid investigations in solving certain types of crimes, such as murder, arson, robbery, and rape. This type of profiling is reactive in the sense that it involves using specific known characteristics of a suspect, often obtained by victims' and witnesses' descriptions, in order to launch an investigation of a specific crime. Such a technique is considered to be effective in investigating crime and so this type of profiling typically does not provoke much controversy. On the other hand, proactive profiling involves investigating criminal activity that may be occurring but has not been detected or may not yet have begun (Heumann & Cassak, 2001). This involves using characteristics of potential suspects believed to be linked to criminal behavior as justification for focusing proactive crime prevention strategies toward individuals thought to be responsible for a particular type of crime. It is this proactive form of profiling that has led to claims of racial profiling (Buerger & Farrell, 2002; Harris, 1999; Heumann & Cassak, 2001; Lundman, 2004).

Over the last decade, two different definitions of racial profiling have emerged, one narrow and one broad, with both attempting to define the practice of using race as part of the formula in determining whom to question, stop or search in a law enforcement setting (Cleary, 2000; Gold, 2003; Ramirez, Hoopes, & Quinlan, 2003). According to the narrow definition, racial profiling occurs when a law enforcement action is based on the race of the suspect, so that race is the *sole* criterion for questioning, stopping or searching a suspect (Batton & Kadleck, 2004). Relying on this narrow definition, most law enforcement agencies can honestly claim that, as a matter of policy, they do not engage in racial profiling. However, a narrow definition defines away the problem of racial profiling by limiting it to the possibly rare instance where race, by itself, is the sole basis for the stop and search (Ramirez et al., 2003). Also, a narrow definition implies that we must know the extent that *only* race has been used as a deciding factor in determining whom to stop or search. However, this is not an easy evaluation to make. For example, law enforcement officials may claim that a particular suspect was stopped and searched not only because of his/her race, but because of other characteristics as well, such as being male, driving recklessly late at night, and driving alone. In this case, because several factors were involved in deciding whether to stop the individual, it is not possible to determine to what extent race was used as a deciding factor. For these reasons, other researchers have focused on a broader definition of racial profiling.

Under the broad definition, racial profiling occurs when a law enforcement officer relies upon race, ethnicity, national origin, or religion as one of several factors in

determining whom to stop, search or question *except* where these characteristics are part of a specific suspect description (Angulo & Weich, 2002; Cleary, 2000; Ramirez et al., 2003). Two points should be made concerning this definition. First, this definition does not require knowing how much emphasis is placed on race compared with other possible factors. As long as race is one of the factors, racial profiling can be said to have occurred. This is particularly important considering that racial profiling may occur unconsciously, thereby making the contribution of race as a factor hard to evaluate (Ramirez et al., 2003). Under this definition, racial profiling includes actions by law enforcement officials who are acting in good faith, and who sincerely believe that they are not using race in any discriminatory way.

Second, the broad definition of racial profiling recognizes several limited exceptions whereby race can be a permissible part of a profile. One exception is that law enforcement officials may use race as a factor after a crime has been committed to determine whether a person matches the specific description of a particular identified suspect within a particular vicinity and time. However, race should only be used in such a situation if the source of the suspect information is credible. Another exception involves the use of a race profile for *future* crimes involving a particular group of potential suspects at a specific location and a specific time. This situation may arise when law enforcement officials have gathered information that a crime will take place at a particular location, and involves suspects of a particular race. When specific, concrete evidence linking race to a specified future criminal incident is present, race may be used

as part of a multi-variable profile. It is this broad definition of racial profiling that the current study used.

In summary, racial profiling is said to occur when race, ethnicity, national origin or religion is used as one of several factors in determining whom to stop, search, question or arrest – unless there is a suspect specific or crime specific exception to this general rule.

Evidence of Racial Profiling

Racial profiling, although thought to exist for decades, has only been acknowledged as a problem very recently (Buerger & Farrell, 2002). Therefore, much of the literature on this topic is anecdotal or editorial in nature as much of the initial attention came from journalists and popular literature authors (Batton & Kadleck, 2004; Harris, 2003; Lundman, 2004; Polakow-Suransky, 2001; Ramirez et al., 2003). However, recently there has also emerged evidence demonstrating the existence of racial profiling that is more scientific in nature, relying on systematic methods of investigation (Angulo & Weich, 2002; Batton & Kadleck, 2004; Buerger & Farrell, 2001; Dedman & Latour, 2003; Parker, Macdonald, Alpert, Smith, & Piquero, 2004; Petrocelli, Piquero, & Smith, 2003; Zingraff, Mason, Smith, Tomaskovic-Devey, Warren, & McMurray, 2000). Much of this evidence has been gathered on busy American interstates and has involved a comparison of data involving individuals stopped and/or searched by law enforcement officials on these highways to a baseline data measure.

Early studies of this nature used census population numbers for the minority

group in question for a particular city, town or country as benchmark data and assumed that racial profiling occurred if the percentage of stops of a particular ethnic group exceeded the percentage of the area's population the ethnic group comprised. On the other hand, if the percentage of a particular group is about the same or less than the population of that group in an area, then racial profiling was thought not to have occurred (Jones, 2003). The results of such studies did find evidence of racial profiling (see Angulo & Weich, 2002; Daunt & Leovy, 2003; Dedman & Latour, 2003; Jones, 2003; Petrocelli et al., 2003). However, while these studies seem to indicate that racial profiling occurs, using census population statistics as baseline comparison data is erroneous and therefore may not provide an accurate picture of the incidence of racial profiling (Harris, 2003). This is due to the fact that population statistics only provide a snapshot of a particular area's residential population at a given point in time. It provides no information concerning who drives through a given area, although this is critical to know if one is examining traffic stop data, as it is only those driving through a given area that are at risk of experiencing a stop and/or search.

In an attempt to overcome the problem of using census population data as a baseline measure of incidences of racial profiling, other studies (see Good, 2003; Smith & Petrocelli, 2001; Zingraff et al., 2000) have used the actual driving population of any given area, reported by either DMV statistics or by census data, as comparison data. The main advantage of this technique is that the baseline data only includes information for individuals who have a drivers license; therefore only individuals who are presumed to be

using the highways are included in the analysis (Jones, 2003). While these studies also provided evidence that unwarranted racial profiling occurs, using the estimated driving population as a benchmark for a particular area using just DMV statistics and census data is also flawed (Harris, 2003). This is because using these available statistics still does not provide useful information concerning *who* is actually using particular highways on a daily basis. Simply knowing who in a particular area has a driver's license does not provide sound evidence that it is these individuals who are using specific highways. In other words, just because an individual with a valid driver's license lives nearby a particular stretch of road, does not mean that this individual will use this roadway frequently. Furthermore, this approach does not take into account drivers who frequent particular highways but do not live in the general vicinity (Harris, 2003).

For these reasons, recent researchers (see Farrell et al., 2004; Lamberth, 1993 as cited in Batton & Kadleck, 2004; Buerger & Farrell, 2002; Harris, 1999; Harris, 2003; Heumann & Cassak, 2001; Lamberth, 1996; Lundman, 2004) have employed a traffic stream analysis strategy in order to create a benchmark comparisons that are sensitive to these issues. This methodology involves measuring the racial breakdown of individuals traveling on specific highways using direct observation by teams of observers, who record the number of vehicles on the highway and also the race of those driving the vehicles (Batton & Kadleck, 2004; Harris, 2003; Jones, 2003). Typically, two baseline data measures are created. The first baseline measure is created through a direct observation method which involves counting the number of vehicles on the road and recording the

race of individuals in these vehicles from a stationary location on the side of the highway during randomly selected time periods. The second baseline measure consists of a turnpike violation census, which usually involve rolling surveys using teams of observers in cars moving in traffic on the highway, traveling above the speed limit. These teams then record vehicles that pass them and note the race of the occupants in them. The numbers obtained from these analyses are then compared to the number of individuals stopped and/or searched and their race. These benchmark measures enable investigators to get a clearer picture of who uses particular highways and this, in turn, allows for a more direct analysis of the incidence of racial profiling. The results of such studies provide the most compelling evidence to date that blacks and other minority groups are being disproportionately stopped by law enforcement officials on many American highways, despite the fact that there is no distinguishable difference between minority and non-minority drivers in traffic law violations.

In summary, it appears that certain minority groups are often targeted by law enforcement agents in disproportionate numbers compared to non-minority groups. In recent years this has come to be known as racial profiling. Unfortunately, to date, very little theory-based empirical research has been conducted to this effort. Therefore, the goal of the present research was to provide and test a theoretical framework that may account, at least in part, for the occurrence of racial profiling. However, before such a theoretical model can be described, it is necessary to review the relevant literatures from which it is derived.

Decision Making: Effortful vs Heuristic Processing

In order to explain the occurrence of racial profiling it is necessary to turn to the decision making literature as deciding whom to investigate for possible criminal activity amounts to a decision process. Specifically, law enforcement officials must decide, often very quickly, whom they think would be most likely to engage in illegal activities, whether it be on the highway, on the street, at airport security checks or during border crossings. In this regard, many individuals believe that such decisions, along with everyday decisions, involve an extensive amount of cognitive processing by individuals who think rationally about all relevant information and who arrive at conclusions that are supported by evidence and free of bias. However, as indicated in decision making research, such an optimistic view of cognitive processing is not entirely accurate.

Individuals do not always engage in effortful information processing during the decision making process. Instead, individuals often use simplifying “rules of thumb”, or *heuristics*, when processing information and making decisions (Hatrup & Ford, 1995; Kahneman, Slovic, & Tversky, 1982; Kahneman & Tversky, 1973; Krabuanrat & Phelps, 1998; Maule & Hodgkinson, 2002; Tversky & Kahneman, 1974). Such heuristics are thought to arise because individuals are limited in cognitive processing capacity and therefore seek ways of managing an otherwise chaotic overabundance of incoming information (Tversky & Kahneman, 1974). Moreover, heuristic use is especially likely to occur under conditions of cognitive load, time pressure or uncertainty (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Dijker & Koomen, 1996; Finucane et

al., 2000; Gilbert & Hixon, 1991; Gilbert, Pelham, & Krull, 1988; Gonzalez, 2004; Goodie & Crooks, 2004; Kaplan, Wanshula, & Zanna, 1993; Maule & Hodgkinson, 2002; Maule & Svenson, 1993; Roch, Lane, Samuelson, Allison, & Dent, 2000; Sherman & Frost, 2000; Sherman, Lee, Bessenoff, & Frost, 1998; Tversky & Kahneman, 1973; Tversky & Kahneman, 1974; Wigholdus, Sherman, Franzese, & Knipperberg, 2004).

Indeed, persuasion researchers have long acknowledged the heuristic side of information processing and have developed dual-process models of cognition to account for differences in amount of cognitive processing of various stimuli (Chaiken, 1980; Petty & Cacioppo, 1986). Although these heuristics often lead to effective reasoning, they can also lead to systematic biases and errors (Tversky & Kahneman, 1974). For example, when judging the likelihood that an instance belongs to a category or that an event originated from a particular underlying process, Tversky and Kahneman (1974) have suggested that individuals often rely on a *representativeness heuristic*. That is, our categorizations are based on the extent to which an instance represents (i.e. is similar to) a category. This heuristic is often useful during many judgements as the similarity between an instance and a category is usually a good indicator of category membership, especially if the features of the instance are highly diagnostic of the category. However, although this is often the case for objects such as animals or types of furniture, for many other categories, especially social categories, features are far less diagnostic of category membership. Furthermore, the representativeness heuristic often leads to errors in judgement because similarity, or representativeness, is not influenced by several factors

that should affect judgements of probability. For example, when making social judgements concerning the probability of someone belonging to a particular category, individuals often ignore base-rates or frequencies of these categories in the population.

Another decision making rule that individuals often use when predicting probabilities is to assess the frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind. This is known as the *availability heuristic* and can be a useful means for assessing frequency or probability, as instances of large classes are usually recalled better and more quickly than instances of less frequent classes (Tversky & Kahneman, 1974). However, as with the representativeness heuristic, the availability heuristic is also affected by factors other than frequency and probability and so reliance on availability information often leads to predictable biases.

In summary, during decision making and due to limited cognitive processing capacity and under conditions of cognitive load, time pressure, or uncertainty, individuals often rely on heuristics or “rules of thumb” when processing information. Two such heuristics were mentioned above and it was demonstrated that while they may be useful, they can also lead to systematic bias and error. Moreover, it is not a great leap to assume that *all* individuals who engage in decision making are at some point guided by heuristic thinking, including law enforcement officials. To this end, another type of decision making heuristic has recently been proposed that appears to be especially useful in contributing to an understanding of why racial profiling occurs. It is this heuristic that is

discussed next.

The Affect Heuristic

Although affect has long played a role in many behavioral theories, it has rarely been recognized as an important component of human judgement and decision making. As such, much of the decision making research has focused on cognitive heuristics, in keeping, perhaps, with the idea that decision making is a rational process. However, despite this cognitive emphasis, the importance of affect has been acknowledged increasingly by decision making researchers. For example, an early proponent of the importance of affect in decision making was Zajonc (1980), who argued that affective reactions to stimuli are often the very first reactions, occurring automatically and subsequently guiding information processing and judgement. Another account of the role of affect in decision making was provided by Damasio's (1994) somatic marker hypothesis which proposes that thought is constructed largely from images, broadly construed to include perceptual and symbolic representations (cited in Finucane, Peters, & Slovic, 2002). Damasio suggests that a lifetime of learning leads to these images becoming "marked" by positive and negative feelings which are linked directly or indirectly to somatic or bodily states. These feelings, in turn, are thought to increase the accuracy and efficiency of the decision process. Furthermore, the recent risk-as-feelings hypothesis (Loewenstein, Weber, Hsee, & Welch, 2001) proposes that responses to risky situations (including decision making) result in part from direct emotional influences and these emotional responses often diverge from cognitive evaluations and have a different

and sometimes greater impact on risk taking behavior than do cognitive evaluations. Finally, Epstein (1994) has suggested that individuals have both a rational and an experiential system for processing information during decision making. The rational system is thought to operate according to logic and inference whereas the experiential system is characterized by emotions and associations. It is proposed that the more emotionally charged the situation, the more our thinking is dominated by the experiential system (i.e. by our feelings and emotions).

In agreement with the assumption that affect is an essential component in many forms of decision making, Slovic and colleagues have recently proposed an *affect heuristic* which they believe individuals use to guide and direct many of their judgements and decisions, especially when assessing the risks and benefits of a given situation (Finucane et al., 2000; Finucane et al., 2002; Slovic, Finucane, Peters, & MacGreggor, 2002). They propose that stimuli become marked by positive and negative affective feelings which, in turn, influence subsequent judgements. Specifically, representations of objects and events in individuals' minds are tagged to varying degrees with affect which become part of an "affective pool" (which contains all the positive and negative tags associated with the representations either consciously or unconsciously) which individuals consult or refer to when making decisions. Just as availability and representativeness serve as cues for probability judgements, affect may serve as a cue as well. Similar to cognitive heuristics, readily available affective impressions can be far easier and more efficient than weighing the pros and cons or retrieving from memory

relevant examples, especially when the required judgement or decision is complex or mental resources are limited. This characterization of a mental shortcut leads to the use of affect being labeled a heuristic.

Support for this model comes primarily from research that has used the affect heuristic to explain the inverse relationship between perceived risk and perceived benefit. Specifically, although risks and benefits tend to be positively correlated (activities that bring great benefit may be high or low in risk but activities that are low in benefit are unlikely to be high in risk – otherwise they would be proscribed), they tend to be perceived as negatively correlated by individuals (Finucane et al., 2000; Slovic et al., 2002). For example, smoking, alcoholic beverages, and food additives are usually seen as very high in risk and relatively low in benefit while vaccines, antibiotics, and X-rays are usually thought to be high in benefit and relatively low in risk. It is possible that perceived risk and benefit may be inversely related in individual's minds because an affective feeling is referred to when the risk or benefit of specific hazards are judged. Indeed, previous research (Alhakami & Slovic, 1994; Finucane et al., 2000; Shiv & Fedorikhin, 1999; Slovic et al., 2002) has indicated that the relationship between perceived risk and perceived benefit is linked to an individual's general affective evaluation of a hazard such that an activity that is liked is judged as low in risk and high in benefit while an activity that is disliked is judged as high in risk and low in benefit.

Thus, affect is thought to have a direct influence during this process. If the affective evaluation of an object is negative, we are likely to respond in a negative way.

Of course, this response will vary depending on the nature of the decision task. For example, if a security guard at an airport comes across an individual who has a “Middle Eastern” appearance he may, through the use of an affect heuristic (consciously or unconsciously), search his “affective pool” for an evaluation of this individual. If the resulting evaluation is unfavorable (i.e. negative emotions are associated with individuals from the Middle East) the security guard may single out and question him for possible criminal activity. Moreover, the use of an affect heuristic is especially likely to occur when the required decision is complex, if mental resources are limited, under time pressure, or under conditions of uncertainty (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Dijker & Koomen, 1996; Finucane et al., 2000; Gilbert & Hixon, 1991; Gilbert et al., 1988; Maule & Hodgkinson, 2002; Sherman & Frost, 2000; Tversky & Kahneman, 1974; Wigholdus et al., 2004). It is likely that law enforcement officials often find themselves working under such conditions. Therefore, it is possible that law enforcement officials may, on occasion, use such a heuristic when deciding whom to investigate for possible criminal activity. This suggestion becomes even more plausible when the relationship between affect and prejudice is considered.

Affect, Prejudice and Heuristic Thinking

Recall that it was mentioned earlier that unwarranted racial profiling amounts to prejudice and results in unfair discrimination toward minority groups. Therefore, it makes sense to consider the nature of prejudiced (i.e. negative) attitudes when explaining such occurrences. Although a tripartite perspective of attitudes assumes they are derived from

three sources; cognitions, affects, and behavior (Jackson, Hodge, Gerard, Ingram, Ervin, & Sheppard, 1996; Millar & Tesser, 1986, 1989; Zanna & Rempel, 1988; Zanna, 1995), the relative contributions of cognition and affect seem to be particularly important in determining prejudice towards stigmatized groups (Jackson & Sullivan, 1989; Stangor, Sullivan, & Ford, 1991; Stephan & Stephan, 1993). Also, consistent with recent trends in the decision making literature regarding the importance of affect, it appears that affect may play a more important role in the prediction of prejudice and bias than do cognitions (Esses & Dovidio, 2002; Esses, Haddock, & Zanna, 1993; Jackson et al., 1996; Jussim, Nelson, Manis, & Soffin, 1995; Jackson & Sullivan, 1989; Stangor et al., 1991; Stephan, Ageyev, Coates-Shrider, Stephan, & Abalakina, 1994; Stephan & Stephan, 1993; Zanna, 1995). There are at least two theoretical reasons to suggest why this may be so. First, affective responses are often based on direct and therefore highly self-relevant experiences with target group members, whereas cognitions (e.g. stereotypes) are often learned from secondary sources. To the extent that direct, self-relevant experience produces stronger attitudinal responses in comparison to indirect experience (Fazio, Powell, & Herr, 1983), then affect is expected to be a strong predictor. Second, it is often assumed that cognitions such as stereotypes serve as rationalizations for a negative attitude held toward a group (Jackson et al., 1996; Stangor et al., 1991). Thus, to the extent that affective response is a direct determinant of an attitude, based on direct experience, whereas cognitions like stereotypes are learned from secondary sources and develop later to rationalize the attitude, it is likely that the former would be a stronger

predictor than the latter. Indeed, a growing body of evidence suggests this is the case (see Esses & Dovidio, 2002; Jackson & Sullivan, 1989; Jackson et al., 1996; Jussim et al., 1995; Stangor et al., 1991).

Moreover, it has been observed that prejudiced attitudes and biases are more likely to become apparent under conditions of cognitive load, time pressure or uncertainty – consistent with a heuristic processing approach (Bodenhausen, 1993; Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Dijker & Koomen, 1996; Wigboldus et al., 2004). This is consistent with claims made in the decision making literature concerning the role of affect in judgement and decision making.

A Theory Accounting for the Occurrence of Racial Profiling

So far, literatures concerning several concepts that are believed to be linked to the occurrence of racial profiling have been briefly reviewed. Therefore, it is now time to outline a theoretical decision-making model, derived from these literatures, that may provide one explanation for why and how racial profiling occurs amongst law enforcement officials. In this regard, it is believed that heuristic processing by law enforcement officials is likely to occur during proactive policing and when deciding whom to investigate for possible involvement in criminal activity. That is, it is proposed that the environment in which law enforcement officials operate while engaging in proactive crime prevention strategies often places a strain on their cognitive processing ability. Therefore, heuristic information processing may be chosen as a strategy in which to simplify decision tasks. Indeed, previous research regarding police decision making

have found that law enforcement officials often use heuristics when making decisions in a law enforcement setting (See Hill, Harris, & Miller, 1985; O'shea, 1999; Sealock & Simpson, 1998).

A heuristic that uses affect as a source of information may be especially likely to be selected as the conditions under which law enforcement officials operate tend to be rich in affect-laden stimuli (Angulo & Weich, 2002; Batton & Kadleck, 2004; Pinizzotto, Davis, & Miller, 2004; Ramirez et al., 2003) and it is therefore possible that these officials may make use of this affect-based information during the decision making process. Consistent with this view, a recent FBI law enforcement bulletin (Pinizzotto et al., 2004) has indicated that the FBI and other law enforcement agencies are beginning to train their officers on how to use their emotional "gut" reactions to situations as a source of information during decision making and while engaging in both proactive and retroactive policing. This tactic is based on the assumption that the environment can provide many subtle cues about dangers present in a given situation and law enforcement officials may unconsciously, through years of experience, pick up on these cues. This, in turn, evokes an emotional reaction within officers (e.g. anxiety or uneasiness) which they feel but may have no cognitive explanation of its origin. Through acting on these emotional reactions, the FBI and other law enforcement agencies hope that their officers can provide faster responses to potentially dangerous situations, thus saving lives. This view is also consistent with recent theories put forward by decision making researchers who acknowledge the influence of affect on the decision making process (Damasio, 1994

as cited in Finucane et al., 2002; Epstein, 1994; Finucane et al., 2002; Loewenstein et al., 2001; Slovic et al., 2002; Zajonc, 1980).

Therefore, it was proposed that law enforcement officials (who likely believe they are acting in good faith) may heuristically use affect as a source of information when making decisions related to criminality, including whom they should investigate for involvement in criminal activity. That is, it is possible that, at least occasionally, a law enforcement official's emotional reaction to stimuli present in the environment will influence his or her decision making process. In the context of racial profiling, the race to which an individual belongs is a particularly salient feature of the environment.

Unfortunately, in today's society, the race of various minority groups often becomes associated with negative affect. This negative affect may arise from several sources including the portrayal of negative racial stereotypes through the media (Engineer, 1999; Hurwitz & Peffley, 1997; Lyons & Kashimu, 2003; Murphy, 1998), past negative encounters with minority group members (Corenblum & Stephan, 2001; Dijker, 1987; Jackson et al., 1996; Spenser-Rodgers & McGovern, 2002; Stephan & Stephan, 1996; Zanna, 1995), or negative affect resulting from perceptions of threat associated with minority groups (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001; Corenblum & Stephan, 2001; Coryn, Beale, & Myers, 2004; Gordon & Arian, 2001; Petrocelli et al., 2003; Spencer-Rodgers & McGovern, 2002; Stangor & Crandall, 2000; Stephan & Stephan, 1996; Stephan, Ybarra, & Bachman, 1999; Zarate, Garcia, Garza, & Hitlan, 2003). Thus, through the use of an affect heuristic (consciously or unconsciously), law

enforcement officials may consult their “affective pool” when deciding whom to investigate for possible criminal activity. If the resulting evaluation is negative, as may often be the case if the potential suspect is a minority group member, it is likely that an investigation of the suspect will begin. The end result of this process is that minority groups often end up being the target of countless investigations for involvement in criminal activities although, in many cases, such suspicion is unfounded (Angulo & Weich, 2002; Dedman & Latour, 2003; Harris, 1999; Lamberth, 1996; Ramirez et al., 2003).

The Current Study

The purpose of the present research was to examine the possibility that the use of an affect heuristic may, at least in part, be responsible for the occurrence of racial profiling. That is, the extent to which heuristic processing that uses affect as a source of information may influence judgements related to criminality was examined. Specifically, participants were presented with one of four possible versions of a newspaper article describing a crime committed involving both a victim and an alleged perpetrator and were asked to make several judgements involving the perpetrator’s likely guilt. The four versions of the newspaper article were constructed by the experimenter such that they contained two important variable manipulations. First, the race of the alleged perpetrator varied so that half of the participants read about a crime involving a black perpetrator while the remaining participants read about a crime involving a white perpetrator. Second, affect associated with the perpetrator’s race was manipulated via a victim impact

statement imbedded in the newspaper article such that half of the participants read a victim impact statement designed to elicit strong negative affect associated with the perpetrator while the remaining participants read a victim impact statement designed to elicit weak negative affect associated with the perpetrator.

In order to assess the possibility of heuristic information processing, half of the participants were assigned to a time-pressure condition while the remaining participants were assigned to a no-time-pressure condition and all participants were given instructions on how to complete the experimental task according to the condition they were assigned. Consistent with previous researchers (Dijker & Koomen, 1996; Finucane et al., 2000; Gonzalez, 2004; Kaplan et al., 1993; Maule, Hockey, & Bdzola, 2000; Ordonez & Benson, 1997; Svenson & Benson, 1993) the term *time pressure* is used here to describe a situation whereby the decision maker must make his/her judgements within a predetermined amount of time (i.e. a deadline is imposed) and a discrepancy exists between what a person would like to do or feels he/she should do, and what he/she actually believes can be done before the time expires. As mentioned earlier, it has been shown that decision making under time-pressure increases the use of heuristic processing during the decision making process (Dijker & Koomen, 1996; Finucane et al., 2000; Gonzalez, 2004; Goodie & Crooks, 2004; Kaplan et al., 1993; Maule & Svenson, 1993). Also, inducing time-pressure when individuals are making judgements has two consequences that are compatible with the goal of exposing the use of an affectively-based heuristic during decision making (Finucane et al., 2000; Maule et al., 2000; Maule

& Svenson, 1993). Perception that time is limited may influence decision making by (1) inducing affective changes via a generally increased arousal level thereby making “hot” affective processes more salient than analytical cognitive process to individuals and (2) reducing cognitive resources available for analytic deliberation during decision making (because the awareness of time pressure demands that resources are allocated to monitoring the time available).

It was predicted that participants’ responses to questions related to the alleged perpetrator’s likely guilt would be influenced by the affect and race manipulations. However, this was only expected to be the case for participants who were under time-pressure. Consistent with the use of an affect heuristic, it was expected that participants under time-pressure would consider the affect associated with the alleged perpetrator when making judgements related to criminality. Thus, it was predicted that participants who read a victim impact statement containing strong negative emotional content would rate the alleged perpetrator more negatively (i.e. higher likelihood scores and a longer jail sentence) on the criminality measures than participants who read a victim impact statement containing weak negative emotional content.

Consistent with the racial profiling literature, it was also predicted that the race of the alleged perpetrator would influence participants’ criminality ratings and this variable was expected to interact with the affect manipulation. Thus, when the alleged perpetrator was associated with weak negative affect his race was not expected to influence participants’ criminality ratings. That is, both a white and a black alleged perpetrator were

expected to be rated low on the criminality measures (i.e. low likelihood scores and a short jail sentence). However, when the alleged perpetrator was associated with strong negative affect his race was expected to influence participants' ratings on the criminality measures. Specifically, it was predicted that a black perpetrator associated with strong negative affect would be rated more negatively (i.e. higher likelihood scores and higher jail sentence) than a white perpetrator associated with strong negative affect. In contrast, participants who were not under time-pressure were not expected to show any predictable pattern of responses associated with the affect or race manipulations. Thus, the current hypotheses predicted a 3-way interaction between time-pressure, affect, and race.

Method

Materials Construction and Pilot Testing

Prior to the start of the current research it was necessary to construct four versions of a fictitious newspaper article which provided the context in which participants' judgements of criminality were made and also contained the necessary variable manipulations (See Appendix A). All versions of the newspaper article were constructed such that they contained the same general description of a crime committed involving a victim and an alleged perpetrator (i.e., robbery and assault) that occurred in a large Canadian city (i.e., Ottawa, Ontario). It was thought that having the alleged crime take place in a province other than Newfoundland and Labrador would make the newspaper article more believable as an authentic news story as it is unlikely that participants in the current research would have had exposure to news media from Ottawa during the period the crime was alleged to have taken place. However, if the alleged crime had occurred in Newfoundland and Labrador, participants may have questioned the authenticity of the newspaper article, as no such crime was reported in the local news media. Since this province has a small population and a lower incidence of violent crimes when compared to larger Canadian cities, participants would probably have heard of such a crime had it actually occurred which may raise questions about the validity of the article.

The four versions of the newspaper article differed such that two independent variables were manipulated. Specifically, the race of the alleged perpetrator described in the article varied such that two of the newspaper articles contained a photograph

depicting a black individual who police had apprehended in connection with the crime while the other newspaper articles contained a photograph depicting a white individual who police had apprehended in connection with the crime. The photographs chosen for inclusion in all versions of the newspaper article were selected from a large database containing head and shoulders pictures of individuals from various ethnic groups collected in recent years by the social psychology department at MUN. From this picture database, 10 photographs (5 black males and 5 white males) were randomly selected for inclusion in the study. In each race condition (i.e., black perpetrator vs white perpetrator), which of the 5 photographs depicting the alleged perpetrator included in each newspaper article was randomly determined.

Affect associated with the alleged perpetrator was manipulated via a victim impact statement embedded in each of the newspaper articles. In order to accomplish this, two versions of a victim impact statement were created such that they differed in emotional content. One version of the victim impact statement contained statements ostensibly provided by the victim that were designed to elicit strong negative affect associated with the perpetrator while the other version of the victim impact statement contained statements that were designed to elicit weak negative affect associated with the perpetrator. Specifically, the strong negative emotional victim impact statement indicated that the crime committed against the victim has impacted her life in a very negative way (e.g. she has sleep problems, frequent panic attacks, etc.). In contrast, the weak negative emotional victim impact statement indicated that although the victim she regrets the

crime occurred, it has not really interfered with her life (e.g. she does not blame the suspect for committing the crime and maintains a positive outlook on life).

Once the two versions of the victim impact statements were constructed it was necessary to ensure they were successful in creating the intended emotional reactions. Therefore, they were rated by participants who were not part of the main study in a pretest for emotional content. Thirty-two participants (16 females and 16 males) read either a victim impact statement containing strong negative emotional content or a victim impact statement containing weak negative emotional content and then completed a version of the Differential Emotions Scale (Izard, Dougherty, Bloxom, & Kotsch, 1974 as cited in Philippot, 1993) modified by McHugo, Smith, and Lanzetta (1982). The modified Differential Emotions Scale contained five questions that asked participants to indicate whether or not reading the article made them feel: 1) angry, irritated, and/or mad 2) fearful, scared, and/or afraid 3) disgusted, turned-off, and/or repulsed 4) anxious, tense, and/or nervous and 5) sad, downhearted, and/or blue. Responses to these questions were made on 7-point Likert scales ranging from 1 (not at all) to 7 (very strongly).

The modified Differential Emotions Scale contained five questions that measure various types of negative affect. Therefore, an inter-item correlation analysis was performed on the questions in order to determine which forms of negative affect participants felt after reading the victim impact statement. The results of the analysis revealed that all five items of the Differential Emotions Scale were positively correlated with one another with an average correlation of $r = .42$ (see table 1). Also, a reliability

analysis produced a Cronbach's Alpha of .78 for the five items. Therefore, an overall measure of negativity was created by combining participants' responses to these questions into a single measure. In order to determine whether the two versions of the victim impact statement differed in the amount of negative affect they elicited, participants' negativity ratings were subjected to an independent measures *t*-test analysis. The results indicated a significant difference between the two victim impact statements regarding the affective content of each, $t(30) = 2.61, p < .05$. Specifically, the strong negative affect victim impact statement was rated more negatively ($M = 18.44$) than the weak negative affect victim impact statement ($M = 13.13$). Based on the pretest results, it was concluded that the two versions of the victim impact statement differed sufficiently in negative emotional content to allow for a successful manipulation of affect. Therefore, they were embedded in the four versions of the newspaper articles such that two of the articles contained strong negative affective content while the remaining articles contained weak negative affective content.

It was also necessary to determine the amount of time participants who were under time-pressure would be given in order to complete the experimental task. Specifically, the deadline chosen for the time-pressure condition was determined through pretesting whereby a sample of 32 participants (16 females and 16 males), who were not part of the main study, were asked to complete the experimental task and the time it took them to do this was recorded. Consistent with past research (Benson & Beach, 1996; Maule et al., 2000; Ordonez & Benson, 1997; Svenson & Benson, 1993) the time

deadline imposed in the current study was operationalized by requiring participants to complete the experimental task within a time that was no greater than one standard deviation below the mean time taken by participants during pretesting. The results of the pretest indicated that it took participants an average of 4 minutes to complete the experimental task with a standard deviation of 1 minute. Therefore, participants in the main study who were assigned to the time-pressure condition would be given 3 minutes to complete the experimental task (4-1).

Participants

The participants consisted of 200 undergraduate students (136 females and 64 males) from Memorial University of Newfoundland (MUN), Canada. They were selected from a participant pool compiled by the psychology department at MUN for inclusion in the present research. Females ranged in age from 17 to 29 and males ranged in age from 17 to 32. The mean age for females and males was 19.43 ($SD = 2.20$) and 19.58 ($SD = 3.01$), respectively. There were 17 females and 8 males assigned randomly to each of the eight experimental conditions.

Upon selection for inclusion in the study, potential participants were contacted via telephone and, after being reminded of their agreement to be included in a participant pool, were provided with a brief description of the study and asked to participate. They were assured that participation was entirely voluntary, anonymous, and confidential. Furthermore, they were informed that participation in the study would take approximately 10 minutes of their time. If those contacted agreed to participate, they were assigned a

time convenient for them in which their testing session occurred.

Materials

In addition to the four versions of the newspaper article that were constructed prior to the start of the main study, a consent form was also constructed for the study (See Appendix B). This form contained information concerning the purpose of the study, the risks and benefits associated with participation in the study, as well as details regarding confidentiality, anonymity, and voluntary participation. It also contained a space whereby participants, upon reading and understanding the form, could sign their name if they agreed to participate. A space was also provided on the consent form for the researcher's signature.

Moreover, a short questionnaire was constructed for the study (See Appendix C). This questionnaire was designed to assess the impact that manipulating the race of the suspect as well as affect associated with the suspect described in the newspaper article had on several ratings of criminality. Specifically, in addition to asking participants to indicate their age and gender, three questions asked them to rate the likelihood that the suspect is guilty of committing the accused crime, has had a past criminal history, and is at risk to re-offend again in the future. Participants responses to these questions were made on 7-point Likert scales ranging from 1 (very unlikely) to 7 (very likely). A fourth and final question asked participants to indicate the jail sentence (between 3 years and 11 years) they would like to see the suspect serve if he is found guilty of committing the crime. A space was provided on the questionnaire for their response to this question.

Procedure

All participants were tested individually and each session lasted approximately 10 minutes. Upon arriving at the social psychology laboratory, participants were escorted into a testing room by the researcher. They were informed of the general purpose of the study and were assured all responses given and data collected during the session would be kept anonymous and confidential and all results reported would be group results, not individual results. They were informed again that participation is voluntary and they were free to withdraw from the study at any time. Finally, they were informed that the session should take about 10 minutes. They were then presented with a consent form that reiterated those points and were asked to read the form carefully, and if they agreed to participate, to sign and date it. After this was completed, the forms were put aside in an envelope in order to ensure confidentiality and the testing session began.

Participants were randomly assigned to either a time-pressure or a no-time-pressure condition using a random number table in such a way as to ensure that each condition contained an equal proportion of males and females. Participants assigned to the time-pressure condition were asked to complete the experimental task before a given deadline expired while participants assigned to the no-time-pressure condition were allowed as much time as needed to complete the experimental task. Specifically, participants assigned to the time-pressure condition were informed that they would have three minutes to read the newspaper article and complete the attached questionnaire. They were also informed that while this time might seem too short to allow for completion of

the experimental task, and while previous research of this nature had typically used longer time intervals, it had also been demonstrated in prior research that such a time constraint was sufficient to allow for completion of similar experimental tasks. A previous study by Svenson and Benson (1993) indicated that framing the explanation of the time-pressure condition as such was effective in inducing a feeling of time-pressure in participants. Finally, they were informed that if they had not completed the experimental task once this time has elapsed they would be instructed to stop whatever they were doing at that time and complete the attached questionnaire immediately in order to ensure that the data collected from them is complete. In contrast, participants assigned to the no-time-pressure condition were informed that they would have as much time as needed to read the newspaper article and complete the attached questionnaire.

Once the experimental procedures were explained to participants and it was clear that they fully understood their role in the study, they were presented with one of the four versions of the experimental materials and asked to read the newspaper article and complete the attached questionnaire according to the time-pressure condition they were assigned. Which of the four versions of the newspaper article they received was randomly determined for each participant.

Following completion of the questionnaire, the testing session ended. At this point, participants were completely debriefed as to the exact purpose of the study. They were asked if there were any questions or concerns about the tasks they completed. Any questions they asked concerning the study were answered and any problems they had with

the testing procedure were discussed fully. After the debriefing session was complete, participants were asked not to discuss the nature of the study with others and thanked for their time.

Results

Although participants were asked to answer four separate questions on the experimental questionnaire, each of these questions are related to ratings of likely guilt. Therefore, participants' responses to these questions may be construed as measuring a single dimension of "criminality". Indeed, an inter-item correlation analysis found that participants responses to these questions were significantly correlated with one another with an average correlation of $r = .26$ (See table 2). Therefore, for the purpose of data analysis, a composite measure of criminality was created by combining participants responses to these four questions into a single measure. However, in order to do this it was first necessary to transform participants' responses to these questions into *Z*-scores in order to insure that all questions were weighted equally when combined to form the composite measure as participants' responses to the first three questions were made on 7-point scales while participants' responses to the final question were made on an 8-point scale. Participants' responses to all four questions, as *Z*-scores, were then combined by summation in order to form a single measure of criminality for each participant. Higher scores represented a greater rating of criminality.

The reported means and standard deviations for the eight experimental conditions are presented in Table 3. Prior to the main statistical analysis there was some concern that participants' criminality ratings would differ depending on their gender as the current study contained more female participants than male participants. However, an analysis of gender effects determined this concern to be unfounded and so participant gender is not

discussed further. In order to assess whether participants' overall rating of criminality regarding the alleged perpetrator was influenced by the time pressure, affect, and race manipulations, a 2 (time-pressure vs no-time-pressure) x 2 (black vs white perpetrator) x 2 (strong vs weak negative affect) between-subjects analysis of variance (ANOVA) was conducted on the criminality ratings. The results of the analysis revealed that the predicted 3-way interaction between time-pressure, affect, and race was not significant, $F(1,192) = .162, p > .05$. The main effect of race was also found to be non-significant, $F(1,192) = .813, p > .05$. Thus, it appears that regardless of whether or not participants were under time-pressure or whether or not strong or weak negative affect was associated with the alleged perpetrator, the race of the alleged perpetrator was not considered by participants when making judgements of criminality. Collapsed across the time-pressure and affect conditions, the overall mean criminality ratings for a black and white perpetrator were $-.07$ and $.07$, respectively.

Despite these non-significant findings, the results of the analysis revealed a significant main effect of affect, $F(1, 192) = 39.83, p < .05$ and a significant main effect of time-pressure, $F(1, 192) = 10.51, p < .05$. The affect x time-pressure interaction was also significant, $F(1,192) = 20.67, p < .05$ (See Figure 1). Whether or not participants used affect as a source of information when making criminality judgements depended on whether or not they were under time-pressure. Consistent with an affect heuristic approach, individuals under time-pressure appeared to pay attention to the affect they felt when making criminality judgements. Specifically, participants who read an article

containing a strong negative emotional victim impact statement rated the alleged perpetrator more unfavorably on the criminality measure ($M = 2.11$) than participants who read an article containing a weak negative emotional victim impact statement ($M = 1.27$). However, participants who were not under time-pressure did not base their criminality ratings on the emotional content of the article. Those who read an article containing a strong negative victim impact statement rated the alleged perpetrator no more unfavorably ($M = -.12$) than participants who read an article containing a weak negative victim impact statement ($M = -.72$).

Discussion

The purpose of the research reported here was to examine the plausibility that the use of an affect heuristic may, at least in part, be responsible for the occurrence of racial profiling as it was theorized that law enforcement officials may use such a heuristic when deciding whom to investigate for possible involvement in criminal activity. In order to validate the legitimacy of this claim, the current study needed to establish a link between the use of an affect heuristic and racial bias in the context of a decision making task whereby judgements of criminality were made. Therefore, to create a decision making context in the laboratory that was somewhat analogous to the context in which law enforcement officials operate, participants were presented with one of four possible versions of an experimenter-constructed newspaper article describing a crime committed involving both a victim and an alleged perpetrator and were asked to make several criminality judgements. The four versions of the newspaper article differed such that the race of the alleged perpetrator, as well as the affect associated with him was manipulated. In order to assess the possibility of heuristic information processing, the amount of time participants were given to complete the experimental task was also manipulated.

It was predicted that participants who were under time-pressure would use an affect heuristic to guide their responses when making criminality judgements as a way in which to simplify the decision making process and therefore ensure the experimental task would be completed before the deadline expired. Specifically, an affect heuristic approach to decision making (See Alhakami & Slovic, 1994; Finucane et al., 2000;

Finucane et al., 2002; Shiv & Fedorikhin, 1999; Slovic et al., 2002) assumes individuals may, if the required decision is complex or if mental resources are limited, use affect that is associated with stimuli relevant to the decision process as a source of information to aid in decision making. It is assumed that decisions made in this way have an outcome that is congruent with the affect felt during the decision making process. Thus, consistent with this approach, it was expected that participants who were under time-pressure would consider the affect associated with the alleged perpetrator when making judgements related to criminality.

It was also predicted that participants who were under time-pressure would consider the race of the alleged perpetrator when making criminality judgements. That is, if the use of an affect heuristic underlies the occurrence of racial profiling, it was expected that, for the present research, a black and a white perpetrator would be rated differently on the criminality measures and this difference would be moderated by the affect associated with him. Thus, when the alleged perpetrator was associated with weak negative affect, it was expected that both a black and a white perpetrator would be rated equally and relatively low on the criminality measures. However, when the alleged perpetrator was associated with strong negative affect, it was predicted that a black perpetrator would be rated more negatively on the criminality measures than a white perpetrator.

In contrast, it was predicted that participants who were not under time-pressure would not engage in heuristic information processing and would therefore not consider

the affect associated with the alleged perpetrator when making their judgements. This was expected to be the case because these participants were allowed as much time as needed to complete the experimental task and so they should not be under any pressure to simplify the decision task in order to meet a deadline. As a result, these participants were also not expected to consider the race of the alleged perpetrator as relevant when responding to the criminality measures.

Contrary to predictions, the results of the current study found that the race of the alleged perpetrator was not considered by participants when making criminality judgements. Specifically, a black perpetrator was rated no more unfavorably than a white perpetrator, regardless of the affect that was associated with him or the time participants had to make their judgements. This finding is inconsistent with the assumption that participants' ratings of criminality related to the alleged perpetrator would be influenced by the perpetrator's race and that this would, in turn, be moderated by the use of an affect heuristic.

At first glance this finding suggests that an affect heuristic explanation of the occurrence of racial profiling is incorrect as no link between the use of an affect heuristic and racial bias was found. If this is the case then future research should pursue investigations of other possible explanations of how and why racial profiling occurs. For example, it is possible that incidents of racial profiling may not be the result of any specialized underlying cognitive process engaged by law enforcement officials during decision making, but rather the result of misinformation on the part of these officials

regarding whom they believe is most likely to commit the majority of crimes. Thus, the disproportionate number of minority group members compared to non-minority group members that are targeted for police investigations may be an artifact of the correlation that many law enforcement officials believe exists between race and crime. However, such a conclusion may be premature as there are several possible limitations of the current research that may have contributed to the insignificant effect racial information had on participants' criminality ratings. These limitations are discussed in turn.

Although every effort was made to ensure the alleged perpetrator's race was salient in the newspaper articles, it is possible that participants were unaware of this information. Specifically, the perpetrator's race was reported in the newspaper articles through the inclusion of a photograph displaying the suspect police had apprehended in connection with the crime. Moreover, the photographs selected for inclusion in the study were carefully chosen so as to ensure that the race of the individual shown was clearly evident and also to ensure that, once photocopied, these photographs were still identifiable. However, it is still possible that participants either did not notice this feature of the newspaper articles or were unable to clearly identify the race of the individual even after viewing the photograph. Indeed, several participants of the current research admitted during debriefing that they did not notice or pay attention to the photograph in the newspaper article. If this was the case, then the current study's finding that race was not considered by participants is not surprising. Alternatively, it is possible that participants were aware of the alleged perpetrator's race but did not consider this information

pertinent to completing the decision task.

It is also possible that the sample size obtained for the current study was not sufficient to allow for a valid test of the hypotheses. Although the current study utilized a total sample size of 200 participants, it is possible that this number of participants was insufficient to allow for acceptable statistical power (i.e. $\beta = .80$) across the eight conditions included in the analyses. Therefore, the observed lack of influence of racial information may be an artifact of insufficient statistical power resulting from a small sample size rather than a result of its non-importance. It is possible that the use of a larger participant sample would have eliminated this problem.

Furthermore, it is likely that certain characteristics of the population from which participants were selected may have also contributed to the lack of support found for the assumption that the race of the alleged perpetrator would be an important factor influencing participants' criminality judgements. Specifically, participants in this research consisted of undergraduate students from Memorial University of Newfoundland, which is located in St. John's, NL. A breakdown of the population of St. John's according to race reveals that 98.65% of residents are Caucasian, while visible minorities (i.e., African Americans) comprise only 1.35% of the total population (Statistics Canada, 2001). As a result, there exists very little or no racial tension among residents of this city and incidents of racial discrimination are very uncommon. While the existence of racial tension is not a necessary condition in order for racial profiling to exist, it nonetheless makes incidents of racial profiling more likely to occur. Therefore, it is possible that

participants in the current study did not consider the alleged perpetrator's race to be a relevant factor when making their judgements because they live in an area where racial tension is not in their realm of everyday experiences and racial discrimination is not a sensitive issue. This makes it more unlikely that their view of minority groups has been tainted through either bad past encounters with such groups or through negative portrayal of such groups in the local media. In this regard, it is likely that had this study taken place in a city such as Toronto, which contains a much larger population of visible minorities than St. John's and where racial tension does exist, then significant effects concerning race may have been found.

Finally, it is possible that participants in the current study did not rate the alleged perpetrator differently on the criminality measures according to race because they may have thought that in doing so they would appear biased. In today's society, overt and explicit prejudice and discrimination directed toward minority groups is condemned whenever it is reported to have occurred (Bahdi, 2003; Dovidio, Kawakami, & Gaertner, 2002; Kinder & Sears, 1981; Tougas, Desruisseaux, Desrochers, St-Pierre, Perrino, & Da La Sablonnière, 2004). As such, the consequences of exhibiting such beliefs and behaviors are severe. Therefore, the participants in this study, despite being assured that their responses to the criminality measures would remain entirely confidential and anonymous, may have still felt apprehensive about considering racial information when responding to these measures. It is also possible that participants who were exposed to a newspaper article describing a crime committed by a black perpetrator may have

purposefully rated him lower on the criminality measures than they felt he deserved in order to ensure that they could not be construed as biased. Unfortunately, there is no way to assess whether this was in fact the case in the current research, although it would certainly explain the finding that the perpetrator's race was not a predictor of participants' responses to the criminality measures.

Although participants who were under time-pressure did not appear to consider the race of the alleged perpetrator as relevant to the decision task, they did seem to consider the affect they felt after reading the newspaper article when making judgements of criminality. Specifically, these participants rated the alleged perpetrator more unfavorably on the criminality measures when he was associated with strong negative affect (i.e. when paired with a victim impact statement containing strong negative emotional content) than when he was associated with weak negative affect (i.e. when paired with a victim impact statement containing weak negative emotional content). That is, participants who were under time-pressure were more likely to assume the alleged perpetrator was guilty of committing the accused crime, had a past criminal history, and was at risk to re-offend in the future and were also more likely to give him a harsher jail sentence when he was associated with strong negative affect than when he was associated with weak negative affect. However, participants who were not under time-pressure did not appear to base their criminality judgements on the affect they felt after reading the newspaper article. These participants did not rate the alleged perpetrator any more unfavorably when he was associated with strong negative affect than when he was

associated with weak negative affect. Thus, it appears that, at least for participants who were under time-pressure, an affect-based heuristic was used to aid in decision making. This finding provides support for the assumption that the use of an affect heuristic by individuals during decision making can also occur in a setting where judgements of criminality are made. This further strengthens the possibility that the lack of evidence found concerning the proposed link between the use of an affect heuristic and racial bias may be due to limitations of the current research and not due to its non-existence.

The finding that participants who were under time-pressure used an affect heuristic to aid in decision making is consistent with recent theories put forward by researchers who have acknowledged the influence of affect during decision making (See Damasio, 1994 as cited in Finucane et al., 2002; Epstein, 1994; Finucane et al., 2002; Loewenstein et al., 2001; Slovic et al., 2002; Zajonc, 1980). For example Zajonc (1980), an early proponent of the importance of affect in decision making, suggested that affective reactions to stimuli are often the very first reactions, occurring automatically and subsequently guiding information processing and judgement. Also, Epstein (1994) has suggested that individuals have both rational and experiential systems for processing information during decision making whereby the rational system is thought to operate according to logic and reason while the experiential system is characterized by emotions and associations. He proposes that the more emotionally charged the situation, the more thinking is dominated by the experiential system (i.e. by our feelings and emotions).

Finally, Loewenstein et al.(2001) have proposed a risk-as-feelings hypothesis which suggests that responses to risky situations result in part from direct emotional influences. These emotional responses are thought to have a greater impact on risk-taking behavior than do cognitive evaluations.

The research reported here is consistent with and adds to the growing body of evidence which suggests that, in addition to the use of cognitive heuristics such as the representativeness heuristic or the availability heuristic, individuals may also use an affect-based heuristic during decision making to guide and direct their judgements. Much of this research (Alhakami & Slovic, 1994; Finucane et al., 2000; Shiv & Fedorikhin, 1999; Slovic et al., 2002; Slovic et al., 1999) has focused on investigations on how individuals make judgements regarding the risks and benefits of a given situation and have found that many individuals believe there exists an inverse relationship between perceived risk and perceived benefit. Moreover, it is thought that such a relationship exists in individual's minds because an affective feeling is referred to when risk and benefit judgements of specific hazards are made.

In summary, the purpose of the research reported here was to test a theoretical decision-making model that can be applied to a criminal context in order to account for the occurrence of racial profiling. Specifically, racial profiling is said to occur whenever law enforcement officials use race, ethnicity, national origin or religion as one of several factors in determining whom to stop, search or question for possible involvement in criminal activity - except when these characteristics are part of a specific suspect

description (Angulo & Weich, 2002; Cleary, 2000; Ramirez et al., 2003).

It was thought that incidents of racial profiling, in part, may be the result of the use of an affect heuristic by law enforcement officials when deciding whom to investigate for involvement in criminal activity. In order to test this assumption, participants who were either under time-pressure or were not under time-pressure were presented with one of four possible versions of a newspaper article describing a crime committed involving a victim and an alleged perpetrator and were asked to make several judgements of criminality related to the alleged perpetrator. The results of the study found that, despite the use of an affect heuristic by participants who were under time-pressure, such heuristic use did not moderate their responses to ratings of criminality regarding an alleged perpetrator such that he was rated differently according to his race. That is, contrary to predictions, the alleged perpetrator was rated no more unfavorably on the criminality measures when his race was black than when his race was white, regardless of the affect associated with him.

The above findings may seem to suggest that a heuristic approach to racial profiling may be incorrect. However, in light of the fact that participants who were under time-pressure did seem to use an affect heuristic to aid in decision making when making criminality judgements and after considering the possible reasons why race was not found to be a predictor of participants' responses to these judgements, the notion that racial profiling by law enforcement officials may be the result of the use of an affect heuristic remains plausible. In this regard, it is believed that future research should further

investigate the proposed link between the use of an affect heuristic and racial bias in settings where judgements of criminality are made.

Aside from providing a better simulation of the decision making environment in which law enforcement officials operate, utilizing a larger sample size, and utilizing a more efficient manipulation of race, future research exploring an affect heuristic explanation of racial profiling should be more sensitive to characteristics of the population being tested so as to insure that such characteristics do not bias participants' responses. For example, although the current research had participants read about a crime committed in Ontario by either a black or a white perpetrator, it may have been culturally more appropriate if the crime had taken place in Newfoundland and Labrador and had involved either an aboriginal or a white perpetrator. This is due to the fact that although the population of St. John's (and Newfoundland and Labrador in general) contains very few visible minorities, the population consists of a large number of aboriginal people. Moreover, while there exists little racial tension among the residents of this city per se, there are negative stereotypes often associated with aboriginals (i.e., they are lazy, they expect government to support them, they are drug abusers, etc). Thus, it is possible that including an aboriginal perpetrator in the current research may have better simulated the context in which cases of racial profiling typically arise. Moreover, having the alleged crime take place in St. John's, NL rather than in Ottawa, ON would also have eliminated the possibility that participants may distance themselves from a victim of a crime which takes place in another province thus leading to attenuated emotional responses by

participants concerning the alleged victim. However, this was not likely a problem in the current research given that the victim impact statements embedded in the newspaper articles were evaluated for emotional content through pretesting to ensure they elicited the predicted emotional response in participants and given that the current research did find a significant affect x time-pressure interaction.

Future research involving the evaluation of the use of an affect heuristic as a suitable explanation for the occurrence of racial profiling should also further investigate the role of affect as a mediating variable during decision making. Although the current study found that participants under time-pressure responded to the criminality ratings in a way that appeared to be congruent to the affect they felt, there is no way to validate this assumption as affect was not directly assessed. Thus, future research should directly measure participants emotional reactions (e.g., through a questionnaire or facial coding system) to the decision making stimuli in order to determine whether affect was a mediating variable in this process.

Despite the lack of support found in the present research for the proposed theoretical model of the occurrence of racial profiling, this study still contributes to the growing literature concerning the controversial practice of racial profiling by providing one of the first attempts to explain how and why it still occurs, despite its apparent ineffectiveness as a law enforcement strategy. However, more theory-based research needs to be conducted concerning the causes of racial profiling as it is only through understanding how and why it occurs that there is hope of eventually eliminating this

controversial practice.

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Table 1

Inter-correlations Among the Five Items of the Differential Emotions Scale (McHugo et al., 1982)

Question	1	2	3	4	5
1. Angry, irritated and/or mad		.49**	.60**	.43*	.33
2. Fearful, scared and/or afraid			.22	.73**	.38*
3. Disgusted, turned-off and/or repulsed				.13	.57**
4. Anxious, tense and/or nervous					.30
5. Sad, downhearted and/or blue					

Note. N = 32. *p < .05. **p < .01.

Table 2

Inter-correlations Among the Four Criminality Ratings

Question	Guilt	Criminality	Re-offend	Sentence
Guilt		.26**	.24**	.29**
Criminal History			.33**	.17*
Re-offend				.28**
Sentence				

Note. N = 200. * p < .05. ** p < .01.

Table 3

Participants' Mean Criminality Scores (z-scores) as a Function of the Time-pressure, Race, and Affect Conditions

Race	Affect	
	Strong Negative	Weak Negative
	Time-pressure	
Black	2.05 (2.30)	-1.16 (2.92)
White	2.17 (1.96)	-1.38 (2.35)
	No Time-pressure	
Black	-0.50 (2.50)	-0.67 (2.17)
White	0.25 (2.24)	-0.77 (2.44)

Note. N = 200. Higher scores represent a greater rating of criminality. Standard deviations are in parentheses.

Appendix A

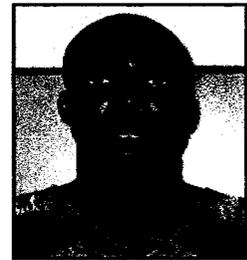
Newspaper Articles (Versions 1- 4)

Version 1: Black Perpetrator/Strong Negative Affect

May 31, 2005, 04:41 PM

Suspect Apprehended in Robbery and Assault Case

OTTAWA --- Twenty-six year old Nancy Anderson was released from hospital today with minor injuries sustained from being the victim of a robbery and assault that occurred Sunday in her metro area home.



Benjamin Pierce

Police say they believe they have apprehended and charged the lone male who broke into the victim's home shortly after midnight. In a statement provided to the Ottawa Citizen by Constable Brian Wagley of the Ontario Provincial Police, 28-year old Benjamin Pierce allegedly entered the home by kicking in the front door. According to Constable Wagley, the victim encountered the intruder when she awoke to investigate the source of the noise and was subsequently grabbed from behind and pushed to the floor. The suspect then bound her wrists together with rope and forcefully led her around the house at gunpoint in search of cash and other valuables. It is alleged that the victim was struck several times by her assailant in her attempts to become free.

The suspect fled on foot with an undisclosed amount of cash and jewelry upon hearing approaching police sirens. A neighbor phoned 911 when she noticed unusual activity in the victim's home.

The victim was admitted to hospital and treated for minor cuts and bruises that stem from the assault.

"The young woman is lucky she did not sustain more severe injuries," reported Constable Wagley. "She can be grateful her neighbor called the police when she did."

In a public statement given after her release from the hospital Anderson indicated that she has not just suffered physically from the crime but emotionally as well.

"I have not been able sleep properly," said Anderson, "I keep having nightmares of the incident, replaying the scene over and over in my mind."

She fears returning to the scene of the crime because it may further trigger her anxiety connected with the experience. The victim has also been suffering from panic attacks which have impaired her ability to participate in the active life she lead before the crime.

“I just feel violated,” offered Anderson. “It will be a while before I feel safe in my home again, if ever.”

Some irreplaceable items of sentimental value were stolen while others were damaged.

“I feel a sense of loss,” said Anderson. “Not only did he rob me of my sense of security but he also robbed several items that are special to me that can never be replaced such as a 100-year old diamond necklace that my grandmother left me when she passed away last year.”

The suspect was apprehended in his home today after police received several tips through Crime Stoppers after a police sketch and description were presented on the evening news last night. The suspect was described as being a 6'1", African American male, weighing approximately 230 lbs. He was wearing blue jeans, a black sweatshirt with a hood and white sneakers at the time of the alleged incident.

The suspect has been arrested and charged with breaking and entering, theft under \$5000, and assault causing bodily harm. He will appear in court September 7. According to the Criminal Code of Canada, if convicted of all charges, he could face between 3 to 11 years in jail.

Police ask anyone who may have witnessed or have further information regarding this crime to please call Crime Stoppers at 613-233-8477 or the police at 1-888-310-1122.

Version 2: White Perpetrator/Strong Negative Affect

May 31, 2005, 04:41 PM

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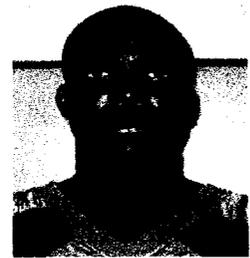
Version 3: Black Perpetrator/Weak Negative Affect

May 31, 2005, 04:41 PM

Suspect Apprehended in Robbery and Assault Case

OTTAWA --- Twenty-six year old Nancy Anderson was released from hospital today with minor injuries sustained from being the victim of a robbery and assault that occurred Sunday in her metro area home.

Police say they believe they have apprehended and charged the lone male who broke into the victim's home shortly after midnight. In a statement provided to the Ottawa Citizen by Constable Brian Wagley of the Ontario Provincial Police, 28-year old Benjamin Pierce allegedly entered the home by kicking in the front door. According to Constable Wagley, the victim encountered the intruder when she awoke to investigate the source of the noise and was subsequently grabbed from behind and pushed to the floor. The suspect then bound her wrists together with rope and forcefully led her around the house at gunpoint in search of cash and other valuables. It is alleged that the victim was struck several times by her assailant in her attempts to become free.



Benjamin Pierce

The suspect fled on foot with an undisclosed amount of cash and jewelry upon hearing approaching police sirens. A neighbor phoned 911 when she noticed unusual activity in the victim's home.

The victim was admitted to hospital and treated for minor cuts and bruises that stem from the assault.

"The young woman is lucky she did not sustain more severe injuries," reported Constable Wagley. "She can be grateful her neighbor called the police when she did."

In a public statement given after her release from the hospital Anderson indicated while she was still a little shaken by the incident, she is not going to let it interfere with her life.

"These things happen as this is the nature of the world we live in with all the unemployment and poverty issues becoming increasingly prevalent," said , "It has made me realize that I need to make my house more secure but I'm not going to let the incident

change my outlook on life too much.”

Aside from the minor cuts and bruises, she has not endured any other physical malady as a result of the assault. She has returned to her home and continued with her active lifestyle. In fact, she has a positive outlook on the situation.

“It has made me aware that the world is not as safe anymore,” offered Anderson. “It has certainly increased my awareness of my surroundings and I hope that what happened to me will make others more cautious as well.”

While some items of sentimental value were stolen and others were damaged Anderson is grateful that she was not harmed more seriously.

“Sure, I feel a sense of loss,” said Anderson. “There were items stolen and damaged that are very important to me and would be difficult to replace but these are only objects really.”

The suspect was apprehended in his home today after police received several tips through Crime Stoppers after a police sketch and description were presented on the evening news last night. The suspect was described as being a 6'1", African American male, weighing approximately 230 lbs. He was wearing blue jeans, a black sweatshirt with a hood and white sneakers at the time of the alleged incident.

The suspect has been arrested and charged with breaking and entering, theft \$5000 and under, and assault causing bodily harm. He will appear in court September 7. According to the Criminal Code of Canada, if convicted of all charges, he could face between 3 to 11 years in jail.

Police ask anyone who may have witnessed or have further information regarding this crime to please call Crime Stoppers at 613-233-8477 or the police at 1-888-310-1122.

Version 4: White Perpetrator/Weak Negative Affect

May 31, 2005, 04:41 PM

Suspect Apprehended in Robbery and Assault Case

OTTAWA --- Twenty-six year old Nancy Anderson was released from hospital today with minor injuries sustained from being the victim of a robbery and assault that occurred Sunday in her metro area home.

Police say they believe they have apprehended and charged the lone male who broke into the victim's home shortly after midnight. In a statement provided to the Ottawa Citizen by Constable Brian Wagley of the Ontario Provincial Police, 28-year old Benjamin Pierce allegedly entered the home by kicking in the front door. According to Constable Wagley, the victim encountered the intruder when she awoke to investigate the source of the noise and was subsequently grabbed from behind and pushed to the floor. The suspect then bound her wrists together with rope and forcefully led her around the house at gunpoint in search of cash and other valuables. It is alleged that the victim was struck several times by her assailant in her attempts to become free.



Benjamin Pierce

The suspect fled on foot with an undisclosed amount of cash and jewelry upon hearing approaching police sirens. A neighbor phoned 911 when she noticed unusual activity in the victim's home.

The victim was admitted to hospital and treated for minor cuts and bruises that stem from the assault.

"The young woman is lucky she did not sustain more severe injuries," reported Constable Wagley. "She can be grateful her neighbor called the police when she did."

In a public statement given after her release from the hospital Anderson indicated while she was still a little shaken by the incident, she is not going to let it interfere with her life.

"These things happen as this is the nature of the world we live in with all the unemployment and poverty issues becoming increasingly prevalent," said , "It has made

me realize that I need to make my house more secure but I'm not going to let the incident change my outlook on life too much."

Aside from the minor cuts and bruises, she has not endured any other physical malady as a result of the assault. She has returned to her home and continued with her active lifestyle. In fact, she has a positive outlook on the situation.

"It has made me aware that the world is not as safe anymore," offered Anderson. "It has certainly increased my awareness of my surroundings and I hope that what happened to me will make others more cautious as well."

While some items of sentimental value were stolen and others were damaged Anderson is grateful that she was not harmed more seriously.

"Sure, I feel a sense of loss," said Anderson. "There were items stolen and damaged that are very important to me and would be difficult to replace but these are only objects really."

The suspect was apprehended in his home today after police received several tips through Crime Stoppers after a police sketch and description were presented on the evening news last night. The suspect was described as being a 6'1", Caucasian male, weighing approximately 230 lbs. He was wearing blue jeans, a black sweatshirt with a hood and white sneakers at the time of the alleged incident.

The suspect has been arrested and charged with breaking and entering, theft \$5000 and under, and assault causing bodily harm. He will appear in court September 7. According to the Criminal Code of Canada, if convicted of all charges, he could face between 3 to 11 years in jail.

Police ask anyone who may have witnessed or have further information regarding this crime to please call Crime Stoppers at 613-233-8477 or the police at 1-888-310-1122.

Appendix B
Participant Consent Form

Consent to Participate in Psychology Research

The purpose of this consent form is to ensure that you understand the purpose of the study and the nature of your involvement. Please read the information below carefully. If you have any questions regarding the nature of the study feel free to ask them at any time.

Research Personnel: Mark Warren (Principal Investigator and M.Sc. Student)
Phone #: 690 - 4313
Email: mwarren@play.psych.mun.ca

Dr. Ted Hannah (Supervisor)
Phone #: 737 - 7672
Email: thannah@mun.ca

Study Purpose: I am interested in how judgements of guilt are made regarding a crime committed involving both a suspect and a victim when the details of this crime are presented in a newspaper article.

Task Requirements: You will be asked to read a newspaper article describing a crime that has been committed involving both a victim and a perpetrator (i.e. suspect). This newspaper article contains a description of the crime, a description of the suspect involved, as well as the victim's reaction to the crime. You will be asked to complete a short questionnaire that is designed to assess your attitudes toward the suspect's likely guilt.

Duration and Location: The experimental session will last approximately 15 minutes and will take place in a private room in the social psychology laboratory (SN 2057).

Harms and Benefits: There are no obvious physical or psychological harms or benefits associated with participation in this study.

Anonymity/Confidentiality: As a participant in this research you will remain entirely anonymous and all data collected from you will remain confidential. Your name will not appear anywhere on the response form. Rather, for the purpose of identification your response form will be assigned a code number. Moreover, all participant consent forms will be kept separate from responses. All data collected will be kept in a locked cabinet at the psychology department and only the principal researcher and his supervisor will have access to this data. Finally, no information that can identify you will be released or published in any way. Instead, all data collected will be analyzed and presented as group results.

Voluntary Participation: Your participation in this study is entirely voluntary. You have the right to withdraw from the study at any time. Should you choose to withdraw from the study, any data you may have provided will be destroyed.

Ethical Issues: This study has been approved by the Interdisciplinary Committee on Ethics in Human Research (ICEHR). However, if you have any ethical concerns about this study or would like to know more about ethics in human research, you may contact ICEHR at 737 - 8368 or icehr@mun.ca.

I have read the above description of the study and I understand the conditions of my participation. The results of this study will be published as part of a master's thesis and may be submitted to a scholarly journal for publication. My signature indicates that I agree to participate in this study, and this in no way constitutes a waiver of my rights.

Your Name (Print): _____ Your Signature: _____

Researcher's Name (Print): _____ Researcher's Signature: _____

Date: _____

Appendix C

Dependent Variable Questionnaire

Please answer the following questions relating to the content of the newspaper article you just read. For questions 1-3, please circle the response that best describes your answer to the question. For the remaining questions, please indicate your answer in the space provided. Keep in mind that your responses to these questions will be kept **anonymous and confidential**. Therefore, please **do not** place any identifying marks on this page other than your responses to the questions. There are no right or wrong responses to these questions as they are designed to assess your personal beliefs.

1. From your perspective, what is the likelihood that the alleged suspect is *guilty* of committing the accused crime?

Very Unlikely 1 2 3 4 5 6 7 Very Likely

2. How likely do you believe it is that the alleged suspect has a criminal history (i.e. has had a previous encounters with the police)?

Very Unlikely 1 2 3 4 5 6 7 Very Likely

3. Assuming the alleged suspect is found guilty of committing the crime described, how likely do you believe it is that he will re-offend (i.e. commit another crime) once he has served his sentence?

Very Unlikely 1 2 3 4 5 6 7 Very Likely

4. Assuming the alleged suspect is found guilty of committing the accused crime, what sentence would you like to see him serve? Please keep in mind that the sentence range for this crime under the Criminal Code of Canada is between 3 and 11 years in prison.

Gender: _____

Age: _____

Thank you for your time. It is greatly appreciated. Please inform the experimenter you have finished the questionnaire.



