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Pink and blue see red differently: Influences of gender, gender role and gender of the target on anger experience and expression

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Pink and Blue see Red Differently: Influences of Gender, Gender Role and Gender of the Target on Anger Experience and Expression

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Abstract

Anger is a commonly experienced emotion popularly thought to differ for men and women. However, because of definitional confusion and methodological limitations, there has been little useful empirical exploration of these differences. Current research findings on anger have, further, been limited by being based on non-random convenience samples of students and clinical populations. Research has produced inconclusive evidence for the effect of gender differences on measures of anger. Gender role identification has been identified as possible influencing factor. In the current study, the author drew a random sample from the general population of a small Australian city. Participants (n = 361) were 158 males and 203 females with a mean age of 36.6 years. Three separate analyses were conducted with the first exploring the influence of gender, and gender role identification on trait measures of anger experience, expression and control. Males and females were found to experience and express anger in similar ways. Participant gender identification was found to significantly affect measures of trait anger. Participants identified as feminine measured low in trait anger and indicated the tendency to internalise and control anger. Conversely, masculine participants were characterised by high trait anger and the tendency to express anger outwardly reporting lower anger control. Androgynous participants were characterised by low trait anger, the tendency to express anger outwardly and greater control. In the second

and third analysis the effect of the gender of the target was investigated as an additional independent variable within two differing situational contexts. In these analyses participant gender was again found not to significantly influence state measures of anger, anger experience and expression. Similarly the effects of gender role identification were replicated. Gender of the target of one's anger had weak a effect, being found to interact with the gender of the participant. Males reported higher outward anger expression to male targets whilst female participants moderated their expression of anger in the presence of a male target. In summary, the research clearly demonstrated that gender itself has no relationship to anger experience and expression. Gender role identification was found to have a consistent impact. The situational variable of gender of the target had little effect on anger measures, though a significant interaction between participant gender and gender of the target was found. The overall pattern of results was discussed in relation to current theory and clinical practice. Future research directions were posited.

Declaration

"I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in text."

Signature

Date 6/3/98

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CHAPTER ONE

The experience of anger is a common emotional phenomenon in the lives of many people. Studying the everyday experience of anger, Averill (1982) found that members of the general community reported becoming angry on an average of one to two times a week. Due to its common experience anger has been of interest to poets, philosophers, and theologians and, in more recent times, social scientists (Kemp & Strongman, 1995).

Ancient and medieval philosophers regarded anger as an emotion to be controlled and viewed its expression as detrimental to community life. Seneca (45 A.D./1928) viewed anger as the most hideous and frenzied of all the emotions causing, the most harm to society, " ...if you choose to view its results and harm of it, no plague has cost the human race more dear" (p.111). Seneca regarded anger as worthless for war, citing how anger was the Northern German tribe's worst foe, reducing them to impotency before the Roman legions. As a consequence of the detrimental effects to both society and the individual, and it's potential to control the person, Seneca suggested that people be vigilant when he wrote that, "...the best course is to reject at once the first incitement to anger, to resist even it's small beginnings, and to take pains to avoid falling into anger" (p.125). Aristotle (350B.C./1943) shared similar views, suggesting that anger needed to be moderated. He viewed excessive anger (being irascible or hot-tempered) and anger deficiency (lacking in spirit) undesirable and he promoted an intermediate good-tempered character.

Yet despite the common experience of anger and its frequent mention in the literature modern empirical exploration of this emotion has been limited (Sharkin, 1996). Lazarus (1991) highlighted the fact that before 1960 few studies on emotion were published in the social science literature. Until the last 20 years emotions in general have not been favored as legitimate subjects for theorising and research, arguably due to difficulty in definition and measurement (Averill, 1983). Central to current understandings of anger has been the role of cognitive processes (Novaco, 1978) and in particular, cognitive appraisals (Berkowitz, 1990; Lazarus, 1991). These conceptions of anger have strong parallels with the early writings of Seneca and Aristotle, who emphasised the importance of the mind in the elicitation and control of anger (Kemp & Strongman, 1995).

Recent research has highlighted the significant influence of anger on a number of health related behaviours. Anger has been associated with increased risk of coronary heart disease (Friedman & Booth-Kewley, 1987) and has been identified as a predicter of physical aggression within spousal relationships (Pan, Neidig & O'Leary, 1994). Modern conceptions of abnormal personality functioning have implied that the inappropriate management of anger is, in part, diagnostic of psychopathology. This is reflected in the problematic expression of anger and aggression being listed as one of the diagnostic criteria for a number of the Axis-II psychiatric disorders noted in the DSM-IV (American Psychiatric Association, 1994). Such disorders include Antisocial and Borderline personality disorders.

Despite these traditional and contemporary portrayals of anger as

problematic, recent anger theorists have pointed to the benefits of anger. Novaco (1978) suggested that anger could be an energising factor in changing perceived injustice or a motivator stopping the provocation of another. In Averill's (1983) study of the everyday experiences of anger, participants indicated a number of positive consequences of anger. Participants revealed an increased awareness of their faults, increased respect and strengthened relationships as a consequence of another's anger.

Theorists have also focused on gender differences in relation to the experience of anger. A commonly held notion of gender difference in anger is that men are generally more comfortable with the experience and expression of anger whilst women have difficulty in acknowledging and expressing anger (Brody, 1985). Though this notion is commonly held in our society, few empirical studies have explored the relationship of gender and measures of anger (Sharkin, 1993). Furthermore the studies that have been conducted have produced inconsistent results.

Gender differences have been found in the control of anger (Malatesta-Magai, Jonas, Shepard & Culver, 1992) in confidence to express anger (Blier & Blier-Wilson, 1989), in the number of anger arousing incidents experienced and in the nature of anger reactions to these incidents (Biaggio, 1989). In a feminist analysis of emotion, Crawford, Kippax, Onyx, Gault and Benton (1992) found that women's experience of anger differed from men. The researchers suggested that women were often condemned for expressions of anger. Women were labeled as neurotic for uncontrolled outward anger expression and as depressed for anger

suppression. Men's anger was associated with expressed aggression (implied or actual) whilst women's anger was not.

Few gender differences have been found in the experience and expression of anger (Deffenbacher, Oetting, Thwaites, Lynch, Baker, Stark, Thacker & Eiswerth-Cox, 1996). Averill (1983) found that men and women's experience and expression of anger was similar. In essence, women were equally able to express anger appropriately and effectively as men (Averill, 1983). Tavris (1989) also concluded that there were no differences in the way that men and women identify, experience and express anger. He reports no differential gender anger-responses to various stimuli thought to elicit anger.

The literature provides inconclusive and conflicting evidence for the effect of gender on measures of anger. As a result researchers have begun to focus on the influence of participant gender role identification on measures of trait anger (Kopper, 1993; Kopper & Epperson, 1991, 1996). Participants classified as having a masculine, feminine, androgynous or undifferentiated gender role, have been found to differ on their levels of trait anger, anger expression and anger control (Kopper, 1993; Kopper & Epperson, 1991).

Rational for the Current Study

A number of factors were considered as providing an important rational for the current study.

Limited empirical exploration of anger.

Though anger is a common experience empirical exploration of anger has

been limited and understandings have been based more on assumptions than empirical findings (Sharkin, 1996). The current study explored the common belief that males and females differ in anger experience and expression. Its findings contribute to a clearer empirical understanding of gender effects on measures of anger. The study also explored the impact of differing gender role identification on measures of anger experience and expression, replicating previous research and extending findings into situational contexts. The current study explored the influence of gender, gender role identification and gender of the target, on a number of anger measures, within situational contexts that illicit anger responses. The study attempted to integrate, clarify and extend current empirical based understandings of anger experience and expression.

The Predominant Use of Clinical and Student Samples

The importance of randomised and representative samples in scientific social research has been emphasised by major research texts (de Vaus, 1995; Shavelson, 1988; Tabachnich & Fidell, 1996). Yet few studies have used this preferred, methodology opting instead for convenience or other non-random sampling methods such as using student and clinical populations (Sharkin, 1993). The use of a randomised sample drawn from the general population was an important consideration in the design of the current study.

Conceptualization and Definition of Key Terms

Although there have been many studies into aggression and violent behaviour, anger has been neglected in scientific investigation (Kennedy, 1992).

Early research often used concepts of anger, hostility and aggression interchangeably (Deffenbacher, Oetting, Thwaites, Lynch, Baker, Stark, Thacker & Eiswerth-Cox, 1996; Speilberger, Krasner & Solomon, 1988; Wallbott & Scherer, 1989). Speilberger (1988) defined anger as more 'elementary' than hostility and aggression and referred to anger as an emotional state involving feelings that vary in intensity from mild annoyance to fury and rage, accompanied by arousal of the autonomic nervous system. Aggression is defined as overt behaviour involving the infliction of harm on another person (Howells, 1988). Whilst hostility is viewed as an enduring and pervasive antagonistic mental attitude toward people or events (Thomas, 1993). Speilberger, Krasner & Solomon (1988) have suggested that anger is necessary but alone not sufficient for both hostile attitudes to develop and aggression to be displayed.

Averill (1982) questioned the implicit assumption of the association between anger and aggression. In a community study of anger, participants were found to be more likely to be friendly to the instigator of anger, and to talk things through, than to use direct aggression or punishment. In a more recent exploration of the link between levels of anger and self-reported aggressive behaviour in college students, Unverzagt & Schill (1989) found that levels of anger did not significantly predict aggression. Howells (1988) suggests that anger can often occur without aggression resulting, for example instrumental aggression can occur without the person experiencing anger. An example of this is robbing a bank where, aggression is used in the absence of anger to attain the goal of stealing money.

Definitions of anger, aggression and hostility are used interchangeably in current research reports. This has contributed to some confusion relating to conceptual, methodological and measurement issues (Wallbott & Scherer, 1989). Charles Speilberger and colleagues have clarified anger concepts by applying state-trait personality concepts to the empirical study and measurement of anger. Speilberger (1988) defined state anger as a transitory subjective emotional state experienced along a continuum of intensity (low to high) with corresponding increases in levels of physiological arousal. Levels of state anger are seen to vary in intensity and fluctuate over time in response to perceived injustice and the blocking of goal directed behaviour. Conversely trait anger is understood to be a stable personality dimension whereby individuals high in trait anger perceive a wider range of situations as anger provoking and respond with increased levels of state anger (Speilberger, 1988). The state-trait conceptual distinction was used in the current study both in the conceptualisation of anger and also as a variable for measurement.

Research on gender differences has also lacked conceptual clarity, with concepts of sex, gender and gender role being used interchangeably. Gender has been conceptualized as a biological/genetic characteristic, as an internalised trait of the individual and as a social construction (Ashmore, 1990). Within the biological context the term 'gender' is used to define the category of male and female through the socially agreed upon biological criteria (West & Zimmerman, 1987). These criteria include anatomical, brain structure, hormonal differences and biological/genetic factors that contribute to differences in the way men and women

think, feel and act (Ashmore, 1990). From an early age humans learn to discriminate between men and women on the basis of anatomical features where the presence of a penis is equated with male and the presence of breasts and a vagina is equated with female (West & Zimmerman, 1987).

Gender has also been used to describe individual difference based on ones psychological 'maleness' or 'femaleness' (Bem, 1984). Individuals are seen to identify with a gender role of masculinity or femininity, which are internalised characteristics culturally regarded as appropriate behaviour for males and females (Unger, 1979). Gender role identification is understood as a process where by gender appropriate preferences, skills, behaviour, personality attributes and self concepts are acquired by males and females, which are then used to guide behaviour based on cultural norms (Bem, 1984). Psychological androgyny is understood as the non-reliance on purely masculine or feminine gender roles and combines both gender roles to cognitively organize information (Bem 1984).

Finally, recent empirical research has used the term gender as a product of social construction and human interaction. West & Zimmerman (1987) emphasised the continuous creation of the meaning of gender as emergent from human interactions within a historical and cultural context. Ashmore (1990) has suggested that definitions of gender do not solely emerge from global differences based on biology or personality traits within the individual. Ashmore (1990) proposed a multiplicity model of gender identity which integrates the social construction of gender and biological characteristics which are used to differentiate males from females. The model portrays gender in terms of a social category and inter-group

relationships that affect the thoughts, behaviours and feeling of individuals. This model assumes that gender identity emerges from complex interactions within social contexts.

Masculinity, femininity and androgyny have proven difficult to define. Often these gender role categories have been defined more as an outcome of scales measuring these constructs than as theoretically based conceptualizations (Ashmore, 1990). The difficulty of defining these constructs is due to the constructive nature of 'masculinity' and 'femininity', being artifacts of the cultural and time contexts in which they are measured (Breere, 1990). This is supported by the work of Stearns (1992) that highlighted the changing values and norms for male and female behaviour over the last century and it's impact on child rearing and teaching practice. Researchers now accept that definitions of masculinity and femininity reflect what is measured by gender role scales (Breere 1990).

The current study used the term 'gender' as an independent variable based on participant identification of their own biological/genetic status. The term 'gender role' was defined as internalised preferences, skills, behaviour, personality attributes and self concepts which emerge from environmental experiences, and which are embedded within a historical and cultural context. Gender roles were broken into the four categories of masculinity, femininity, androgyny and undifferentiated through use of a median split of masculinity and femininity sub scales of the Australian Personal Description Questionnaire (Antill, Cunningham, Russell & Thompson, 1981).

Conclusion

In this chapter the author has proposed a rational for the current study and defined the key terms used. The following chapter will review current emotion theory, literature on the relationship between anger, gender and gender roles, pertinent methodological considerations and an overview of the current study.

CHAPTER TWO

REVIEW OF CURRENT LITERATURE

The previous chapter provided an introduction and rationale for the current study. It was suggested that further empirical exploration of anger is needed due to its influence in every day life, the scarcity of research on the topic, conceptual confusion concerning anger and related terms and methodological limitations found in previous research on anger. The current chapter presents a brief consideration of current theories of anger and a review of studies that have explored the effects of gender, gender role identification and contextual factors on the experience and expression of anger. Methodological literature pertinent to the current study is also explored. Finally the current study is outlined and hypotheses stated.

Biological and Genetic Theories of Anger

Plutchik (1980) has suggested a psycho-evolutionary theory of emotion in which emotions are understood in an evolutionary context. A continuity is suggested in emotional expression up the evolutionary line from lower order species to humans. In this context emotions are seen as evolutionarily adaptive. Plutchik (1980) has suggested that emotions arise from an underlying neural or hormonal substrate that serves a communication function that is survival-related, (for example: identifying prey or a predator, or for identifying and attracting a mate). Four primary emotions are identified, each falling along a continuum of intensity all serving the survival-related function of approach or withdrawal.

These primary emotions include, joy-sadness, anger-fear, acceptance-disgust and surprise-anticipation (Plutchik, 1980). Emotions are seen to have a number of important elements that form a chain of physiological, cognitive and behavioural events. This chain includes environmental and/or cognitive functions that trigger an emotional response and autonomic changes that may result in behaviour (Plutchik, 1980).

From this perspective gender differences in emotional development, and in particular, anger are seen as emerging from differentially specialised abilities for men and women which are survival-related. Women are suggested to be primarily responsible for child rearing whilst men serve the function of gathering food, hunting and protection. As a consequence women have more refined communication ability and are more sensitive to nonverbal cues than are men, since nonverbal sensitivity is adaptive for child rearing. Therefore, women show less anger than men do, as anger is associated with aggressive behaviour and, as such, is non-adaptive for interactions with children. Men on the other hand, experience and express higher levels of anger which is adaptive for hunting and protection (Brody, 1985).

Studies investigating gender differences in nonverbal sensitivity have found significant gender differences. Rotter and Rotter (1988) found that females exceeded males in their ability to recognise negative emotions of anger, fear, disgust and sadness expressed by either males or females whilst males were more able than females to recognise angry facial expression in males.

Other theories that emphasise the biological determination of gender

differences in emotion focus on hormonal processes. The monthly hormonal cycle of women has been linked to increases in emotionality, in particular increases in levels of anger (Van Goozen, Frijda, Wiegant, Endert, Cohen-Kettenis & Gooren, 1996). Women experiencing identified premenstrual stress have been shown to have increased levels of anger during provocation (Van Goozen et al, 1996). In recent studies exploring the effects of androgens on behaviour for participants receiving cross sex hormone therapy, levels of aggression, sexual motivation and cognitive functioning have been found to differ. The administration of androgens to females resulted in increases in proneness to aggression, sexual arousability and spatial ability. The converse was found for males deprived of androgens (Van Goozen, Cohen-Kettenis, Gooren, Frijda & Van de Poll, 1995). In a second study a combination of visual stimuli (videos of aversive, frustrating and physically stressful situations) and role-plays were investigated, measuring their effects on anger-related mood. Participants receiving androgen therapy responded with increases in anger-related mood when compared with participants receiving male-to-female hormone therapy (Van Goozen, Frijda, & Van de Poll, 1995).

These studies provide evidence, linking hormones with emotions and in particular with anger. Though research has found confirmatory evidence for the differing effect of hormones on emotions of males and females, a number of limitations have been highlighted. In a review of research of the hormonal basis for aggression Archer and Lloyd (1985) caution that research has often found conflicting evidence, has used small sample sizes (as in the studies above) or have found significant results in animal research which is then extrapolated to human

populations.

Social and Cognitive Theories of Anger

Cognitive theorists have posited that anger as mediated by cognitive processes, particularly by the appraisal of a situation and the attribution of wrong doing or offence. This view echoes Senecas (45/1928) early view of anger as arising from the mind and impressions of injury, "....it ventures nothing by itself, but acts only with the approval of the mind" (p. 169).

Novaco, (1978; 1995) viewed anger as being determined by the interplay of three factors: external events, cognitive processes, and the behaviours exhibited. Central to Novaco's model are cognitive processes, which include appraisals, expectations, and private speech (expressing appraisals and expectations in language form). According to Novaco, the individual construes an external event as frustrating, annoying, or aversive in some way and then reacts behaviourally, through verbal and physical antagonism, aggression or withdrawal. Anger is aroused by and associated with physiological stimulation which mediate further cognitions concerning the situation. A car accident in the car park of a busy shopping centre where a second party accidentally smashes into a person's car demonstrates the specific application of this model to anger experience. The person may appraise the second party as irresponsible and becomes physiologically aroused, labeling this experience as 'anger' and reacts by verbally abusing the person.

Lazarus (1991) has taken a cognitive motivational view of emotion whereby

individuals construe and evaluate events in their lives, which determine emotional experience. Central to Lazarus's theory is the process of appraisal. He has suggested that emotions result from appraisals of the significance of an action or occurrence and its effect on a person's well-being. Positive emotions arise from an appraisal of benefit to one's well-being, whilst negative emotion, such as anger, arise from an evaluation of harm and blame (Lazarus, 1991).

Smith & Lazarus (1990) have suggested that there are two levels of appraisal. Firstly, primary level appraisal incorporates evaluation of the effects of an action on a person's well-being. Second level appraisals involve evaluating the resources available and options for coping with a situation (Smith & Lazarus, 1990). The two levels of appraisal are further broken down into six appraisal components. These components include: motivational relevance (how a situations impacts on personal goals), motivational congruence (consistency of a situation with one's goals), accountability (blame or credit for an incident), problem focused coping potential (a person's ability to act), emotion focused coping potential (ability to change interpretations of an incident) and future expectancy (the possibility of change in the future).

Smith & Lazarus (1990) have further suggested that three main appraisal components significantly influence anger. These include motivational congruence/in-congruence, motivational relevance and level of accountability. The outcomes of the three appraisal components combine into one central meaning which has a core relational theme of blame (Smith & Lazarus, 1990). The shopping centre car park accident used previously illustrates the application of this

model. The person whose car is damaged appraises motivational congruence/in-congruence in context of whether the damage to the car inhibits their ability to continue with their planned activities. Secondly the person assesses the motivational relevance or importance of the incident, considering the age of the car, whether they or the other party is insured, their income available to repair an uninsured car and perceived disruption to the persons life. Finally the person assesses the second party's level of accountability for the incident and the proportions a level of blame to the person.

Roseman, Spindel, and Jose (1990) have found support for the role of appraisals in emotional experience and expression. Differing appraisals were found to result in differing emotional reactions, with appraisal of the situational context being the strongest differentiating factor for positive and negative emotions. The key elements of appraisals which resulted in anger were that the situation was unwanted, was caused by another person, that the person perceived themselves to have low power and believed that they deserved a better outcome (Roseman, Spindel, & Jose 1990).

Whereas Lazarus (1991) suggested that cognitions are sufficient to produce emotions and necessary for any emotion to occur, Berkowitz (1990) has suggested that cognitive processing is not necessary in affective responses to stimuli. Berkowitz (1990) proposed a cognitive-neoassociationistic model that incorporates automatic arousal responses with cognitive functions such as appraisals. A number of stages are described in the formation of anger. Firstly automatic associations are made between environmental stimuli and simple emotional and

bodily reactions. Unpleasant occurrences in the environment, such as foul odors and extreme temperatures, elicit rudimentary emotional responses. Higher level cognitive functions process the anger experience and introduce attributions and expectations which determine the cause of the anger and possible action required. Berkowitz (1990) suggested that a person may feel anger at an automatic associative level and then may cognitively appraise the experience as trivial, deciding not to respond. Conversely the person may cognitively appraise a situation as provocative which in turn escalates their arousal level.

Both cognitive and neoassociationistic models of emotion emphasise the importance of cognitive processes with differences in the two models emerging in the primacy of either affective associations or cognition processes in the final emotional experience. Differences based on gender, in cognitive interpretations of physiologically-arousing situations, occur as a consequence of differing socialization (Brody, 1985). It is suggested that social learning teaches children appropriate experience and expression of affect based on differential gender socialization in a given culture (Bem, 1984).

Anger as a Social Construction

Averill (1982) has suggested a constructivist view of anger experience and expression. He defines anger as a socially constituted syndrome in which anger represents the entirety of various elements, organised and understood in the context of social norms and rules that govern it. This view has a number of assumptions, firstly, that anger cannot be defined by an elemental approach in which components

of emotions such as physiological arousal, cognitive appraisals or subjective experience are individually examined, but must be understood as the response of the whole person. Secondly, these various elements that make up the syndrome represent the enactment of transitory social roles or scripts and that these serve a function within the context of the social system.

Social constructivism differs from the other theories in the belief that people actively construct their perception of the world and use culture as a guide (Gergen, 1985). From the social constructivist perspective, people are understood as active agents in determining what is 'right' and 'wrong', what is 'moral' and 'immoral' within the context of the society in which they are embedded. Different cultures have their own unique understandings of their world and rules for appropriate behaviour for people interacting within their society. Culture can be seen to provide people with a set of lenses through which one can appraise, understand and respond to ones experiences of the surrounding environment.

The expression of anger has been found to differ from culture to culture as a function of gender (Averill, 1982; Mead, 1935; Tavris, 1989). Tavris (1989) pointed to the prevailing American individualist ideology (the emphasis on 'I') for the current western view of 'catharsis' of emotion (emotions directed outwardly to other person/s or object/s in the environment), as an individual right and beneficial to ones well-being. Conversely, Eastern ideology points toward the maintenance of relationship, family and community (the emphasis on 'we') which restricts emotional expression for the benefit of social systems and the community. Averill (1982) explored the Japanese practice of *ikari* (anger), the Brazilian practice of *to*

nu, running *amok* from Malaysia and the New Guinean 'wild man' behaviour and highlights the differing function, expression and purpose of anger for each culture. Averill (1982) suggested that anger can only be understood from within the cultural context in which it is found. He highlights the cultural specificity of anger and the potential for misleading cultural comparisons due to cultural differences in conceptual understanding and language for anger.

Summary of Current Anger Theory

According to biological/genetic theories, genetic and hormonal factors primarily determine differences in gender behaviour. Cognitive and social learning models suggest that gender differences emerge as a product of differing socialization practices. If genetic and hormonal factors predispose males to be more aggressive, then society structures and extends these differences by encouraging males to experience and express anger more readily, whilst women are discouraged, resulting in anger inhibition. Constructivist theorizing take a broader systems perspective on emotional development, emphasizing the shared and interrelated cultural construction of anger. Stearns (1992) highlighted the changing social norms of anger expression by exploring the *zeitgeist* of various recent historical periods. Stearns (1992) showed how anger expression has changed over time, from anger control in Victorian times to the emphasis of anger management in the present. This historical and cultural context provides the coloured glasses through which we not only experience and express anger but also the framework from which we empirically explore and theorise about anger. It is from within a

western cultural and scientific milieu that current research into gender differences in anger has been conducted.

Research into Gender Differences

The literature is inconsistent as to whether gender differences exist in anger experience and expression. Early research on anger tended to confuse, or use anger interchangeably with other concepts such as hostility and aggression (Deffenbacher & Oetting et al., 1996). Researchers tended to focus on gender differences in aggressive behaviour and implicitly suggested the mediating effect of anger (Frodi, Macaulay & Thorne, 1977). More recent explorations of anger have benefited from increased conceptual clarity and the improved reliability of scales to measure anger (Fugua, Leonard, Masters, Smith, Campbell & Fischer, 1991). Though based on more adequate conceptualizations and measurement, current empirical research has found inconsistent gender differences in the experience, expression and control of anger.

In a series of studies into people's everyday experience of anger, Averill (1982) found few gender difference in participant accounts of anger experience and expression. Women reported becoming angry as often as men, for the same reasons and were equally expressive of anger as men. As a result of these findings, Averill (1983) suggested that there were few differences in social norms that differentially prescribe anger experience and expression based on gender. Women were found to be as able as men to express anger appropriately and effectively (Averill, 1983). Tavris (1989) suggested a similar lack of gender

differences in anger experience and expression in his work, 'Anger the Misunderstood Emotion'. Tavris (1989) concluded that there were few gender differences in the way that men and women identify, experience and express anger or in their response to various stimuli that might elicit anger.

Further confirmatory evidence for the lack of gender differences in the experience, expression and control of anger has been found in recent literature (Deffenbacher & Oetting et al., 1996; Kopper, 1993; Kopper & Epperson, 1991, 1996; Fischer, Smith, Fuqua, Campbell & Masters, 1993). Deffenbacher and Oetting et al. (1996) found relatively few gender differences across eight studies exploring trait and state anger. The researchers found that similar events angered both males and females. Both male and female participants expressed anger in similar ways and experienced similar consequences for anger expression.

Some empirical studies have found evidence supporting gender differences in anger experience and expression. Zuckerman (1989) found that when under stress, women were more likely to experience depression, anxiety and express anger outwardly than men. Malatesta-Magai, Jonas, Shepard and Culver (1992) found that women experienced anger more than men and were able to control expression of this anger to a greater degree. When experiencing anger, women reported that they would 'keep it to themselves" or "act as though nothing had occurred". Follow-up structured interviews with the same participants found that women demonstrated increased overt angry behaviour when compared to men. Malatesta-Magai et al. (1992) have suggested that decreases in anger restraint resulted from an increase in comfort with the female interviewers and/or the

influence of explicit permission to express anger.

In a study investigating the construction of women's anger from reviews of personal life experiences, Crawford, Kippax, Onyx, Gault and Benton (1992) found that women's experience of anger differed from men. An expectation for women to restrain their anger was found. When women failed to achieve this, they were labeled as emotional or hysterical. Men's anger was found to be associated with the potential for overt or implied violence. Conversely, women's anger was expressed verbally though speaking in a gentle and firm manner, in accordance with the stereotype of the 'good woman' (Crawford et al., 1992).

Crying as an expression of anger experience has been found to differ for males and females (Averill, 1982). Crawford et al. (1992) suggested that the strength and seriousness of women's anger was often expressed through crying and represented a plea for understanding in the face of disbelief or misunderstanding by the other. Crawford et al. (1992) suggest that women's experience and expression of anger was often invalidated through actual or feared physical punishment, reinforced by social conventions that view women's expression of anger as inappropriate.

Evidence for gender differences in the experience and expression of anger has also been found in the clinical literature. Collier (1982) suggested that society routinely teaches women not to feel anger or express anger outwardly, promoting 'appropriate' behaviour that encourages women to hide anger and to release it indirectly. Lerner (1985) also emphasised the importance of the differential socialization of men and women, where women were encouraged to inhibit anger

expression whilst men were encouraged to express anger outwardly as a result of perceived social norms encouraging differential emotional expression. In a recent study, Harris (1994) found that males expected greater peer approval for outward aggressive expression resulting from anger eliciting situations. Conversely, women were found to expect greater peer approval for outward aggressive expression only in the context of a confrontation with a partner romantically linked. Lerner (1985) suggests that the socialisation of women creates a taboo against women expressing anger, the expression of anger being viewed as unlady-like, unfeminine and sexually unattractive. As a consequence, women invalidate their anger, turning it inward, giving rise to guilt, depression and self-doubt.

Gender differences have also been found in the frequency of anger experience and in the manner in which anger is expressed. Biaggo (1989) conducted a study examining gender differences in anger responses to real life provocative situations. In a self report of provocative incidents over a two week period, males were found to report a higher frequency of anger arousing incidents and responded with more physical and verbal antagonism than women. Women were found to respond more passively to anger arousing incidents and tended to inhibit anger expression.

One of the factors contributing to differential gender expression of anger has been the differing levels of confidence males and female have in communicating emotion. Blier and Blier-Wilson (1989) found significant gender differences in the confidence to express vulnerable emotions. Women participants were found to rate higher in confidence than male participants. Men's and women's confidence to express anger was also influenced by the gender of the target person, with men

reporting lower confidence in expressing anger to women.

Current empirical and clinical literature indicates inconsistent findings for gender differences in the experience and expression of anger. In a review of studies using both clinical and non-clinical samples, Sharkin (1993 found inconclusive evidence for the effect of gender on anger. In research using samples from clinical populations, men were found to have problematic outward expression of anger whilst women tended to inhibit anger expression. In research using samples drawn from non-clinical populations, inconsistent findings were found (Sharkin, 1993).

Kemp and Strongham (1995) have suggested that discrepancies have emerged between research and clinical practice as a consequence of insufficient and inconsistent research findings on gender differences in measures of anger. In recent decades clinical practice has focused on interventions that address anger, based on a cognitive behavioural paradigm (eg. Deffenbacher, Lynch, Oetting, & Kemper, 1996; Howells, 1988; Novaco, 1978, 1994). These interventions have focused on treating anger as an affective skill, regulating anger expression (Howells, 1988) and have incorporated social skills training and stress inoculation (Deffenbacher et al., 1996; Novaco, 1978, 1995). As a consequence of assumed gender differences, Kemp and Strongham (1995) have suggested that males have been aided to direct their anger in non-aggressive ways whilst women have been encouraged to explore effective ways to express anger.

The Impact of Gender of the Target

Averill's (1982) research demonstrated that anger is primarily an interpersonal emotion. In exploring the contextual influences on anger experience, Averill (1982) found that 6% of participants targeted their anger at non-human targets whilst the remaining 94% targeted other people, groups or themselves. Denham & Bultemeier (1993) found that women's anger was most often experienced in an interpersonal context, being most often expressed to family members. Similarly, Deffenbacher and Oetting et al. (1996) found that a majority of anger situations reported by participants involved non-family and family interpersonal contexts. Empirical explorations of gender differences in anger experience and expression have generally focussed on the gender of the participant and have not considered the gender of the target to whom the anger is directed (Harris, 1994).

Both the gender of the participant and gender of the target have been found to elicit differential levels in the outward expression of anger. Participants in Averill's (1982) study indicated that the majority of angry episodes involved people who were friends or loved ones and 'overall' these angry episodes were directed to male targets. Harris (1994) found that participants were generally more likely to express aggression outwardly to male targets than to female targets. In scenarios that involved a male target that was deemed at fault, males participants indicated higher levels of outward anger expression.

In a more recent study, Brody, Lovas & Hay (1996) explored gender differences in self reports of emotion, as a result of differing situational contexts. Anger was elicited through the manipulation of three aspects of a situational

context; the gender of the story character eliciting the emotion (target person), gender typed nature of the target person (masculine or feminine behaviour) and variations in the affective quality of the scenario. Brody et al. (1995) found that situations that elicited the greatest levels of anger had a number of commonalties, which included the potential to elicit feelings of vulnerability and the perceived threat of aggression. It was found that scenarios depicting situations of angry, negative or frightening behaviour by male targets elicited more anger in participants than similar behaviour depicted by female targets. Adult females were less likely to experience anger at a male target than at a female target. These studies taken together, indicate that the presence of a male target within the context of an anger-eliciting situation, differentially influences male and female anger experience and expression.

The Impact of Gender Role Identification

Recent studies have begun to explore the influence of gender role identification on measures of anger (Kopper, 1991; 1993, Kopper & Epperson, 1996). Early researchers and theorists suggested the notion of two orthogonal personality dimensions, falling along a bipolar continuum (masculinity and femininity) and developed instruments that measured these constructs (Ashman, 1990). This bipolar categorisation of masculinity and femininity is reflected in its use in the Minnesota Multiphasic Personality Inventory (Sattler, 1993).

Early conceptions of gender role identification were seen as untestable and were subsequently not supported by factor analysis, which revealed numerous

underlying factors (Ashmore, 1990). Bem (1975) proposed the construct of androgyny, which fell on the midpoint of a continuous scale between masculinity and femininity. Androgyny was suggested as the 'healthy' alternative, balancing qualities of both masculinity and femininity (Bem, 1975). As a consequence of challenges in the scientific literature, a four group typology (masculinity, femininity, androgyny and undifferentiated) was adopted. This was derived from a median split of masculinity and femininity scores from gender role scales (Tayler & Hall, 1982). As discussed in chapter one, androgyny was defined in terms of, or at least emerged as a consequence of, participant's high scores for both femininity and masculinity sub scales of popular gender role identification measures, such as the Bem Sex Role Inventory (Bem, 1981a) and the Australian Personal Description Questionnaire (Antill, Cunningham, Russell & Thompson, 1981).

Bem (1981b; 1984) suggests that individuals integrate societal norms for distinguishing male and female through the development of gender schemas. Schemas are understood as a cognitive process that organises incoming information into masculine and feminine categories (Bem, 1984). These schemas are used to appraise and assimilate new information which result in an evolving gender schema. Differences in male and female behaviour arise due to differences in perceptions, appraisals and control of behaviour consistent with cultural definitions of appropriateness (Bem, 1984). By using the Bem Sex Role Inventory (Bem, 1981a), or other gender role measures, individuals are measured on the degree of identification and integration of gender role, norms resulting in classifications of sex typed (masculinity and femininity) and non-sex typed (androgyny and

undifferentiated).

It is assumed that culture portrays or reflects assumed norms of behaviour through the mass media and other institutions that depart social values. These norms are then integrated according to cognitive schemas which are used to guide individual behaviour and attitudes based on dominant societal values attitudes and acceptable behaviour (Bem, 1984). Negative portrayal of minority groups have been suggested to influence social values and racist behaviour. Sercombe (1995) conducted an analysis of media portrayals of Australian youth and found that reports of crime were often associated with Aboriginal young males and that in general a negative portrayal of youth was presented. Sercombe suggested that this contributed to increasing social anxiety and racism toward aboriginal youth and facilitated general negative social attitudes toward youth.

The assumption of the link between cultural portrayals of 'normal' gender behaviour and individual adoption of these norms is rarely empirically studied. Ashmore (1990) has suggested that culture is not homogenous but made up of many subcultures sometimes with conflicting norms of behaviour and that no one subculture influences the development of gender role identification.

Few studies have investigated gender role differences across cultures (Anastasi, 1981). Early anthropological work by Mead (1935), conducted with three New Guinean tribes, found differing assignment of gender roles for males and females in each tribe. In the first tribe, the Tchambuli, individuals reversed the common western masculine and feminine gender roles for males and females. Males took a major nurturing role with children whilst women involved

themselves in the politics of the village and in the provision of food. In contrast to the Tchambuli, Mead (1935) describes the Mundugumor people who practiced cannibalism and where the women were as assertive and vigorous as the men. They disliked children and childbirth and provided most of the food for the village. Both sexes tended towards masculine patterns of behaviour with males and females being reared as highly independent and hostile. Finally, Mead (1935) described the Arapesh, a poor mountain people, who demonstrate qualities largely associated with western feminine gender roles. Both parents provided a long, protective and nurturing environment for their children as they matured. The children were described as gently treated, their gender differences underplayed and both males and females being treated in similar ways.

Bem (1984) has suggested that western culture has influenced the defining of 'maleness' and 'femaleness' by clustering of personality attributes into categories of masculinity and femininity gender roles. These have tended to tap into two general personality constellations which have been labeled instrumental/expressive or agentic/communal (Ashman, 1990). Bem (1984) has suggested that individuals utilize these idealized standards to evaluate individual personality and behaviour.

Gender role categories have been implicated as a factor affecting psychological wellbeing. Levels of androgyny have been found to influence adolescent smoking patterns (Evans, Turner, Ghee & Getz, 1990), measures of adolescent psychological well being (Markstrom-Adams, 1989), body image ratings (Jackson, Sullivan & Rostker, 1988) and anger management (Kopper & Epperson 1991). Though measures of androgyny appear to have some positive

health implications, measures of masculinity have also been implicated in positive mental health functioning. Kopper & Epperson (1996) have suggested that identification with the masculine gender role lead to healthier psychological well being. Kopper & Epperson (1996) found that masculinity was associated with assertiveness and self-confidence and negatively associated with depression whilst androgyny was found not to effect psychological measures of well being.

Integration of Gender Role and Anger

A number of recent studies have explored the relationship between gender and gender role identification on measures of anger. These studies have found an absence of gender differences in measures of anger experience and expression whilst gender role identification indicated a significant influence (Kopper, 1991, 1993; Kopper & Epperson, 1996). The results portrayed identifiable patterns of anger experience and expression closely associated with gender role characteristics. Masculine participants were found to be more prone to anger, to express anger outwardly to other persons and objects in the environment and were less likely to control anger expression. Conversely feminine participants were less prone to anger, and more likely to control or suppress the expression of anger.

Summary of Research Findings

The current empirical and clinical literature has indicated inconsistent findings in male and female differences in their experience and expression of anger. Inconsistent findings have been attributed to early literature tending to confuse, or use anger interchangeably with other concepts and measurement scale of questionable validity (Speilberger et al., 1988). Situational factors, such as the differing gender of a target have also been found to influence and expression (Harris, 1994). Sharkin (1993) has suggested that due to the inconsistent findings in the literature, the differing effects of gender on anger experience and expression require further empirical exploration. Recent studies have suggested the significant influence of differing gender role identification on measures of anger (Kopper, 1993; Kopper & Epperson, 1991, 1996). The full significance of this area of research has yet to be empirically explored fully.

Methodological Considerations for the Current Study

As discussed in chapter one, research on anger experience and expression often confused and sometimes interchanged concepts of anger, hostility and aggression (Deffenbacher et al., 1996; Howells, 1988; Thomas, 1993). This conceptual confusion has resulted in a variety of measurement scales of questionable validity (Biaggio, Supplee & Curtis, 1981). As a consequence of conceptual ambiguity and questionable instrument validity, research findings are difficult to consolidate into a clear understanding of factors that influence anger experience and expression.

However some clarity has emerged with the development of state-trait conceptions and measurement of anger as discussed in chapter one. State anger is understood as a temporary state invoked by characteristics of the immediate situation. In contrast, trait anger is a more stable individual predisposition to experience and express anger in response to a wide variety of stimuli. Central to the state-trait conception is the link between the two dimensions. Spielberger (1988) has suggested that individuals with high trait anger are more likely to perceive a wide range of situations as anger provoking and respond with increased levels of state anger. Speilberger (1988) pioneered the development of the State-Trait Anger Expression Inventory (STAXI), measuring levels of trait anger, styles of anger expression (outward anger expression, inward anger expression and the control of anger expression) and levels of state anger.

Deffenbacher and Oetting et al. (1996) conducted a number of studies exploring the validity of the central theoretical underpinnings of the trait-state conception and the validity of the STAXI as a measure. It was found that high levels of trait anger were linked to increased frequency and intensity of state anger and were associated with maladaptive anger expression and increased negative consequences. High trait anger participants reported less functional methods of anger expression, reporting the tendency to negatively express anger outwardly. These participants became more verbally and physically antagonistic and experienced more frequent anger-related consequences, which included, increased drug use, physical assault on people and property, self harm and verbal assault on others. Factor analytic studies on the STAXI have also found strong evidence for

the structural validity for the scale (Fuqua, Leonard, Masters, Smith, Campbell & Fischer, 1991). As a consequence, the STAXI was selected for the current study due to its conceptual clarity, validity as a measure of anger and its extensive use in current literature.

The use of single item measures

Single item measures are used to measure facts (age or years of education) or they can be used to measure psychological constructs such as an individual's job satisfaction (Wanous, Riegher & Hudy, 1997). The use of single item measures of psychological constructs has drawn criticism, due to their often unacceptably low reliabiiities and the inability to calculate internal consistency coefficients for them (Nunnally, 1978).

However, a number of studies have found good construct validity and reliability for single item measures of job satisfaction (Wanous et al, 1997) affective determinants of prejudice (Stangor, Sullivan & Ford, 1991) and acculturation to a host country (Ranieri, Klimidis & Rosenthal, 1994). Wanous et al. (1997) has suggested that the use of single item scales may be appropriate when the construct being measured is sufficiently narrow or when the construct and measure lacks ambiguity for the participant.

The use of reliable single item measures affords a number of benefits to researchers. With the increasing complexity of research questions and design, the use of a number of multiple item measures can result in lengthy questionnaires creating a burden to participants (Ranieri, Klimidis & Rosenthal, 1994). The use of a shorter reliable single item measures conserves space and spares participants

repetitious questions sometimes found in multiple item scales (Wanous et al, 1997). Finally, cost considerations including data entry time, scale purchase costs and questionnaire printing costs facilitate the use of reliable single item alternatives (Wanous et al, 1997).

In light of the benefits outlined, the current study will use single item measures of state anger, anger expression and anger control. These will measure participant responses to anger eliciting vignettes, in addition to the use of multi-item measures of gender role identification (Australian Personal Description Questionnaire; Antill, Cunningham, Russell & Thompson, 1981) and the STAXI (Spielberger, 1988).

The use of vignettes

Vignettes are systematically elaborated descriptions of concrete situations used in surveys of attitudes and opinions (Alexander & Becker, 1978). In a vignette the researcher manipulates a variable of interest (such as gender of the character) whilst holding the situational content of the vignette constant. When this is combined with random assignment of participants to the conditions embedded in the vignette, the researcher is able to infer causality for differential responses of participants (Alexander & Becker, 1978).

An advantage of the use of vignettes is that they can simulate a real life situation for experimental examination of differential participant responses which observations in real life settings may be not be possible for ethical or logistical reasons (Alexander & Becker, 1978). In the case of research into anger, the use of direct experimenter

observation of participants' real life anger experiences is logistically problematic and unethical due to its invasiveness into private life.

One limitation in the use of vignette in research on emotions is their artificiality and 'experiential' distance from real life situations. Emotions experienced in real life may not be reproduced in the same way, or to the same degree, by verbal narratives in the form of vignettes that emphasise cognitive processes (Parkinson & Manstead, 1993). Vignettes were used in the study in an attempt to balance the need for experimental control of variables with the use of simulated accounts of 'real life' situational contexts that elicit anger.

Methodological considerations in gender role research

The measurement of gender role identification is achieved through the use of self reports where participants rate the level to which adjectives or adjective phrases are descriptive of their personality. In the case of the Bem Sex Role Inventory (Bem, 1981a), the adjectives used are all positive, whilst in the case of the Australian Personal Description Questionnaire (Antill et al., 1981), both positive and negative adjectives are used to generate final masculine and feminine scores. A number of methodological limitations have been identified in measures of adult gender roles, including definitional ambiguity (as outlined in chapter one), development of scales using only student populations, reliability, and factorial validity of the scales (Breere 1990).

Breere (1990) suggested that development of gender role scales have often involved using university student samples to derive adjectives that discriminate masculine and feminine gender roles. He suggested this as a limiting factor and

questions how representative student samples are of the general population. A further limitation of many published scales on gender role is the use of adjectives common to American culture and the standardisation of these scales on American samples. It is questioned whether these scales are valid for samples drawn from non-American populations (Antill et al., 1981).

The current study used the Personal Description Questionnaire Form A (Antill et al., 1981) This scale was selected due to its development using samples drawn from an Australian population which included, samples from high school students, adults from the general community and samples from university populations. The scales (form A) have been shown to have acceptable validity and reliability (Antill et al. 1981; Farnhill & Ball, 1985; Russell & Antill, 1984), though factor analytic studies have found inconsistent results (Hong, Kavanagh & Trippet, 1983; Farnhill & Ball, 1985). Finally the scale was utilised due to its use in current Australian research on gender roles, suggesting levels of acceptance in the research community (Dear & Roberts, forthcoming).

Sampling Considerations

Major reference texts in social research have emphasised the importance of randomised and representative samples in scientific social research (de Vaus, 1995; Shavelson, 1988; Tabachnich & Fidell, 1996). Few studies on anger have used this preferred methodology, opting instead for convenience or other non-random sampling methods. In the context of anger experience and expression, few studies have been conducted using samples drawn from the general population (Averill, 1982). The convenience sampling of students or of clinical populations is the

typical *modus operandi* in social research literature and specifically in anger and gender role research (Sharkin, 1993). Thomas (1993) has suggested that university students are not representative of the general population because of their younger age and higher levels of educational attainment. In studies originating in the United States, students have been paid or usually given course credit for participating in social research. Thomas (1993) questioned these methods suggesting that incentives introduce a possible confound of social desirability, influencing students to alter their customary responses for the approval of professors or even respond counter to expectancies in response to disliked academic staff. Whether findings from student populations can be generalised to the general community is unclear, with literature often suggesting this as an area for further investigation.

The use of samples drawn from clinical populations also provides results which have limited applicability to the general community. For example, Selby (1984) has suggested the diagnostic value of anger measures, in discriminating aggressive from non-aggressive participants, based on significant findings from a forensic sample. Subsequent research using student and general community samples has questioned the link between anger and aggression (Averill, 1982; Unverzagt & Schill, 1989). Thomas (1993) questioned theories of anger expression, asserting that women conform to feminine ideals of nurturing, selflessness, relating to others and suppressing anger. Thomas suggested that participants sampled in research are often drawn from clinical populations and, as such, have limited value in describing the general community.

With these sampling limitations in mind, the current study used a random sample drawn from the metropolitan area of a large Australian city using a multi stage cluster design (de Vaus, 1995). This random sampling technique enabled the study to explore the experience and expression of anger for a sample drawn from the Australian general community. The random selection of participants minimised possible confounding effects of age, education, cultural background and socio-economic status. Appendix A outlines in detail the random sampling process undertaken in the course of the study.

Present Study Overview

The present study used three separate analyses of data collected from a single random sample of a small Australian city. The first analysis of the current study assessed the effects of independent variables of participant gender (male and female) and gender role identity (masculinity, femininity, androgyny and undifferentiated) on dependent measures of anger. The dependant measures of anger included trait anger and three measures of anger expression (outward expression, inward expression and levels of perceived control).

Findings for the first analysis were then be extended in the second and third analyses, where situational contexts, in which the gender of the target, was manipulated. Participants were given two anger eliciting vignettes in which independent variables of gender (male and female) gender role (masculinity, femininity, androgyny and undifferentiated) and gender of the target (male and female) were compared on single item measures of state anger, anger expression

and control. The two vignettes made it possible to explore whether patterns of trait anger were generalisable to situationally based state measures of anger. The vignettes provided participants with distinctly different scenarios designed to elicit anger facilitated by the loss or damage of valuable personal property (theft of personal belongings or accidental vehicle damage).

Hypotheses for the study

1. It is hypothesised that measures of trait or state anger will not differ based on gender differences of participants.
2. It is predicted that gender role identification will emerge as a significant influence on trait measures of anger. It is hypothesised that participants classified as masculine will report high levels of trait anger and outward anger expression and lower levels of anger control and inward and expression.
3. Feminine participants will report low levels of trait anger, express anger inwardly and exercise high levels of control.
4. Participants classified as androgynous will to report low levels of trait anger and inward anger expression and higher levels of outward anger expression and control.
5. Patterns of trait anger found in analysis one, are expected to correspond with state anger measures in the two vignettes depicting anger eliciting situational contexts (Spielberger et al., 1988; Deffenbacher & Oetting 1996). It is hypothesised that participants classified as masculine will report higher levels of state anger, tend to express anger outwardly and indicate lower levels of anger control.

6. Participants classified as feminine will indicate lower levels of state anger, express anger inwardly and report greater control of anger expression.
7. Participants classified as androgynous are hypothesised to report low levels of state anger, express anger outwardly and express higher levels of anger control.
8. Measures of state anger are hypothesised not to differ based on differences in gender of the target in the two vignettes depicting anger eliciting scenarios.
9. Finally a significant interaction between participant gender and gender of the target on state measures of anger expression and control is expected. It is hypothesised that female participants would outwardly express anger less to male targets than to female targets and exercise greater control of anger. In contrast male participants will express anger outwardly less to a female target than to a male target and indicate less control of their anger.

Overall it is expected that gender differences or differences in the gender of the target, will not influence either trait or state measures of anger. Differences in gender role identification will emerge as a significant influence of anger experience and expression in both trait and state measures. Finally, within a situational context gender of the target will influence measures of state anger control and expression differentially based on the gender of the participant.

Conclusion

This chapter explored current theoretical conceptions of anger and the differential impact of gender, gender role and gender of a target, on anger experience and expression. Definitional confusion has emerged regarding anger

and gender role research, resulting in conceptual and methodological inconsistencies and in conflicting research findings. The published literature portrays inconsistent gender differences in measures of anger. Gender role has been found to be a more powerful factor than gender in determining differences in anger measures. Situational contexts of differences in the gender of the target has also emerged in the literature as an influence in anger expression. Methodological issues pertinent to the current study have also been discussed, specifically the use of random community samples, the use of vignettes, single item measures and standardised self report measures of anger and gender role identification. Finally an overview and hypotheses for the current study were outlined. The following chapter will explore the methodology used in the current study.

CHAPTER THREE

THE METHODOLOGY FOR MAIN STUDY

The previous chapters outlined theoretical and methodological considerations for the current study. This chapter details the methodology used in the current study. Demographic characteristics of the sample, considerations in selecting sample size, the instruments used, the procedures adopted and ethical considerations are also discussed.

Method

Participants

The participants (n = 361) were selected from the general community using a multistage cluster sampling technique (de Vaus, 1995). Demographics of the sample including gender, age, level of education, marital status and country of birth were collected (see appendix E). The majority of participants (females n = 203, male n = 158) were found to be under 45 years of age (71.8% of the sample <= 44 years of age, mean age = 36.6 years) and Australian born (n = 280, 77.6% of the sample). Half the sample were in a married relationship (n = 280) with a majority of participants (n = 230, 63.7%) indicating that they had attained secondary level education. Demographics were compared to census data for the Perth Metropolitan area collected 1996 (Australian Bureau of Statistics, 1997). Comparative data are presented in table 1.

Table 1

Comparative Demographic Statistics for Population and Study Sample

	Population Statistic for Perth Metropolitan Area	Sample Statistic
Number of People	1 244320	361
Male	609 606 (48.99%)	158 (43%)
Female	634 714 (51.01%)	203 (56%)
Median Age	33	34
Percentage over 65 years of age	10.8%	5%
Born in Australia	796 230 (67.73%)	280 (77.6%)
Born Overseas	401 602 (32.27%)	81 (22.4%)

Sample Size

A final sample size of 360 participants was selected after the consideration of a number of factors. Shavelson (1988) suggests that to calculate an appropriate sample size, levels for three influencing factors need be defined prior to a study. These factors include the α level (probability of a type one error), the β level (the power of the statistical test, and the differences between the means to be detected (effect size). The levels for the study were set at the following; the α level at .05, β level at .20 and an effect size (Δ) of 0.2. Using these desired levels, a minimum sample size of 196 participants was calculated (Shavelson, 1988). Full details of the method used to calculate this minimum sample size are outlined in appendix D. A number of other factors were also considered. These included, the assumptions for multivariate normality (MANOVA), sampling error and finally the construction of the sampling frame.

Assumptions of Normal Multivariate Distribution

Adequate numbers in each cell were required to satisfy the assumptions of a multivariate analysis of variance. Tabachnick & Fidell (1996) suggests that each cell in the analysis must have more participants than the number of dependent variables in every cell and that these cells have at least 20 participants in each to satisfy assumptions of multivariate normality.

As normative data for the Personal Description Questionnaire (PDQ) was unavailable normative data for the Bem Sex Role Inventory – Short Form (BSRI-SF) developed by Bem (1981) was used as a guide for possible cell sizes for the study. It was expected that a similar distribution for the (PDQ) was likely as it tapped into the same theoretical constructs as the BSRI-SF and it's construction was based on the BSRI-SF. Minimum sample requirements for the study to meet multivariate normality assumptions were calculated using the smallest expected cell (see table 2).

Sampling Error

Sampling error is the extent to which a sample differs from the population as reflected by the standard error statistic (de Vaus, 1995). De Vaus (1995) suggests that with a sampling error of 5.5%, at 95% confidence level, a sample size of 330 participants would be required to ensure confidence that the sample means are representative of the population from which they are drawn plus or minus the sampling error. As the current study attempted to make inferences about the general community this level of sampling error and sample size were adopted as the minimum sample size for the study.

Table 2

Cell Sizes Calculated from Normative Sample for the BSRI-SF on the Basis of a Median Split (cell sizes bracketed)

	Masculine	Feminine	Androgynous	Undifferentiated
Male	23.8% (31)	15.6% (20)	37.1% (47)	23.5% (30)
Female	16.5% (21)	32.6% (42)	23.9% (31)	27.5% (34)

Minimum Sample Required	Male $\underline{n}$ = 128	Female $\underline{n}$ = 128	$\underline{N}$ = 256

Sampling Frame Construction

The sampling frame provided the last consideration in the estimation of the final sample size. De Vaus (1995) suggests that, to increase a sample's representativeness of the population, a maximum number of initial large clusters needs to be randomly selected with fewer subsequent smaller units selected from these initial clusters. To maximise the sample's representativeness of the targeted population a four stage sampling process was adopted attempting to reduce the sample size at each stage by 10% (see table 3)

Table 3

Sample Reduction Through the Four Stages of the Multistage Cluster Sampling Process

Stage	Number of Possible Clusters	10% Randomly Selected Clusters
District Level	79 Districts	8
Block Level	50 Blocks	5
Street Level	20 Streets (approx.)	3
Household Level	30 Houses (approx.)	3
Planned Total Sample Size (8 x 5 x 3 x 3)		360 participants

Obtaining the Sample

A multistage cluster sampling technique (de Vaus, 1995), incorporating four stages, was used to randomly select participants for the study. The sampling technique involved a random sample of large urban districts within the bounds of a small Australian city and randomly selecting smaller urban blocks from these districts. Individual streets were then randomly selected from the urban blocks. Randomised individual households from the selected streets were then surveyed (see appendix A for a detailed account of the multistage cluster sample process).

Ethical Considerations

A research proposal was submitted to the Committee for the conduct of Ethical

Research, the School of Psychology, Edith Cowan University and was approved under the stipulation that a number of ethical procedures and practices were used during the research process. These are outlined fully in appendix M. As the study involved an exploration of anger and the exposure of participants to anger eliciting vignettes participants were provided with information and support during the research process. This included informed consent, annonimity of participants and individual debriefing for participants if required.

Instruments

Instruments for the current study included a covering letter, the signed consent form, the Spielberger Trait Anger Scales, the Personal Description Questionnaire, two scenarios and the state anger rating scale (see appendix E)

Covering Letter

An introduction to the study, including aims, overview of the study, identification and contact phone numbers of the researcher, and assurances of ethical treatment both of the participant and the studies data were included on the covering letter.

Participant Signed Consent Form

Participants were provided with a consent form for signing which incorporated information from the covering letter, a consent statement, provision for signing and general demographic questions.

State-Trait Anger Expression Inventory

Spielberger's (1988) State-Trait Anger Expression Inventory Trait Anger Scale

provides a measure of trait anger and as the scale has demonstrated high internal consistency (Fuqua, Leonard, Masters, Smith, Campbell & Fischer, 1991) and considerable discriminant validity (Deffenbacher, Oeting, Thwaites, Lynch, Baker, Stark, Thacker & Eiswerth-Cox, 1996). The original instrument is made up of four sub scales, three of which were used, in the current study.

Trait Anger

Trait anger was assessed using the Trait Anger Scale (TAS) developed by Spielberger (1988). The TAS is a 10 item (range = 10 - 40), self-report, Likert based scale (1 = almost never to 4 = almost always) on which participants rated how angry they generally felt. The TAS assesses individual differences in disposition toward anger as a personality trait. Studies have reported the TAS to have a high internal reliability with an alpha range of .81 to .91 and showing a capacity discriminate high from low anger groups (Spielberger, 1988; Deffenbacher & Oetting et al., 1996). The TAS has also been shown to positively correlate with other measures of anger such as the Buss-Durkee Hostility Inventory (Spielburger, 1988).

Anger Expression.

Styles of expressing anger were assessed using the Anger Expression (AX) Inventory (Spielberger, 1988). The AX Inventory is made up of three subscales measuring differing styles of anger expression, which include the suppression or holding in of anger experienced (AX-I), the outward expression of anger toward other persons and or objects (AX-O) the tendency for controlled expressions of anger (AX-C). The scale is made up of 24 items on which participants were asked to rate how frequently they reacted or behaved, when angry, in the manner described by each item. Participants

were asked to rate their responses on a 4 point Likert based scale (1 = almost never, 2 = sometimes, 3 = often and 4 = almost always). The possible score for the measure ranges from 8 to a possible 36 for each sub scale. The Anger Expression Inventory has an alpha reliability ranging from .73 to .84 for the three subscales (AX; Spielberger 1988). Anger-In and Anger out subscales have shown to moderately correlate with the Trait Anger Scale (.24 to .58) and together have shown to have discriminant validity with anger, personality and other physiological variables (Lopez & Thurman, 1986).

Personal Description Questionnaire

Antill, Cunningham, Russell & Thompson (1981) developed the Personal Description Questionnaire (PDQ) from Australian samples for use in sex role classification. The PDQ has two forms comprising 40 descriptive characteristic statements each (10 feminine positive, 10 feminine negative, 10 masculine positive and 10 masculine negative items) which are combined to generate two subscales (Femininity and Masculinity). Participants rate the accuracy of statements on how characteristic it is of them, recording their responses on a seven point Likert-type scale (cited in Shaw & Right, 1967) with 1 = never or almost never true to 7 = always or almost always true. Sex role classifications of femininity, masculinity, androgyny and undifferentiated are generated by dividing the scores from the two scales using a median split. Form A was used in the current study due to its superior scale reliability coefficients (Russell & Antill, 1984). The internal consistency of the scale has been demonstrated to have an acceptable coefficient alpha level ranging from .69 to .84 (Antill et al., 1981; Farnhill & Ball, 1985; Russell & Antill, 1984). Factor analysis of the instrument has found support for two stereotypic dimensions of masculinity and femininity within Australian samples

(Farnhill & Ball 1985).

Vignettes

Two hypothetical scenarios in the form of vignettes were used in which a stranger (the target) behaved in such a way that would likely produce anger in the participant. The first vignette gave an account of a shopping center car park incident where the stranger accidentally damaged the participant's car and drives off without remorse. The second described an incident where a stranger steals the participants shoulder bag and runs off, again without remorse. Each participant was asked to actively imagine his or her bodily, affective, and likely behaviour responses to the two vignettes. The sex of the target was held constant for each participant (either male or female target). Male and female targets in the vignettes were alternately distributed to ensure an equal distribution across the total sample. The order of the vignettes was also counterbalanced to account for order effects.

State Anger Measures

A measure of state anger formed the last of the questionnaire content and comprised of three single item scales. The first comprised of a seven point Likert-type scale (cited in Shaw & Right, 1967) with 1 = extremely angry to 7 = no anger, measuring self-reports of state anger. The second and third scales measured anger expression and levels of control and consisted of two seven point semantic differential scales, ranging from 1 to 7.

Procedure

Administration of the Questionnaire

Individual households within randomly selected streets were approached. After finding the resident at home the researcher identified themselves, the institution the research was being conducted through, the general topic of the research and the approximate time required for the householder to complete the questionnaire. Householders indicating a willingness to participate were given further information concerning informed consent, confidentiality, future use of the data and instructions on how to fill the different sections of the questionnaire. Participants were invited to keep the covering letter containing an outline of the study and contact numbers for future inquiries. Consenting householders were asked to read the consent form, signing it if they wished to participate in the study. Questionnaires that were completed and had no signatures or had a cross in place of a signature were regarded as consenting participants.

No debriefing was conducted as no adverse participant reactions to the material presented were found. In general, participants found the material interesting and a facilitator to topical discussion. Following the collection of questionnaires response rate data were collected.

Time of Survey

To minimise any confounding effects in sampling due to the time data was collected; sampling was conducted on both weekends and weekdays (see appendix C). Three of the eight districts were sampled on the weekend.

Questionnaire Response Rate

In total, 711 people were found to be at home at the time of the study. Of this total 49.23% (n = 350) did not consent to participate in the survey, whilst 50.676% (n = 361) consented to (Appendix C).

Conclusion

This chapter has outlined the methodology used in the current study including the demographics of the sample, considerations for setting the sample size, ethical considerations, instruments used and the method used to collect the data. The following chapter will outline the results for the first analysis where gender and gender role were compared on trait measures of anger.

CHAPTER FOUR

THE EFFECTS OF GENDER AND GENDER ROLE ON TRAIT ANGER

The current chapter outlines the analysis of gender and gender role effects on measures of trait anger. It is hypothesised that participant gender role identification will significantly affect measures of trait anger, expression and control. Trait measures are not expected to differ as a function of gender.

Data Preparation

Individual debriefing and exploration of responses with participants, after completion of the questionnaire, minimised missing data. Three cases were excluded due to incomplete responses to the Personal Description Questionnaire (Antill, Cunningham, Russell, & Thompson, 1981) and the State-Trait Anger Expression Inventory (Speilberger, 1988) reducing the original data set from a total of $\underline{N}$ = 361 to 358 cases.

Participant responses to the State-Trait Anger Expression Inventory (STAXI), ranging from 1 to 4, were tallied into sub scale scores of trait anger, anger in (item numbers 3, 5, 6, 10, 13, 16, 17, 21), anger out (item numbers 2, 7, 9, 12, 14, 19, 22, 23) and anger control (item numbers 1, 4, 8, 11, 15, 18, 20, 24).

Participant responses to the Personal Description Questionnaire (PDQ) were tallied into four gender subscale scores of masculine positive (item numbers 2, 13, 14, 15, 20, 26, 33, 34, 37, 40), masculine negative (item numbers 5, 6, 8, 12, 19, 23, 29, 30, 35, 36), feminine positive (item numbers 1, 4, 9, 11, 18, 24, 25, 29, 32, 39)

and feminine negative (3, 7, 10, 16, 17, 21, 22, 27, 28, 38). The scores for positive and negative traits were combined for each gender role to create the total masculine (MAS) and feminine score (FEM) for each participant.

The MAS and FEM scores were used to classify participants into one of four gender role groups on the basis of a median split. Scores were divided at the median score for the sample creating dichotomies of high and low for both masculinity and femininity (see table 4). A new variable of gender role was created where participants were designated one of four classifications masculine (high MAS low FEM), feminine (high FEM low MAS), androgynous (high MAS high FEM) and undifferentiated (low MAS low FEM) (see table 5).

Table 4

Participant Mean and Median Scores for

Masculine and Feminine Subscales of the PDQ

	Mean	Median	Total Participants
Total Masculine	76.37	75	353
Total Feminine	90.77	90	353

Table 5

Cell Sizes for Gender Roles Resulting from Median Split of Masculinity and Femininity Subscales

	Male	Female	Total Participants
Masculine	56	38	94
Feminine	22	74	96
Androgynous	35	57	92
Undifferentiated	38	33	71
Total	151	202	353

Data Screening

Using procedures recommended by Tabachnick & Fidell (1996) inspection of univariate outliers revealed 17 cases over 3 standard deviations from the mean for the dependent variables of trait anger, masculinity, femininity and for the three anger expression scales of anger in, out and control. An overview of data screening and exploration of univariate and multivariate assumptions are included in Appendix G. Inspection for multivariate normality violations found a total of 5 outliers using Mahalanobis distances > x^2 (6, N = 361) = 22.46, p < .001 (Tabachnick & Fidell, 1996). A profile of the cases revealed that four cases were male and one female, with most indicating high trait anger scores. Two of these cases indicated high scores for outward anger expression, and one expressed high

inward anger expression.

The multivariate outliers were excluded in two stages. The distribution of scores for dependent variables with multivariate outliers removed (n = 353) was tested with a remaining nine extreme univariate outliers identified. The extreme scores for these cases were assigned the same values to the highest/lowest acceptable score for the selected variable to reduce their impact (Tabachnick & Fidell, 1996). Viewing the stem and leaf plots and the K-S (Lilliefors) statistic after this transformation revealed patterns of data distribution that were still slightly skewed. Transformations of the distributions of the variables were conducted with little or no improvement found in the skewness of the distributions or in the K-S (Lilliefors) statistic. Due to the low to moderate skew in variable distributions and the original scales meaningfully representing the data, no distribution transformations were made to the original data set.

Assumptions of normality, linearity, homoscedasticity were tested through inspection of the residual scatterplot (Tabachnick & Fidell, 1996). The scatterplot revealed that the residuals were normally distributed with no indication of violations to linearity or homoscedasticity assumptions. The standard deviation of errors of prediction, were found to be approximately equal for dependent variables scores, indicating no hetroscedasticity violation.

Assumptions of multicolinearity and singularity were tested. Tabachnick & Fidell (1996) suggest that bivariate correlations be considered high when found above .90 in a correlation matrix. Inspection of the correlation matrix found no bivariate correlation's above .90 indicating no singularity or perfect correlations

between any of the dependent variables. Analysis of a collinearity diagnostic revealed no correlations above .9 indicating no violation of multicolinearity. The determinant of the pooled correlation matrix was found to be -. 94 and significantly different from zero, further suggesting no bivariate correlations.

To test for the assumption of homogeneity of variance for the four dependent variables, variance-covariance matrices of the eight cells in the design were compared using the Boxes M test (Tabachnick & Fidell, 1996). The covariance matrices were not found to be significantly different with the Box's M test, indicating only small differences in variances $F(70,79307) = 72.171, p > .05$.

Inspection of the cell sizes for the comparison of gender by gender role revealed unequal cell sizes ranging from 22 to 74 participants; well above the suggested maximum ratio in cell size difference tolerated for a MANOVA analysis of 1:1.5 (Tabachnick & Fidell, 1996). Tabachnick & Fidell (1996) suggest a number of procedures to address this assumption violation. Random deletion of cases was considered but viewed as unsuitable as it would consequently reduce the sample size from 358 to 259 participants and exclude valuable data, reducing the power of the experiment. A second option of increasing the sample size through gathering more data was precluded due to time and resource constraints. A third option was explored involving the use of a separate MANOVA analysis in which cell sizes for the study were reduced, via random deletion, to the maximum ratio of 1:1.5 (Tabachnick & Fidell, 1996).

Comparisons between the full data set and the data with random deleted cases revealed a similar pattern of effects, suggesting the minimal influence of

unequal cell sizes on the study findings. The use of weighted marginal means for each cell minimised the effect of unequal cell sizes in the analysis of the data (Tabachnick & Fidell, 1996). The adjustment provided heavier weightings to cells with larger numbers of participants and lighter weightings to smaller cells.

MANOVA Analysis

A 2 x 4 (sex x gender identification) between subjects analysis of variance (MANOVA) was conducted on the four dependent variables: trait anger (TA), outward anger expression (AXOUT), inward anger expression (AXIN) and anger control (AXCONT). The Pillai's criterion was selected to evaluate multivariate significance as it is reported to be robust and have acceptable power (Bray & Maxwell, 1985). A significant main effect was found for gender role $F(3,349) = 6.47$, $p < .0001$. No other significant main effect for gender or interaction between gender and gender role was found.

A series of one-way analysis of variances (ANOVA) were used to investigate the impact of the four categories of gender role identification on measures of trait anger. Violations for the assumption of homogeneity of variance were found for outward anger expression (Levene = $F(3,349) = 4.93$, $p = .002$) and trait anger (Levene = $F(3,349) = 3.61$, $p = .014$). These were disregarded as unequal cell sizes had been found not to influence the results. A Bonferroni adjustment to the alpha levels ($\alpha = .013$) was calculated (Shavelson, 1988) to reduce the likelihood of type 1 error resulting from the use of multiple ANOVAs.

Significant results were found for anger control $F(3,349) = 4.97$, $p = .002$,

anger in $F(3,349) = 3.96$, $p = .008$, anger out $F(3,349) = 20.24$, $p < .0001$ and trait anger $F(3,349) = 23.33$, $p < .0001$ (see table 6). Post hoc comparisons using the Tukey HSD test on the four gender categories of masculinity, femininity, androgyny and undifferentiated were conducted using the four separate anger measures.

Masculine gender roles were significantly different from feminine gender roles in trait anger, expression of outward anger and levels of anger control. Masculine participants measured higher in anger and had a tendency to express anger outwardly. Conversely, feminine participants exercised greater control of their anger than masculine participants. Feminine participants were also found to be significantly different from androgynous participants indicating lower levels of both trait anger and outward anger expression. However when compared to undifferentiated participants, feminine participants were more prone to suppress anger.

Androgynous participants were found to be significantly different from undifferentiated participants, indicating higher levels of trait anger and outward anger expression and lower levels of anger control. Undifferentiated significantly differed from masculine gender roles indicating lower levels of trait anger and out ward anger expression. Table 6 provides a clear overview of the significant differences between gender role categories on trait anger measures. A full table of means and standard deviations for the analysis is reported in appendix J.

Table 6

Mean Scores, Standard Deviations, and *F* Ratios for Participants on Trait Anger, Expression and Control Across Gender Roles: Analysis One

Dependent Variables	Masculine ($n = 94$)	Feminine ($n = 96$)	Androgynous ($n = 92$)	Undifferentiated ($n = 71$)
Trait Anger **				
Mean	21.29	16.90	20.32	16.83
SD	5.35	3.64	4.40	4.37
Anger Inward *				
Mean	16.30	16.69	16.47	14.83
SD	3.65	3.98	3.51	3.61
Anger Control *				
Mean	22.43	24.97	23.21	24.03
SD	5.00	4.52	4.73	4.74
Anger Outward **				
Mean	16.52	13.43	16.39	13.93
SD	3.95	3.00	3.60	2.89

* $p < .01$

** $p < .0001$

Summary of Results

As hypothesised gender did not significantly influence measures of trait anger or interact with gender role identification. Gender role was found to be the only variable to have a significant effect on the four measures of trait anger. Levels of trait anger, anger control, outward anger expression and inward anger expression were found to differ highly between the types of gender roles that participants identified with. Participants identifying with masculine and undifferentiated gender roles tended to have higher levels of trait anger, were more

likely to express anger outwardly and indicated less control of anger than both feminine and undifferentiated gender roles. These results replicate findings by Kopper (1993) and Kopper and Epperson (1991). The following two chapters will extend patterns of trait anger for gender roles into two situational contexts in which gender of the target is manipulated.

CHAPTER FIVE

THE EFFECTS OF GENDER, GENDER ROLE AND GENDER OF TARGET ON STATE ANGER: THEFT VIGNETTE

The previous chapter found significant differences in trait measures of anger as a result of differing gender roles whilst no effects were observed for gender itself. Masculine participants tended to rate higher in anger and express anger outwardly whilst feminine participants tended to exercise greater control of their anger. Androgynous participants also reported high levels of anger, expressed it outwardly but tended to exercise greater control. As discussed in chapter two, measurements of trait anger have been found to be predictive of state anger measures (Deffenbacher et al. 1996). Participants rating more highly in trait anger are more likely to experience greater anger intensity and react more angrily, to situations that are anger provoking. The current analysis will extend the analysis for trait anger into a situational context that elicits anger. It is hypothesised that the pattern of results for measures of trait anger for differing gender roles will be replicated for measures of state anger. Though the gender of participants or gender of the target are not expected to influence measures of state anger, both are expected to interact significantly on measures of anger control and expressions.

Data Screening

Initial inspection of univariate outliers revealed 9 extreme cases over 3 standard deviations from the mean for the dependent variables state anger, anger expression, anger control, masculinity and femininity (see appendix I). Inspection

for multivariate normality violations found a total of 4 outliers using significant Mahalanobis distances > x^2 (5, N = 358) = 20.515, p < .001. These cases were examined for profile patterns revealing that all cases were males, having indicated low levels of anger control. Three of the four cases rated highly in outward anger expression and three rated high in state anger. These cases were excluded from the analysis.

The distribution of scores for dependant variables with multivariate outliers removed (n = 354) were tested for univariate outliers. Five extreme univariate outliers were identified and assigned the same values as the highest/lowest acceptable score for the selected variable. Viewing the stem and leaf plots and the K-S (Lilliefors) statistic after this transformation found that patterns of data distribution were still highly skewed for state anger measures. As these measures represented meaningful realistic representations of participant experience to the vignettes, no transformations of the data were made.

Assumption checks for MANOVA analysis was conducted. Normality, linearity, homoscedasticity were found not to be violated. No bivariate correlation's were found, satisfying assumptions of multicolinearity and singularity. Inspection of the Boxes M test and the variance-covariance matrices met the homogeneity of variance assumption for the three dependent variables of state anger.

Inspection of the cell sizes for the comparison of gender by gender role by gender of the target revealed unequal cell sizes ranging from 8 to 40 participants well above the suggested maximum ratio in cell size difference tolerated for a

MANOVA analysis of 1.5 (Tabachnick & Fidell, 1996). Procedures adopted for analysis one were used to test the effect of small and unequal cell sizes on the results. A separate MANOVA analysis was used in which cell sizes for the study were reduced, via random deletion, to the maximum ratio of 1:1.5 (Tabachnick & Fidell, 1996). The patterns of results were then compared to results for the study with no random case deletions. Comparisons found the same pattern of effects in both analysis supporting the use of the full sample and indicated the minimal effect of unequal cell sizes. Weighted marginal means were used in each of the 16 cells used in the study providing heavier weightings to cells with larger participant numbers and lighter weightings to smaller cells.

MANOVA Analysis

A 2 x 4 x 2 (sex x gender role x sex of the target) between subjects analysis of variance (MANOVA) was conducted on three dependent variables: state anger (SA), state anger expression (SXOUT) and state anger control (SXCONT). The Pillai's criterion was used to evaluate the significance of multivariate effects due to its reported robustness and acceptable power (Bray & Maxwell, 1985). A significant main effect was found for gender role $F\ (3,351) = 3.48$, $p < .001$. Gender and gender of the target were not found to influence state anger scores. No significant two way or three way interactions were found.

The impact of the four categories of gender on the three dependent measures of anger were analysed using a series of one-way analysis of variance (ANOVA). Violations for the assumption of homogeneity of variance for anger

expression (Levene = (3,350) = 7.45, $p < .001$) were disregarded due to the lack of influence of small and unequal cell sizes on the results. Due to the use of multiple ANOVAs and the likelihood of increasing type I error, a Bonferroni adjustment to the alpha leveis ($\alpha = .017$) was made (Shavelson, 1988). Significant results were found for state anger $F(3,350) = 3.803$, $p < .01$ and anger expression $F(3,350) = 11.164$, $p < .0001$. Anger control was not found to be significant (see table 7). A full outline of means and standard deviations for the study are reported in appendix K.

Post hoc comparisons using the Tukey HSD test on the four gender categories of masculinity, femininity, androgyny and undifferentiated were conducted using the three separate state anger measures. Participants identifying with masculine gender roles were found to be significantly different from feminine gender roles in both state anger experiences and in anger expression. Masculine gender roles tended to experience anger more strongly and express it outwardly than feminine gender role. Masculine gender roles were also found to be significantly different in anger expression than undifferentiated gender roles with masculine gender role expressing anger outwardly to a greater extent. Feminine gender roles were also found to express anger outwardly significantly less than androgynous gender roles.

Table 7

Mean Scores, Standard Deviations, and *F* Ratios for Participants on State Anger, Expression and Control Across Gender Roles: Analysis Two

Dependent Variables	Masculine ($n = 94$)	Feminine ($n = 97$)	Androgynous ($n = 91$)	Undifferentiated ($n = 72$)
State Anger *				
Mean [a]	1.83	2.38	2.08	2.07
SD	1.14	1.22	1.05	1.10
Anger Expression **				
Mean [b]	6.14	4.97	5.60	5.13
SD	1.16	1.82	1.29	1.70
Anger Control				
Mean [c]	4.74	5.28	4.87	5.10
SD	1.87	1.66	1.73	1.55

Note. [a] Low scores for state anger indicate high participant anger ratings.

[b] Scores for anger expression are represented on a differential continuum (1-7) with high scores representing outward expression low scores indicating inward expression.

[c] Scores for anger control are represented on a differential continuum (1-7) with high scores representing control of behaviour and low scores representing little or no control of behaviour

* $p < .01$

** $p < .001$

Summary of Results

The current study found that gender and gender of the target did not significantly influence state measures of anger. Levels of state anger and anger expression were found to differ significantly as a function of participant gender roles, whilst levels of anger control did not differ. These results indicate a

consistent pattern in measures of anger in both trait and state dimensions for differing gender roles. Masculine participants experienced higher levels of anger and expressed anger outwardly more than feminine and androgynous participants. The hypothesis for a significant interaction between the gender of the target and the gender of participants was not supported. Male and female participants were effected by the gender of the target in either state anger control or expression.

The following chapter will again explore the influence of gender, gender role identification and gender of the target on measures of state anger in a second situational context. It is expected that similar patterns of anger experience and expression based on participant gender role identification will emerge.

CHAPTER SIX

THE EFFECTS OF GENDER, GENDER ROLE AND GENDER OF TARGET ON STATE ANGER: ACCIDENT VIGNETTE

In previous chapters significant differences in trait and state measures of anger as a result of differing gender roles were reported, whilst males and females did not differ on measures of anger. In both trait and state conditions, masculine participants tended to rate higher in anger and express anger outwardly than feminine participants. It was found that trait patterns of anger experience and expression were predictive of state anger measures (Deffenbacher et al. 1996).

The current analysis will extend the findings for both trait and state anger into a second situational context that elicits anger. The vignette in the current analysis will explore the context of an accident in the car park of busy shopping centre. It is hypothesised that similar patterns of trait anger for participants with differing gender roles will be replicated. Males and female participants are not expected to differ on measures of state anger except when influenced by the differing gender of the target.

Data Screening

Initial inspection of univariate outliers revealed 7 extreme cases over 3 standard deviations from the mean for the dependant variables state anger, anger expression, anger control, masculinity and femininity (see appendix J). Inspection for multivariate normality violations found a total of 4 outliers using significant Mahalanobis distances > x^2 (5, $\underline{N}$ = 358) = 20.515, $\underline{p}$ < .001. After examination for

case profiles for the outliers few systematic patterns were revealed and the cases were excluded from the analysis.

Univariate outliers with multivariate outliers removed (n = 354) were tested. Five extreme univariate outliers were identified and assigned the same values as the highest/lowest acceptable score for the selected variable. Viewing the stem and leaf plots and the K-S (Lilliefors) statistic after this transformation found that patterns of data distribution were still highly skewed for state anger measures. No transformations of the data were made as the state anger ratings represented meaningful and realistic measures of participant's experience to the vignettes.

Assumptions of normality, linearity, and homoscedasticity were tested and deemed satisfactory. Inspection of the correlation matrix revealed assumptions of multicolinearity and singularity had been met. The assumption homogeneity of variance was tested using the Boxes M test and found no violation.

As in the previous analysis, inspection of the cell sizes for the comparison of gender by gender role by bender of the target revealed unequal cell sizes ranging from 8 to 40 participants. These were above the 1:1.5 ratio tolerated for a MANOVA analysis (Tabachnick & Fidell, 1996). Procedures adopted for analysis one and two were used to test the effect of small and unequal cell sizes on the results. A separate MANOVA analysis with random case deletion was compared to results for the study using the full data set. Comparisons found similar pattern of effects in both analyses indicating the minimal effect of unequal cell sizes on the results. Finally the analysis of the data used weighted marginal means, using heavier weightings to cells with larger numbers of participants and lighter

weightings to smaller cells.

MANOVA Analysis

A 2 x 4 x 2 (sex x gender role x sex of the target) between subjects analysis of variance (MANOVA) was conducted on three dependent variables of state anger (SA), state anger expression (SXOUT) and state anger control (SXCONT). To evaluate the significance of multivariate effects a Pillai's criterion was used due to it's reported robustness and acceptable power (Bray & Maxwell, 1985). A significant main effect was found for gender role $F(3,354) = 3.29$, $p = .001$ with an effect size of .028. No main effects were found for gender of target and gender of the participant. A significant two-way interaction was found for gender and gender of the target $F(3,354) = 2.92$, $p = .034$ with an effect size .025. No other two or three way interactions were found to be significant.

A series of one-way analysis of variances (ANOVA) were performed on four categories of gender role on measurements of state anger, anger expression and control. Violations for the assumption of homogeneity of variance for state anger were found (Levene = $(3,350) = 3.31$, $p = .02$) and anger expression (Levene = $(3,350) = 4.55$, $p = .004$). No effect was found on the results due to small and unequal cell sizes so the violation of this assumption was disregarded.

Due to the use of multiple ANOVAs and the likelihood of increasing type 1 error, a Bonferroni adjustment was calculated adjusting the alpha level to .017 (Shavelson, 1988). Significant results were found for state anger $F(3,350) = 7.33$, $p < .0001$, anger expression $F(3,350) = 11.42$, $p < .0001$. Anger control was not

found to be significant (see table 8). A full outline of means and standard deviations are reported in appendix L

Table 8

Mean Scores, Standard Deviations, and *F* Ratios for Participants on State Anger, Expression and Control Across Gender Roles: Analysis Three

Independent Variables	Masculine ($n = 94$)	Feminine ($n = 97$)	Androgynous ($n = 91$)	Undifferentiated ($n = 72$)
State Anger *				
Mean [a]	1.81	2.55	2.10	2.26
Standard Deviation	0.97	1.23	1.09	1.13
Anger Expression *				
Mean [b]	5.96	4.76	5.58	5.10
Standard Deviation	1.33	1.77	1.33	1.54
Anger Control				
Mean [c]	4.87	5.31	4.87	4.99
Standard Deviation	1.59	1.59	1.65	1.78

Note. [a] Low scores for state anger indicate high participant anger ratings.

[b] Scores for anger expression are represented on a differential continuum (1-7) with high scores representing outward expression low scores indicating inward expression.

[c] Scores for anger control are represented on a differential continuum (1-7) with high scores representing control of behaviour and low scores representing little or no control of behaviour.

* $p = .0001$

Post hoc comparisons were conducted using the Tukey HSD test on the influence of the four gender categories of masculinity, femininity, androgyny and

undifferentiated on measures of state anger. Gender roles were found to significantly differ on measures of anger experience and expression but not on anger control. Masculine gender roles were found to be significantly different from feminine and undifferentiated gender roles in state anger experience and expression. Masculine gender roles were found to experience anger more strongly and express it outwardly to a greater degree than both undifferentiated and feminine gender roles. Feminine gender roles were found to experience anger and express anger outwardly significantly less than androgynous gender roles.

The significant two-way interaction between gender and gender of the target was inspected for the three dependent variables. A significant interaction was found for anger expression $F(1,338) = 7.76$, $p = .017$ (see figure 1). Inspection of the interaction plot for anger expression revealed that female participants expressed anger outwardly to both male and female targets to similar levels. Conversely, male participants tended to express anger outwardly to male targets to a greater level than to female targets.

Summary of Results

Consistent with the two previous analyses, no gender differences were found in measures of state anger experience, expression and control. In support of previous studies (Kopper, 1993; Kopper & Epperson, 1991, 1996) and consistent with patterns found in analysis one and two of the current study, participant gender roles were found to significantly differ on measures of state anger. Both situational contexts, theft of personal property and an accident in a car park resulted in similar

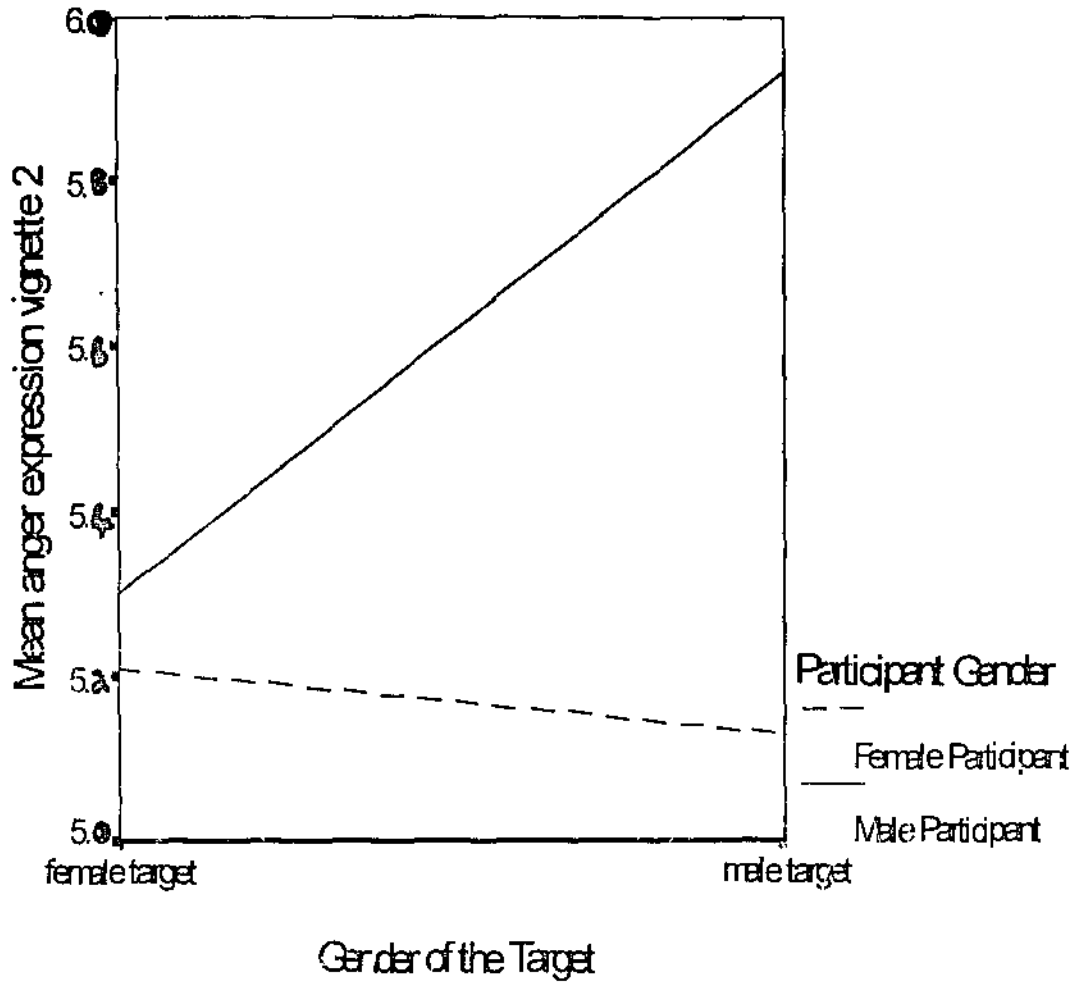

Figure 1 Interaction for gender of target and gender of participant on anger expression

patterns of anger experience and expression for the four gender roles. Participants identified as masculine indicated the tendency to be more angered and express anger outwardly than feminine and androgynous gender roles whilst feminine participants were found to be least likely to anger or express anger outwardly. The level of anger control did not seem to differ across gender roles. The findings

across the three analyses also supported the conceptual link between state and trait anger (Spielberger, 1988; Deffenbacher et al., 1996). High levels of trait anger in study were reflected in a tendency to experience and express anger more strongly in situational contexts found in studies 2 and 3.

Though not significant as main effects, gender and gender of the target were found to significantly interact on measures of state anger expression providing some support for findings in the literature (Averill, 1982; Brody et al., 1995; Harris, 1994). The presence of a male target tended to significantly increase out ward anger expression for male participants whilst having a marginal reverse effect for female participants. Though this was only found in the car park vignette.

The following chapter will explore the findings of the current study in the context of the hypotheses posited and the implication current research. Clinical applications, limitations of the current study and future directions for research will be discussed.

CHAPTER SEVEN

DISCUSSION

Anger is a commonly experienced emotion, yet and until recently it has not been extensively researched. Definitional confusion and methodological limitations have often limited research findings. As a result, common lay notions of gender differences of the experience and expression of anger remain largely untested in the literature. Recent studies have suggested that males and females do not differ in measures of anger and have suggested that categories of gender role identification may be more predictive in determining patterns of anger experience and expression (Kopper, 1993; Kopper and Epperson, 1991,1996). The current study aimed to investigate the influence of gender, gender role identification and gender of the target on measures of state and trait anger. The current study predicted that gender role and not gender would be a determining factor in differing measures of trait anger. It was expected that patterns of trait anger, based on participant gender role identification would extend to measures of state anger, within the context of two anger-eliciting vignettes. And finally male and female participants would differ in measures of state anger expression and control as a function of the gender of the target.

Gender Differences on Anger Experience and Expression

Previous empirical exploration of gender differences in anger have found conflicting results. Averill (1982,1983) found that there were few differences

between males and females in their experience and expression of anger. This finding has been supported in recent studies (Kopper & Epperson, 1996; Deffenbacher & Oetting et al., 1996; Fischer et al., 1993; Fugua et al., 1991). A number of theorists and researchers have also posited that men and women differ in their experience and expression of anger (Crawford et al., 1992; Biaggo, 1989; Malatesta-Magai et al., 1992).

Using measures of state and trait anger (Spielberger, 1988) the current study explored gender differences in measures of state and trait anger. It was hypothesised that measures of trait and state anger would not differ based on gender differences of participants. The current study found that both males and females reported similar levels of anger and similar tendencies to express and control anger in both trait and state measures. The results from the current study provide strong evidence that men and women do not differ in their experience and expression of anger. The findings support recent literature and cast great doubts on the continued popular belief of gender differences in anger.

The Influence of Gender Role Identification on Anger Experience and Expression

The current study also explored the impact of gender role classifications on trait and state measures of anger experience, expression and control. Previous research has suggested gender role identification as a significant predictor of anger measures (Kopper, 1993; Kopper & Epperson, 1991, 1996). Findings have indicated that masculine, feminine and androgynous gender roles exhibit unique

patterns of anger experience, expression and control.

Trait Measures of Anger

Gender role classifications were expected to differ on measures of trait anger in the current study. A number of hypotheses were posited. Firstly, it was hypothesised that participants classified, as masculine would report high levels of trait anger and outward anger expression, lower levels of anger control and inward anger expression. Secondly, feminine participants would report low levels of trait anger, express anger inwardly and exercise high levels of control. Finally, participants classified as androgynous would report low levels of trait anger and inward anger expression and higher levels of outward anger expression and control.

The current study found clear support for these hypotheses. Participants identified as masculine showed high levels of trait anger, expressed anger outwardly and rated lower in anger control. Feminine gender roles expressed lower levels of trait anger, rated more highly in their control of anger, expressed anger inwardly and were unlikely to express anger outwardly. Participants identified as androgynous were also found to be have high levels of trait anger, outward anger expression and exhibited greater control.

The patterns of anger experience, expression and control resulting from differing gender role identification found in the current study, replicated earlier research (Kopper, 1993; Kopper & Epperson, 1991, 1996). The results suggest that gender role identification is of use in predicting of patterns of anger experience, expression and control at a trait level.

State Measures of Anger

The significant trait anger findings were extended to state measures of anger within two differing situational contexts that elicited anger. Deffenbacher and Oetting et al. (1996) have found that levels of trait anger were predictive of state anger measures. Individuals high in trait anger experienced increased frequency and intensity of state anger and often expressed anger in a maladaptive manner. The current study expected patterns of trait anger, emerging from the differences in gender role identification found in analysis one, would correspond with state anger measures. Participants were asked to imagine themselves in two vignettes which outlined scenarios designed to elicit anger. The vignettes described the intentional and accidental loss/damage of valuable personal property (theft of personal belongings and accidental vehicle damage). Levels of state anger experience, expression and control were then measured.

It was hypothesized that classifications of gender role would differ on state measures of anger in a similar pattern across the two vignettes, consistent with patterns of trait anger found in analysis one. It was hypothesised that participants classified as masculine would report higher levels of state anger, express anger outwardly and show less control of their anger. Conversely, feminine participants were expected to report lower levels of state anger, express anger inwardly and exercise greater control of their anger. Additionally, it was hypothesised that, participants classified as androgynous would report low levels of trait anger and inward anger expression and higher levels of outward anger expression and control.

The current study found measures of state anger experience and expression

differed as a function of gender role for both situational contexts. Whilst measures of anger control did not differ, gender classifications tended to express anger outwardly with masculine participants tending to have higher levels of state anger and outward anger expression than other gender classifications. Feminine classifications tended to experience and express anger less strongly than other gender roles. Participants generally did not indicate the expression of inward anger. This is thought to be an artifact of the questionnaire design, having both outward and inward anger expression on one scale or the influence of the vignettes, eliciting strong expressions of outward anger. Participants, irrespective of gender role tended to exercise similar levels of anger control.

The current findings suggest that classifications of gender role are significantly associated with differential patterns of anger experience and expression. These patterns are generally consistent at both a trait and state level.

The Impact of Gender of the Target on Anger Experience and Expression

Anger has been found to be primarily interpersonal (Avrill, 1982, 1983; Deffenbacher & Oetting et al., 1996; Denham & Bultemeier, 1993). The current series of analyses explored anger eliciting situational contexts involving persons of differing gender as the target for participant anger. The gender of the target was predicted to differentially influence male and female participants on measures of state anger experience, expression and control. Previous research has suggested that differing gender of the target influences male and female measures of anger experience and expression. It had been found that the presence of a male target

reduced anger expression of females and increased anger expression in males whilst levels of anger experience did not differ (Avrill, 1982; Brody et al., 1995; Harris, 1994).

The current study predicted that measures of state anger expression and control would significantly differ as a function of the interaction of participants' gender and gender of the target, in each vignette. It was hypothesised that gender of the target, alone, would not significantly influence state measures of anger in the two vignettes. A significant interaction between participant gender and gender of the target was hypothesised on state measures of anger expression and control . It was expected that female participants would outwardly express anger less to male targets than to female targets and exercise greater control of anger. In contrast male participants would express anger outwardly less to a female target than to a male target and indicate less control of their anger. State anger experience was hypothesised not to differ between males and females.

The current study found no significant result for gender of the target on measures of state anger. The presence of a male or female target did not effect participant experience, expression or control of anger supporting the studies hypotheses. The hypothesised interaction between participant gender and gender of the target was partially supported. These variables were found to significantly interact on measures of anger expression, only in the car park vignette. The presence of a male target increased the level of out ward anger expression for male participants and decreased anger expression for female participants. The presence of a female target reduced male participant anger expression.

It is interesting to note that this trend was also evident for the robbery vignette, but only significant at a univariate level of analysis. The hypothesis for the similarity of anger experience for males and female participants in the context of gender differences in the target was supported. Significant interactions between participant gender and gender of the target were not evident for state anger and state anger control. This indicated that both male and female participants experienced similar levels of anger and exercised similar levels of control when confronted with targets of differing gender.

These results provide only week evidence for the influence of gender of the target on men and women's expression of anger. These results suggest that there is a tendency for males and females to change the outward intensity of anger expression in the presence of a male or female target, with levels of control and anger experience not differing.

Theoretical Implications

The findings of the current research have a number of implications for anger theory. First, the results suggest that gender alone does not affect anger experience, expression or control. The study found that males and females experience, express and control anger in similar ways and to similar intensities. These results do not support the lay notion that men have a greater tendency toward higher levels of anger and outward anger expression and that conversely women have difficulty in the expression of anger choosing instead to suppress it.

Second, the current research findings suggest that classifications of gender

role have a strong relationship to anger experience, expression and control. This effect was found both at a trait and state level. Taken together, these results support previous research that has found few gender differences in the experience and expression of anger (Avrill, 1982, 1983; Deffenbacher & Oetting et al., 1996; Fischer et al., 1993; Tarvis, 1989) and research that have found significant effects for gender role identification, the experience and expression of anger (Kopper, 1993; Kopper & Epperson, 1991, 1996).

The use of non-random samples has been influential in maintaining the myth of gender differences in anger. Previous research has tended to draw samples from student and clinical populations resulting in findings unrepresentative of the general community (Thomas, 1993). In particular, research with clinical populations has tended to report gender differences whilst non-clinical samples have found inconclusive evidence (Sharkin, 1993). Use of samples drawn from clinical populations are descriptive for populations for which anger expression is problematic and as such are limited in their generalizability to the general population.

The current study addressed this limitation found in previous research. The use of a random sample drawn from the general population increases the face validity for the results found in the current study. The findings provide an insight into the general population's experience and expression of anger and how this is influenced by gender, gender role and the gender of a target.

The results indicate strong influence of gender role identification on the experience and expression of anger in the general community. People respond to

anger eliciting situations using gender schemas which are used to process and organize an individuals experiences in line with gender role categories (Bem, 1981a). Schemas are understood as a cognitive structures that organizes incoming information into masculine and feminine categories (Bem, 1984). Different patterns of anger experience, expression and control arise due to differences in perceptions, appraisals and values consistent with cultural definitions of appropriate behavior. These conceptions of expected anger behavior are reflected in different measures of trait and state anger experience, expression and control found in the current study. The present results therefore, suggest that the role of gender schemas is an influence on the experience and expression of anger. Further theoretical analysis and empirical research is need to identify the cognitive and other schema-based processes that link anger experience and expression with gender role classifications.

The second area that the current findings highlight is the influence of the gender of the target on outward anger expression measures. The present results provide some evidence to indicate that differences in the gender of the target influence outward anger expression differently for male and females. Crawford et al. (1992) asserts that cultural norms and personal experience shape women's expression of anger. Women are expected to restrain their anger in the presence of men as a result from men's potential expression of overt or implied violence (Crawford et al. 1992) and due to less approval from friends and associates (Harris, 1994). The present results therefore, suggest that gender of the target is in part influential in the differential expression of anger for males and females. These

findings would benefit from further empirical research that focuses on the appraisal components that differentiate anger expression for males and females, influenced by differences in the gender of the target.

Implications to Clinical Practice

Clinical practice has tended to use a cognitive behavioral framework to address problematic anger experience and expression in clients (e.g. Deffenbacher, Lynch, Oetting, & Kemper, 1996; Howells, 1988; Novaco, 1978; 1994). Interventions have incorporated skills training to aid clients identify antecedent events, cognitive processes (i.e. appraisals) and the redirection of maladaptive behaviour. As a consequence of assumed gender differences, males have been assisted in directing their anger in non-aggressive ways whilst women have been encouraged to explore effective ways to express anger (Kemp & Strongham, 1995). Women's assumed repression of anger has been suggested as having possible negative therapeutic outcomes. Fischer et al. (1993) have suggested that therapists avoid stereotypical treatment of women's affect and suggested a possible negative impact for women who do not experience repression of anger. The assumption that men and women differ in anger needs to be questioned in light of the lack of gender differences found in the current study.

The significant effect of gender role and the gender to the target on the experience and expression of anger needs to be taken into account in the design of interventions dealing with problematic anger expression. At a macro social level, factors that influence the creation of gender schemas relevant to anger experience

and expression need to be explored. Understanding the macro determinants of differing gender roles and their impact on patterns of anger experience and expression could direct intervention development toward systems approaches that extend beyond the individual and incorporate broader systems (i.e. family and local community). At a micro level, the management of problematic anger needs to move from individual treatments based solely on cognitive behavioral paradigms to incorporate the facilitation of 'revised' gender schemas. The current study has found differing gender roles to have unique patterns of anger experience and expression stable in both trait and state conditions. Development of new therapeutic interventions need to explore the factors that facilitate the development and adaptation of gender roles and their related patterns of anger management. Central to this is the question 'what is a man?'. The present results suggest that gender role identification and its construction within the individual is a crucial variable for consideration in anger management programs.

Limitations of the Current Study and Future Directions

A number of limitations of the current study were identified. The present study relied on the use of self-report measures. The impact of self-report measures were minimized by the assurance of participant confidentiality and anonymity during the collection of data. Nevertheless the self-report of anger and its expression is very different from behaviorally based assessment and needs to be considered as a limitation for the current studies findings.

A second limitation was a methodological issue emerging from the use of

the scale used to measure state anger expression. The scale combined both inward and outward anger expression in one measure. Scores on the item suggested that participants only expressed outward anger in the context of both vignettes. It is thought that participant expression of anger was influenced by the strength of the anger eliciting vignettes used. Outward anger ratings are thought to have had an 'over powering' influence over inward anger ratings, resulting in the loss of valuable data. Future studies could include this as a separate item.

A further consideration for research is empirical investigation of gender role construction as a function of time and culture. If gender role categories are indeed, emergent from a dynamically changing culture, gender role mediated differences in affective experience need to be studied across the life span and across culture (Fischer et al. 1993). The current study examined community experience and expression of anger as influenced by categorizations of gender within the current *zeitgeist* of Australian culture. Further research is required to explore these findings in the context of changing community values over time and differing cultures. The use of cross-sequential designs, as pioneered by Schaie (1977) could explore the impact of changing societal construction of gender roles on the expression and experience of anger. Cohort studies with representative samples and well designed instruments, taking measurements over time, could explore the impact of changing psychological factors such as attitudes, values, levels of psychological well being and anger (Anastasi, 1981).

A direction for further research is the exploration of factors that contribute to gender role development. A clearer understanding of the social and

psychological processes that shape the formation of gender role identification is needed. Such an understanding would then facilitate the investigation of how gender role interacts with anger experience and expression.

Conclusion

The current study has found that men and women do not differ in their experience, expression and control of anger. Gender role identification has emerged as a strong and consistent predictor of anger measures. Gender of the target was found to provide a weak contextual influence on male and female expression of anger. The findings contribute to our understanding of how the general population experiences and expresses anger.

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CONTENT OF APPENDIX

Appendix A-1

Multistage cluster sample of the Perth Metropolitan area.

A multistage cluster sampling technique (de Vaus, 1995), incorporating four stages, was used to randomly select participants for the study.

Sampling Frame for the Study

A sampling frame of the Perth Metropolitan region was established using reference maps from the Streetwise Road Directory of Perth (1996). Sampling districts (n = 79) corresponding to the reference map pages were selected from urban zoned areas falling within three geographic boundaries (see Appendix A-3). The northern boundary of the sampling frame incorporated urban areas surrounding the length of Burns Beach Road and Gnangara Road, as specified by reference map pages 18 through to 21 and 26 through 29 (Streetwise Road Directory of Perth, 1996). Districts north of this boundary were not included in the sampling frame as they were found to be predominantly non-urban areas made up of rural or semi rural districts, national parks or pine plantations.

The Eastern boundary of the sampling frame utilised major highways incorporating the Great Northern Highway, Roe Highway, Tonkin Highway and Albany Highway. Urban districts surrounding these highways falling within reference map pages (29, 36, 50, 64, 76, 86, 96, 106, 110, and 126) were included within the sampling frame (Streetwise Road Directory of Perth, 1996). The eastern boundary divided predominantly foothills districts including rural, semi rural, light industrial districts, national parks, state forests and small villages from the Perth urban metropolitan districts, lying on the coastal plain.

The southern boundary for the sampling frame incorporated urban districts surrounding the length of Thomas Road as specified in maps 129 through to 132 and 124 through to 126 (Streetwise Road Directory of Perth, 1996). Areas south of this boundary were not included in the sampling frame as they were found to be made up of predominantly rural, semi rural, light industrial and heavy industrial districts.

Four Stages of the Multistage Cluster Sampling Technique

Stage One: Random Selection of Districts

The reference map page numbers for the 79 metropolitan areas in the sampling frame (Streetwise Road Directory of Perth, 1996) were randomly sampled using random numbers (de Vaus, 1995, Appendix A-2), to generate the eight districts areas for the study (Appendix A-4). The last three numbers of the five number chains, from the random numbers table beginning with column 1 row 5 and consecutive columns there after. Once numbers in the fifth row were exhausted, rows 1 followed by 4 were used until the eight sample districts were selected. The final eight metropolitan districts, as represented by reference map numbers 31, 47, 48, 61, 76, 85, 94 and 102, represented 9.8% of the total sampling frame considered in the study.

Stage Two: Random Selection of Blocks

Each of the eight metropolitan sample districts were broken down into 1 of 50 possible sample blocks utilizing reference map co-ordinants of the respective reference map pages. Five sample blocks were randomly selected from each of the eight metropolitan districts sampled using the random numbers table (de Vaus,

1995). Letters along the co-ordinant horizontal axis (A-E) were assigned numbers 1-5 whilst the numbers forming the co-ordinant vertical axis were used 'as is'. Letter co-ordinants were randomized using consecutive last numbers of the five number chains in the first row and then every row there after. The number co-ordinants were randomized using consecutive 2 last numbers of the five number chains working backwards horizontally through the random numbers list. This process continued until five blocks were selected from each of the eight districts. The five selected sample blocks represented 10% of the possible blocks in any of the eight given districts.

Stage Three: Random Selection of Streets

Streets falling within the bounds of the five selected sample zones were listed and numbered (Appendices A-5 through A-12). Three streets from each block was randomly selected using the random numbers table (de Vaus, 1995). The first two numbers of each five number chains beginning with the last column and working forward were used to generate the random numbers. When the numbers were exhausted the last numbers of each column were used until the total sample of streets were selected.

Stage Four: Random Selection of Houses

A list of numbers was generated from the random numbers list (de Vaus, 1995) for use in the random selection of houses from each street using the first number of the first column working downwards (see table 9).

Table 9

Random Number for the Selection of Individual Households

7	2	8	6	5	4	9	3	1

The first residence in the street with a number 7 as it's last digit was selected as the starting point for the sampling. Households were then selected to be approached based on the order of the random numbers selected. Due to the high proportion of residents absent and participant refusal rates in the early stages of the research process (see appendix C) this final level of randomization was abandoned. A number of considerations were influential in this decision. Firstly it was felt that no systematic difference between participants living in a particular street would be found and this final level of randomization would not likely add any thing significant or unduly influence the studies findings. Secondly the investment of time to re-visit selected streets was problematic in the context of maintaining the tight timeline necessary to complete the research project. Finally the strategy of leaving questionnaires at that vacant households was viewed as less than desirable due the low response rate expected and the lack of debriefing opportunity that residents would have without each survey being collected.

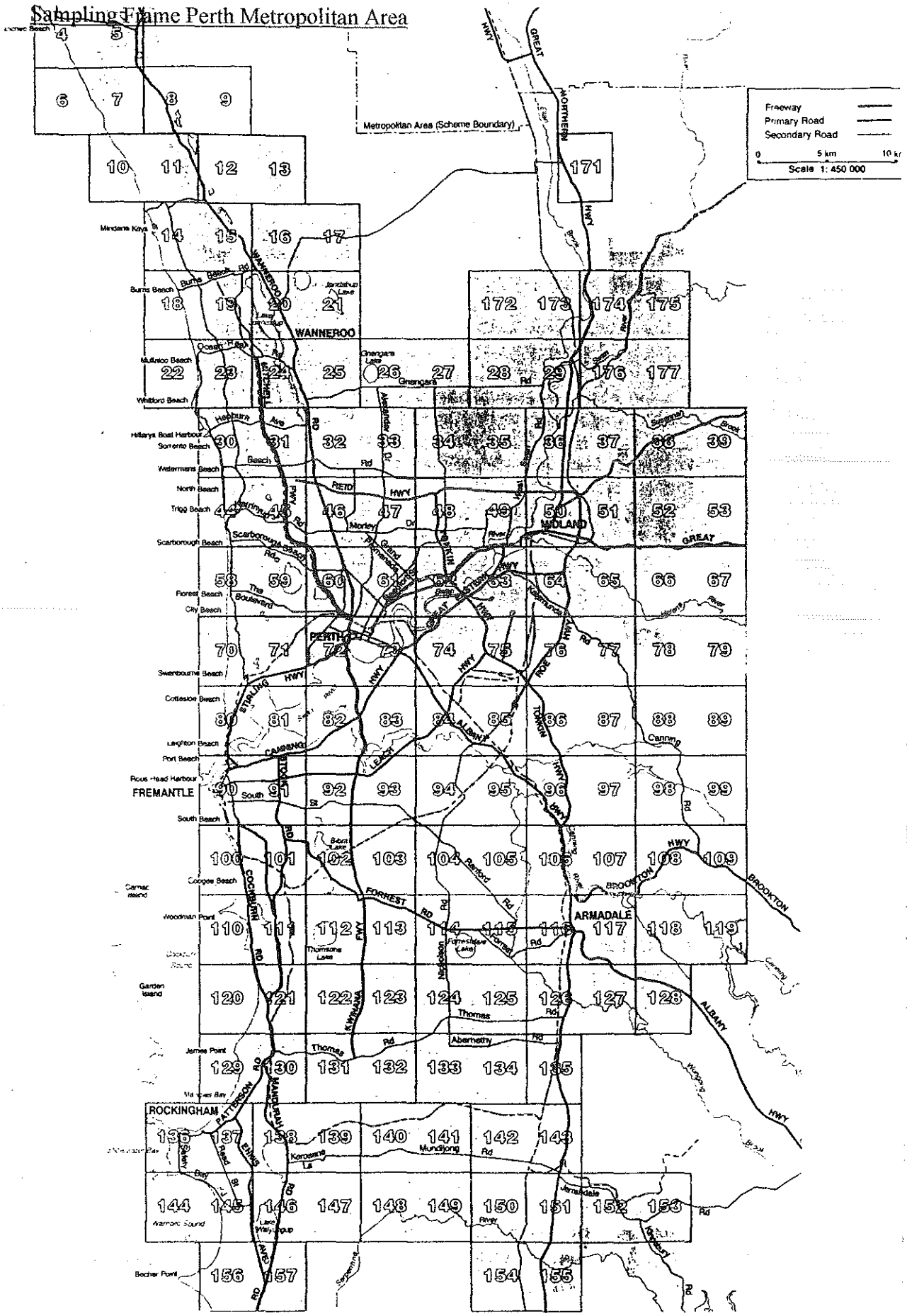
Appendix A-2

Random Numbers Table (de Vaus, 1995)

74605	60866	92941	77422	78308	08274	62099
20749	78470	94157	83266	37570	64827	94067
88790	79927	48135	46293	05045	70393	80915
64819	73967	78907	50940	98146	80637	50917
55938	78790	04999	32561	92128	83403	79930
66853	39017	82843	26227	25992	69154	38341
46795	21210	43252	51451	47196	27978	49499
95601	36457	34237	98554	46178	44991	43672
98721	44506	37586	67256	88094	51860	43008
61307	12947	43383	34450	62108	05047	15614
37788	01097	15010	97811	27372	81994	60457
36186	66118	90122	45603	94045	66611	69202
96730	13663	14383	51162	50110	16597	62122
98831	31066	21529	01102	28209	07621	56004
35450	24410	88935	84471	46076	60416	10007
92031	42334	27224	09790	59151	66958	91967
02863	16678	45335	72783	50096	52581	15214
80360	89628	47863	21217	62797	11285	42938
58193	16045	72021	93498	99120	36542	41087
66046	95648	94960	58294	07984	87321	23919
64013	08546	27779	23500	95216	02657	00507
16954	81754	99033	52841	70010	36264	00456
54678	59531	48692	54160	11913	16121	90023
42645	98295	26669	82199	81890	63100	62017
66168	44633	73068	55216	61896	83969	05327
20647	01061	18227	20195	38221	05767	63331
30807	93837	42210	81908	41729	86416	04579
51949	41361	35632	06696	57875	97196	73625
82283	46591	43057	91390	60051	13297	11149
49497	00053	78513	54381	88898	03416	06810
78519	88085	94119	19122	86546	47939	14878
13027	42777	93563	91253	81867	70344	44417
04734	27419	72065	23390	13769	85943	00374
78999	63470	24174	50695	53931	85452	02490
51891	19873	53220	27585	38457	46553	76585
64929	13632	66676	99334	75326	69810	43893
30319	67589	00013	23301	37314	22905	13887
13761	05561	10013	89946	57017	45797	50868
79180	44011	38067	99802	53490	18590	18818
85304	85681	87825	46262	84748	94568	56604

Appendix A-3

Sampling Frame Perth Metropolitan Area



Appendix A-4

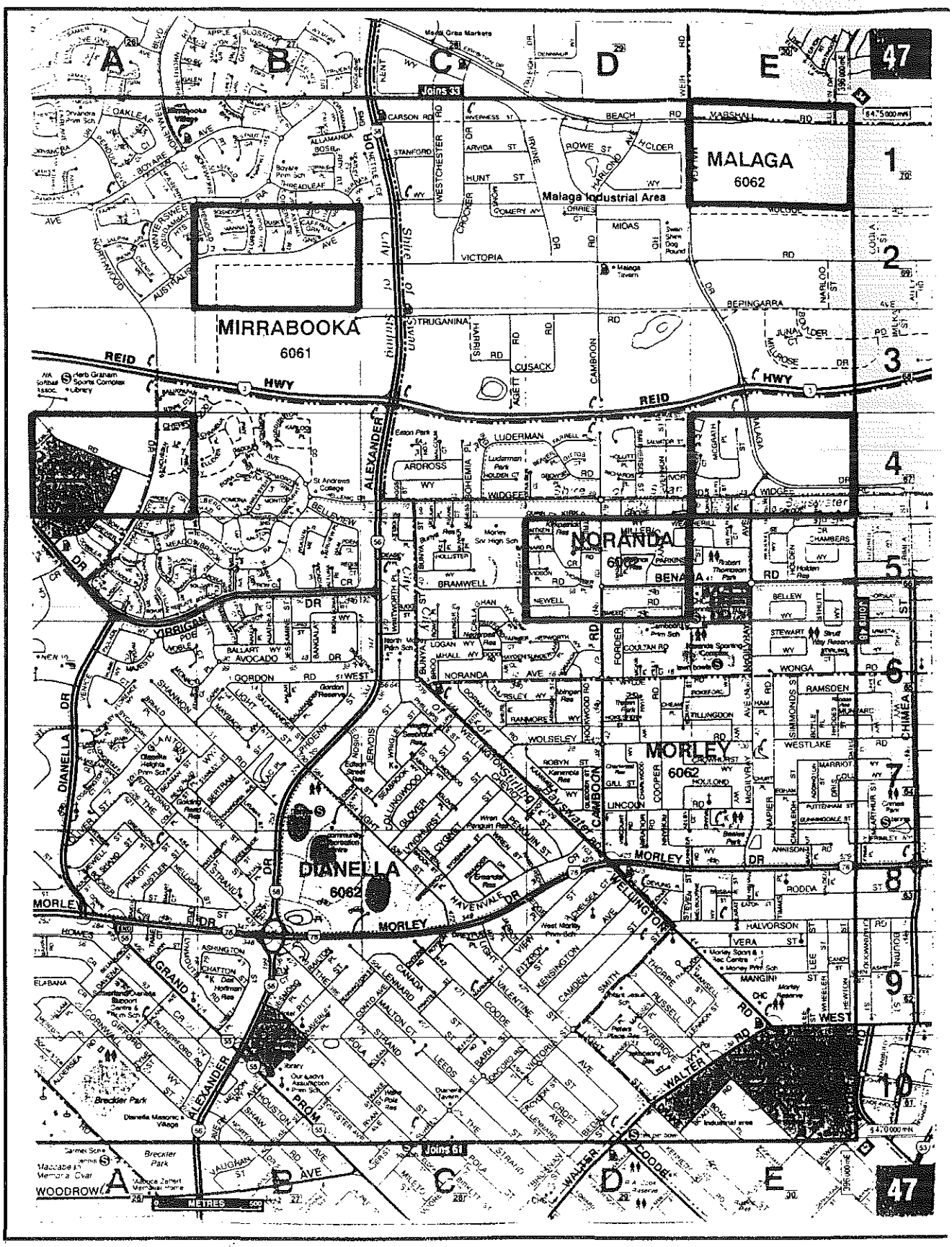
Stage 1 Cluster Sampling of Reference map pages for the Perth Metropolitan Area

18	19	20	21	22	23
24	25	26	27	28	29
30	31	32	33	34	35
36	44	45	46	47	48
49	50	58	59	60	61
62	63	64	70	71	72
73	74	75	76	80	81
82	83	84	85	86	90
91	92	93	94	95	96
100	101	102	103	104	105
106	110	111	112	113	114
115	116	120	121	122	123
124	125	126	129	130	131
132					

Reference Map Pages Selected

Appendix A-5

Randomly Selected Blocks from Reference Map 47



Streets Within the Bounds of Randomly Selected Blocks, Reference Page 47

E7

1. Malaga Drive
2. Ivory Street
3. Mc Grath Place
4. Oreer Court
5. Doyle Street
6. Donahue Close
7. Hadley Place
8. Widgee Road
9. Dawson Close
10. Gregory Court
11. Munro Court
12. Lee Place

B2

13. Pecan Rise
14. Rheingold Place
15. Boskoop Place
16. Manna Close
17. Floribunda Gardens

6. Silkpod Hights
7. Dusky Way
8. Coppercups Retreat
9. Everlasting Gardens
10. Australis Avenue
11. Caffrum Gardens
12. Alba Court
13. Otago Mews

E1

1. Malaga Drive
2. Marshall Drive
3. Bellefin Drive
4. Weir Road

D5

5. Aiken Place
6. Quinn Court
7. Barnard Place
8. Davidson Place
9. Bramwell Road

6. Thornber Place
7. Camboon Road
8. Benara Road
9. Smeed Road
10. Parkinson Street
11. Millerick Way
12. Hinsley Place
13. Weatherill Way

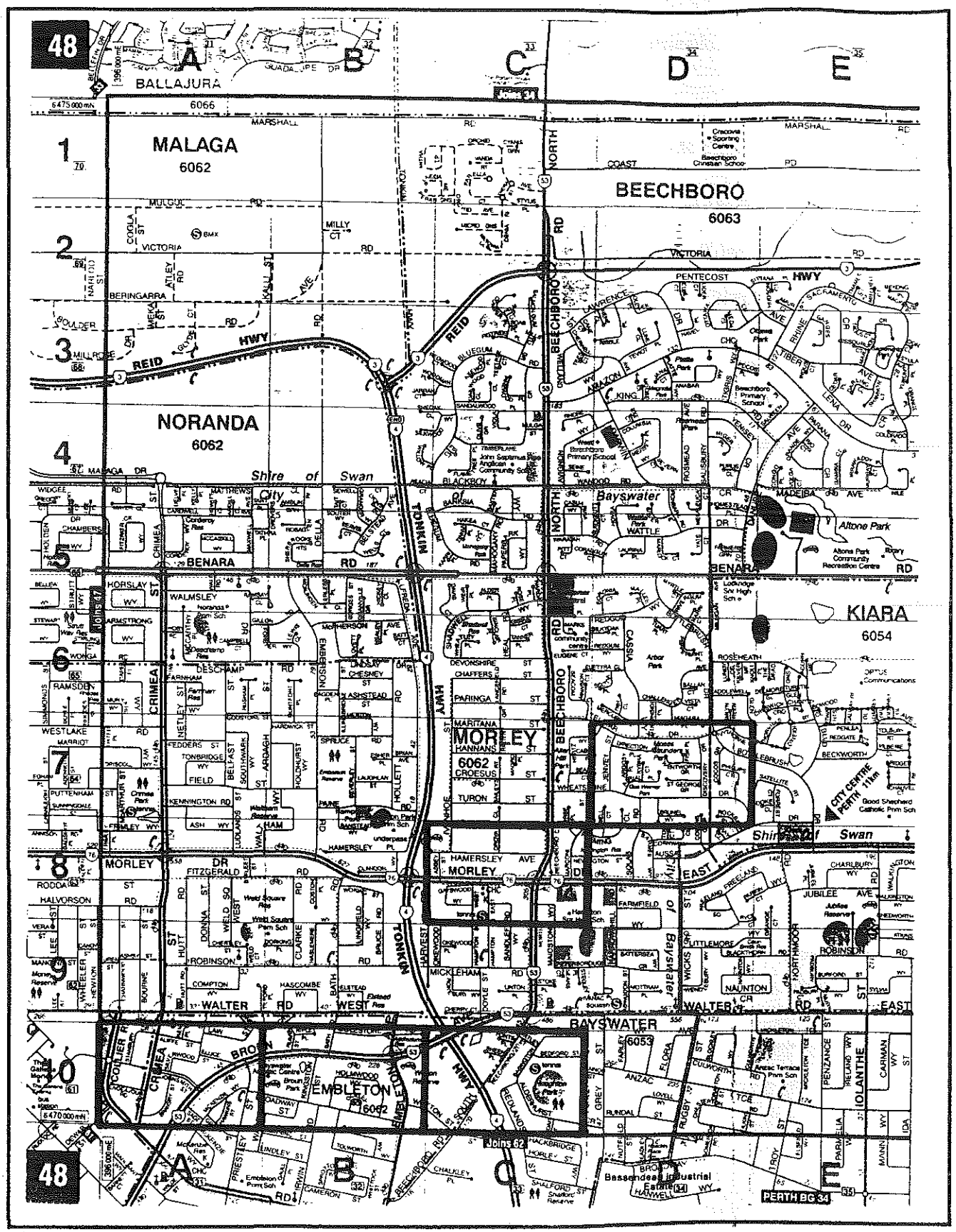
A4

1. Northwood Drive
2. Cherrywood Way
3. Prevelly Way
4. Bencubbin Loop
5. Jardee Close
6. Grace Town Drive
7. Leyte Lane
8. Sattelburg Way

Randomly Selected Streets

Appendix A-6

Randomly Selected Blocks from Reference Map 48



Streets Within the Bounds of Randomly Selected Blocks, Reference Page 48

D7	19.Kybra Court	15 Mc Kenzie Way
1. Telstar Drive	20.Saint George Green	16.Priestley Street.
2. Cassia Way	21.Wentworth Green	B10
3. Direction Place	22.Fisk Place	1. Wade Street
4. Jenny Street	A10	2. Broadway Street
5. Niagara Place	1. Endeavour Road	3. Irwin Road
6. Hamlyn Glen	2. Collier Road	4. Tolworth Way
7. Ivythorne Green	3. Stanbury Court	5. Oakley Square
8. Bottlebrush Drive	4. Crimea Street	6. Holmwood Way
9. Cocos Green	5. Aliffe Street	7. Kingston Street
10.Philips Court	6. Kemp Street	8. Embleton Avenue
11.Wheatstone Drive	7. Silverwood Street	9. Wottan Street
12.Brunel Way	8. Law street	10.Broun Avenue
13.Collins Court	9. Ellice Street	11.Rumble Street
14.Solas Road	10.Broun Avenue	12.Ripley Place
15.Fleming Close	11.Johnsmith Street	13.Bath Road
16.Bell Court	12.Bransbury Street	14.Addlestone Road
17.Abriel Place	13.Sage Street	
18.Argosy Place	14.Hawkins Street	

Randomly Selected Streets

C8

1. Okewood Way
2. Gayswood Way
3. Sandelford Way
4. Maidston Way
5. Morley Drive
6. Hamersley Avenue
7. Oraya Close
8. Araluen Street
9. Ivanhoe Street
10. Abbey Street
11. Beechboro Court
12. Newington Street
13. Marconi Street
14. Morse Place
15. Hampton Square

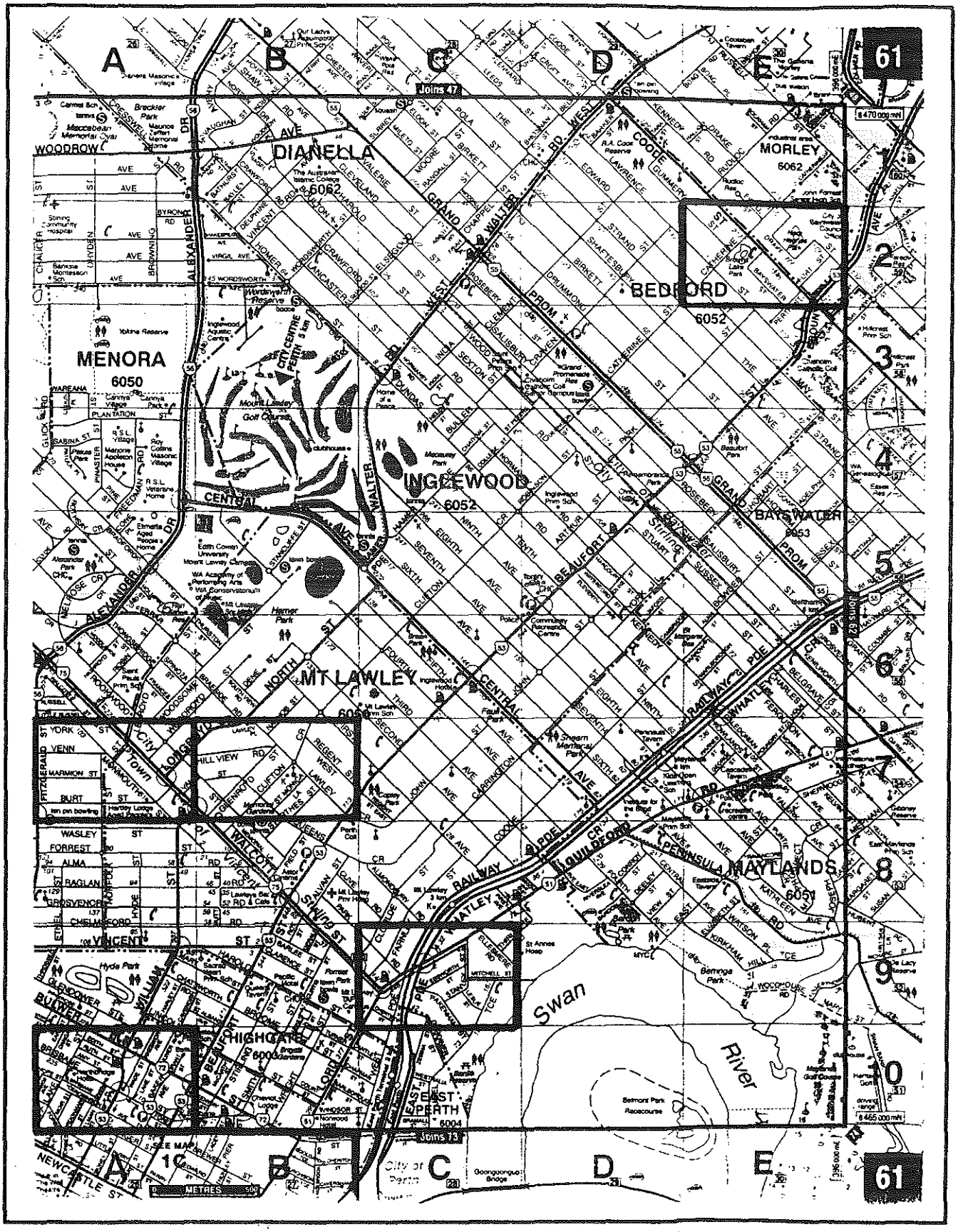
C10

1. Wotton Street
2. Beechboro Round South
3. Sheen Street
4. Fonts Place
5. Beechboro Road
6. Witley Street
7. Bubington Cresent
8. Bedford Street
9. Alderhurst Court
10. Redlands Street
11. Purley Cresent

Randomly Selected Streets

Appendix A-7

Randomly Selected Blocks from Reference Map 61



Streets Within the Bounds of Randomly Selected Blocks, Reference Page 61

E2

1. Etweel Street
2. Catherine Street
3. Lawrence Street
4. Gummery Street
5. Coode Street
6. Drake Way
7. Fort Street
8. Bayswater Street
9. Edward Street
10. Perth Street
11. Beaufort Street

A10

1. Earl Street
2. Dangan Street
3. Brisbane Street
4. Lake Street
5. Hope Place
6. Irene Street
7. Edith Street
8. Ruth Street
9. Amy Street
10. Brisbane Street
11. Brisbane Terrace
12. Robinson Avenue
13. Brookman Street
14. Wellman Street
15. Forbes Street
16. Wade Street
17. Lane Street
18. Fore Street
19. Baker Street
20. Grant Street
21. Knebworth Street
22. Lincon Street
23. Bulwer Street

A7

1. Fitzgerald Street
2. York Street
3. Venn Street
4. Marmion Street
5. Burt Street
6. Monmouth Street
7. Learoyd Street
8. Woodroyd Street
9. Longroyd Street
10. Vale Street
11. Rookwood Street

C9

1. Clothilde Street
2. Farnley Street
3. Park Road
4. Walcott Street
5. Lord Street
6. Lord Street
7. Guildford Road
8. Railway Parade

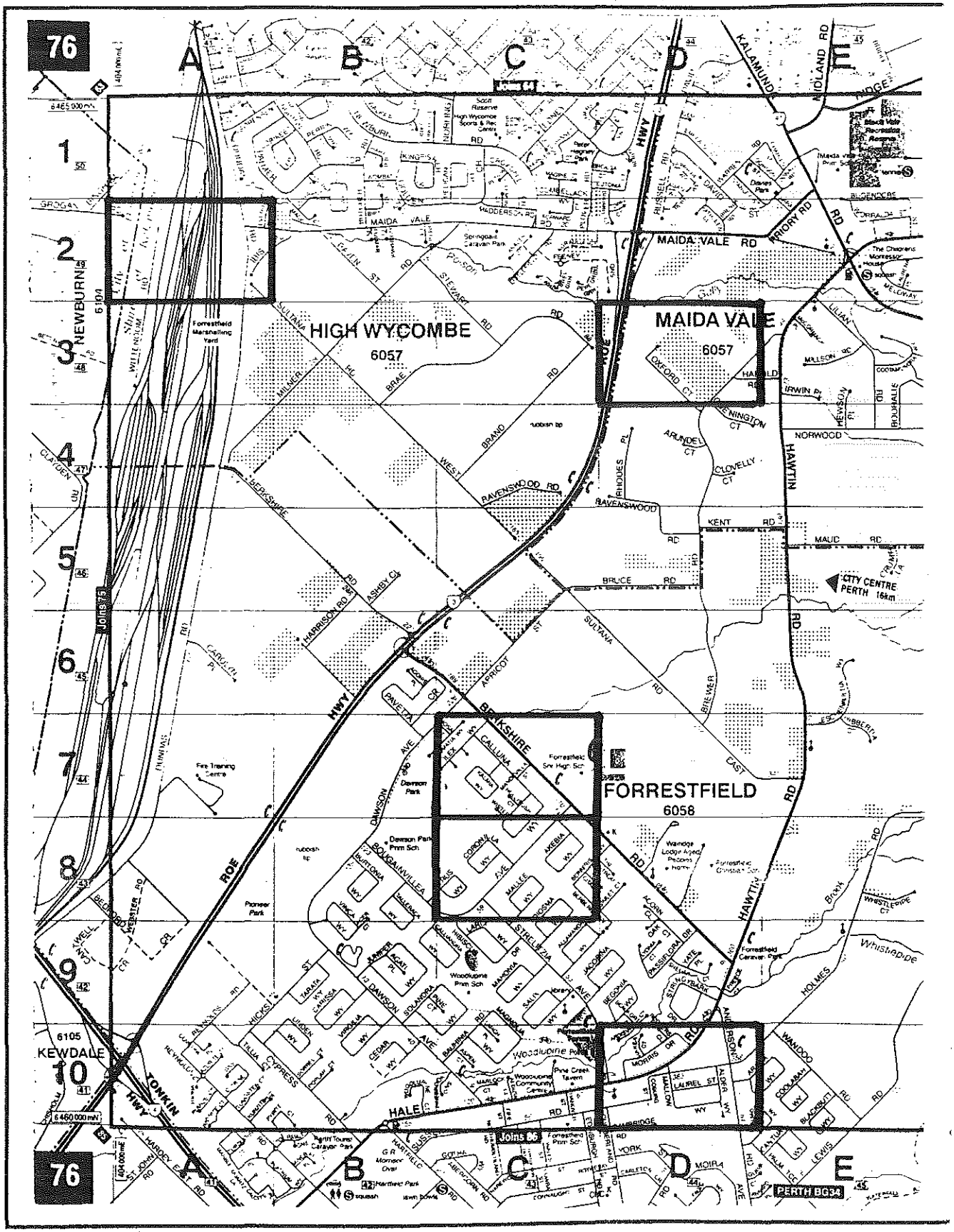
Randomly Selected Streets

9. Railway Parade	16.Ebsworth Street	2. Hillview
10.Thirlmere Road	17.Packenham Street	3. Queens Street
11.Ellermere Road	18.Gardiner Street	4. Storthes Street
12.Mitchell Street	19.Chertsey Street	5. Lawley Street
13.Joel Terrace	20.Whatley Cresent	6. Regent Street West
14.Leslie Street	B 7	7. Clifton Cresent
15.Stanley Street	1. Longboyd Street	8. St Monica Lane

Randomly Selected Streets

Appendix A-8

Randomly Selected Blocks from Reference Map 76



Streets Within the Bounds of Randomly Selected Blocks, Reference Page 76

A2

1. Sultana Road
2. Ibis Place
3. Maida Vale Road
4. Everit Place
5. Dundas Road

D3

1. Oxford Court
2. Brewer Road
3. Harold Road
4. Quenington Court

D10

1. Ardisia Court
2. Hakea Court
3. Morris Drive
4. Hale Road
5. Rodgers Close
6. Sussex Road
7. Coburg Street
8. Mallow Way
9. Laurel Street
10. Alder Way
11. Anderson Road
12. Aralia Way
13. Almond Way

C7

1. Mosa Street
2. Lomatia Street
3. Ilex Way
4. Calluna Way
5. Berkshire Court
6. Berkshire Road
7. Mandevilla Street
8. Hollybush Court
9. Wistera Court.

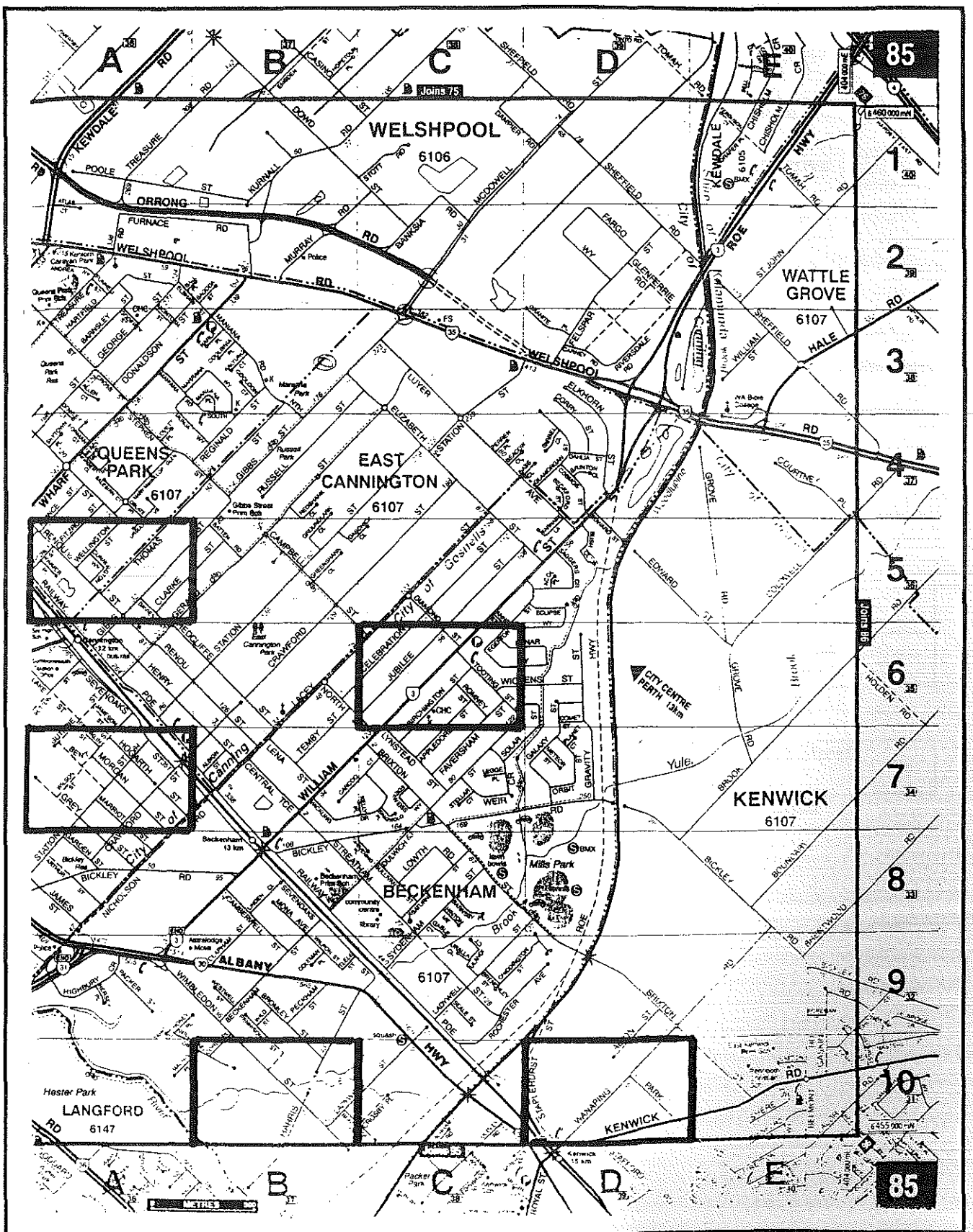
C8

1. Coronilla Way
2. Pyrus Way
3. Bougainvilla Avenue
4. Calluna Way
5. Akebia Way
6. Mallee Way
7. Strelitzia Avenue
8. Diosma Way
9. Berberis Way
10. Citadel Way

Randomly Selected Streets

Appendix A-9

Randomly Selected Blocks from Reference Map 85



Streets Within the Bounds of Randomly Selected Blocks, Reference Page 85

A5

1. Renou Street
2. Kimmer Place
3. Railway Parade
4. Fitzroy Street
5. Wellington Street
6. Cunnington Way
7. Ursuline Vista
8. Thomas Street
9. Gibbs Street
10. Davies Street
11. Clarke Street
12. Gerald Street

A7

1. Guthrie Street
2. Franklin Street
3. Hogarth Street
4. Seven Oaks Street
5. Morgan Street
6. Marriot Street
7. Grey Street
8. Wilson Street
9. Crawford Street
10. Station Street

C6

1. Lacey Street
2. Celebration Street
3. Jubilee Street
4. William Street
5. Birchington Street
6. Appledore Street
7. Faversham Street
8. Romney Street
9. Tooting Street
10. Wickens Street
11. Egerton Street
12. Lunar Way
13. Diamond Street

B10

1. Wimbleton Street
2. Rennison Street
3. Cordy Place
4. Willaring Drive
5. Machin Place
6. Harris Street
7. Ladywell Street
8. Bonewood Court
9. Bromley Street

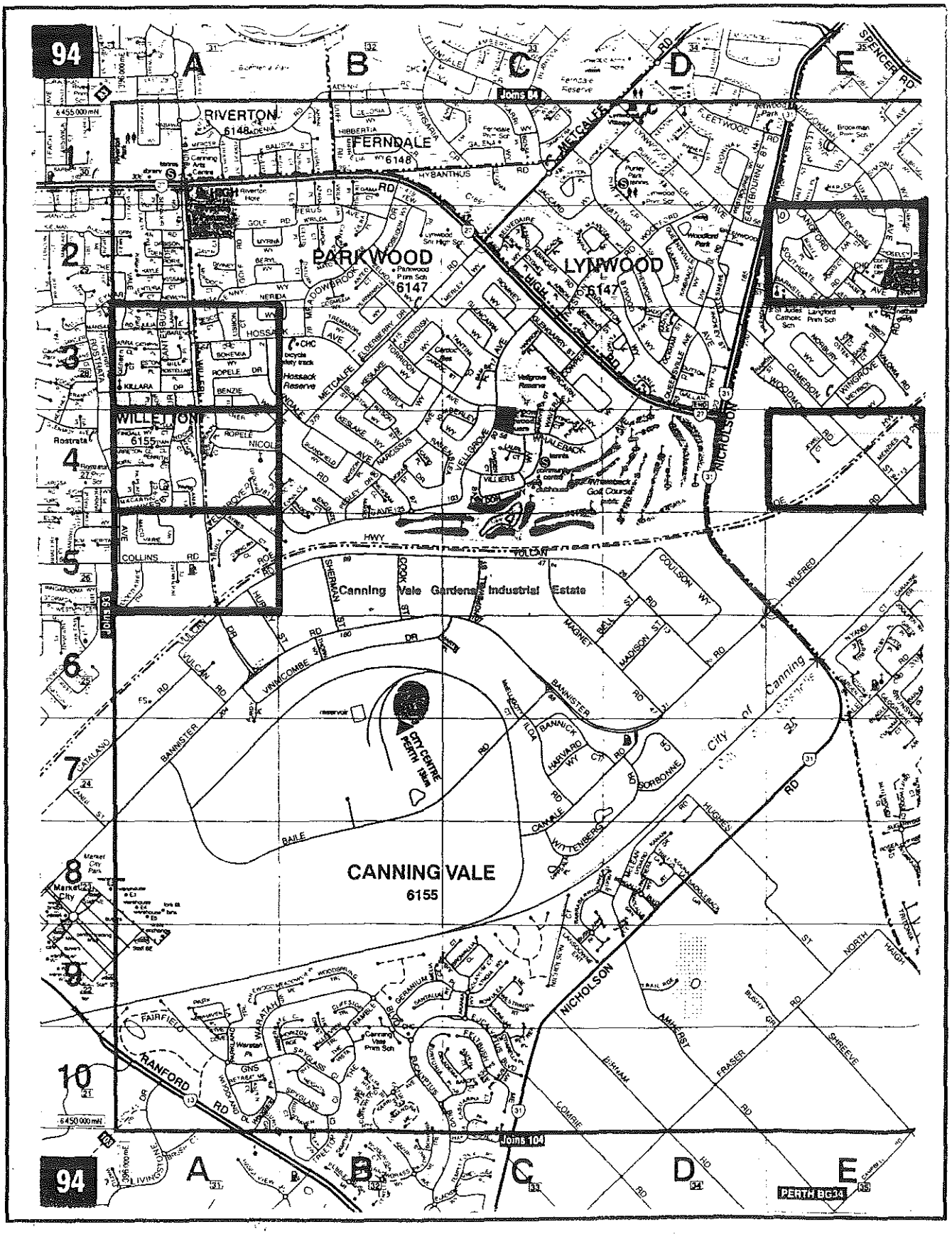
D10

1. Kenwick Road
2. Park Road
3. Wanaping Road
4. Alton Street
5. Staplehurst Street
6. Stafford Road

Randomly Selected Streets

Appendix A-10

Randomly Selected Blocks from Reference Map 94



Streets Within the Bounds of Randomly Selected Blocks, Reference Page 94

A3

1. Dane Place
2. Leymar Way
3. Mansard Road
4. Yarra Close
5. Gerber Court
6. Killara Drive
7. Rainer Mew
8. Bowen Place
9. Hawkesbury Drive
10. Julia Place
11. Catherine Place
12. Easton Place
13. Canterbury Drive
14. Canni Place
15. Barenco Place
16. Millar Place
17. Rostellan Place
18. Willari Drive
19. Prescott Court
20. Hossack Avenue
21. Lisbon Court
22. Nerida Way
23. Bohemia Way
24. Ropele Drive
25. Benzie Way
26. Hatcher Drive

A4

1. Rainer Mew
2. Ropele Drive
3. Willeri Drive
4. Noonan Court
5. Kendrew Court
6. Nicol Road
7. Wellgrove Avenue
8. Gedling Close
9. Young Lane
10. Neon Close
11. Heron Place
12. Paramatta Lane
13. Hawesbury Drive
14. McArther Court
15. Nepean Place
16. Kirn Court
17. Penrith Court
18. Tian Court
19. Scylla Court
20. Fingall Way
21. Arreton Court
22. Kirn Court

A5

1. Rostrata Avenue
2. McQuarie Way
3. Collins Road
4. Woodthorpe Drive
5. Bodymoat Place
6. Velgrove Avenue

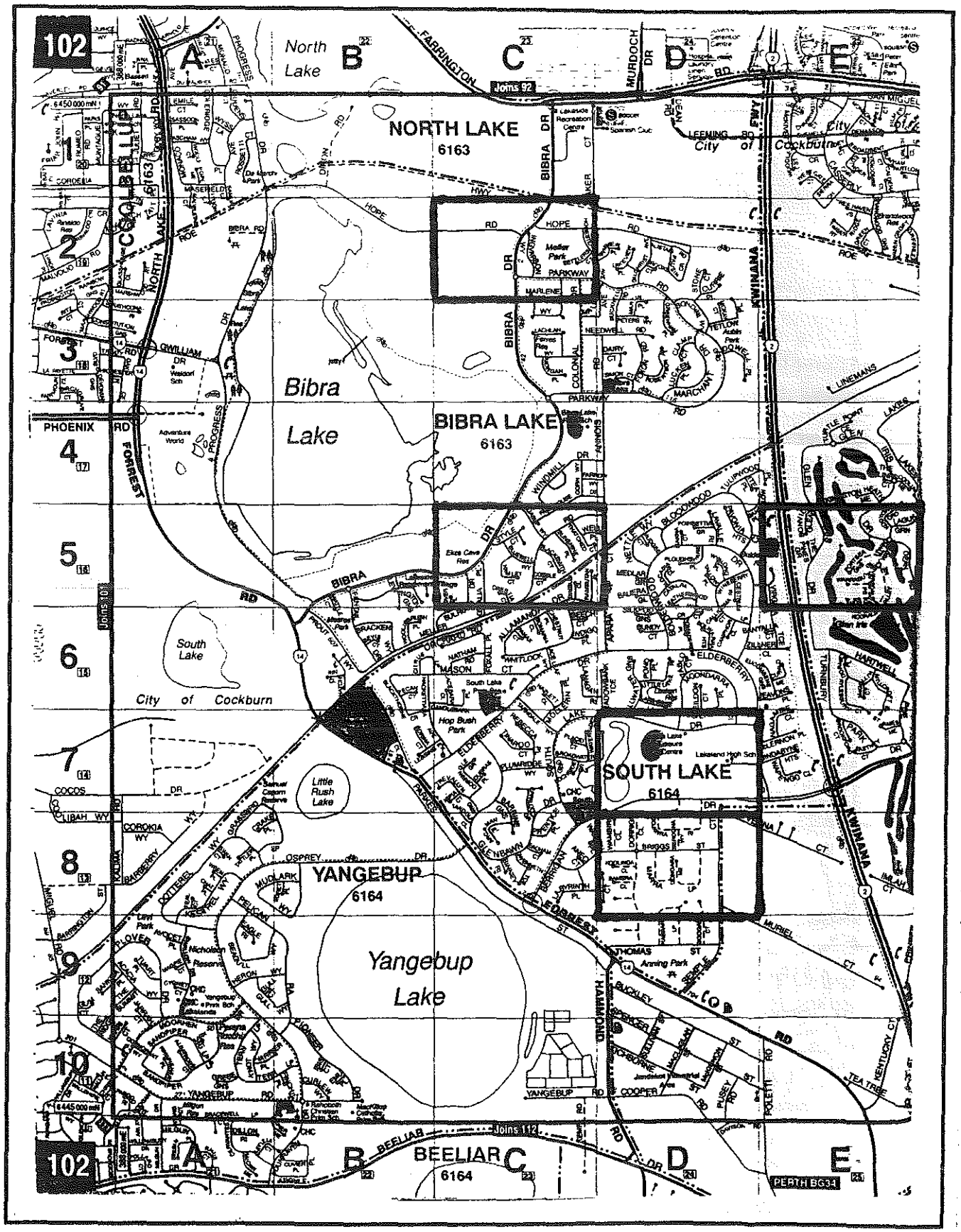
Randomly Selected Streets

7. Agres Court	4. Powis Court	1. Woodmore Road
8. Finula Place	5. Southgate Road	2. Jewel Court
9. Duncun Close	6. Boxley Place	3. Menzies Place
10.Young Lane	7. Barnston Way	4. Cameron Street
11.Hurley Street	8. Jeddo Court	5. Parer Close
12.Willeri Drive	9. Chase Court	6. Wifred Road
E2	10.Simons Way	7. Meyrick Way
1. Langford Ave	11.Brookman Avenue	
2. Turley Way	12.Choseley Place	
3.Turley Court	**E4**	

Randomly Selected Streets

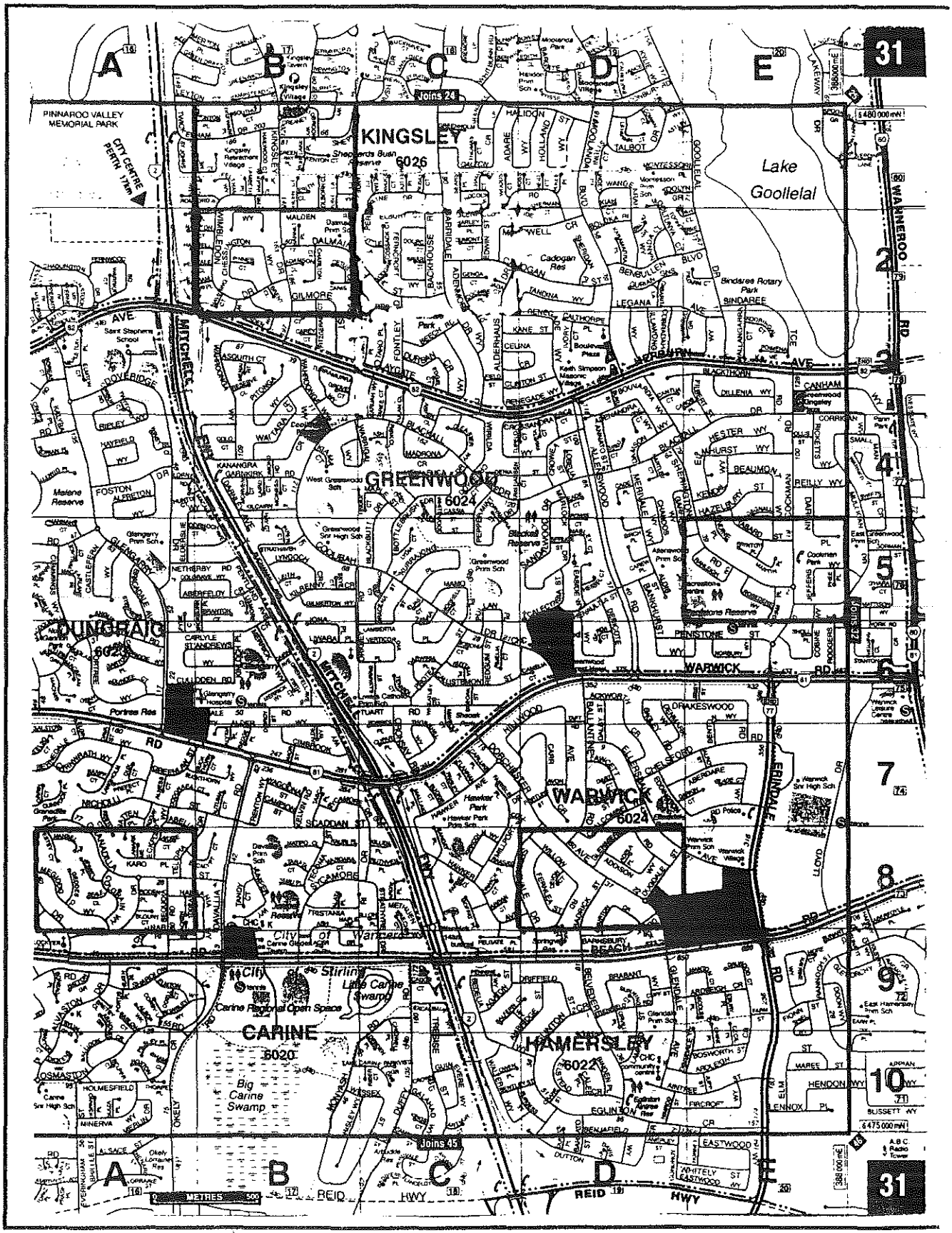
Appendix A-11

Randomly Selected Blocks from Reference Map 102



Appendix A-12

Randomly Selected Blocks from Reference Map 31



Streets Within the Bounds of Randomly Selected Blocks, Reference Page 31

B1	19.Greenway Place	10.Willesden Ave
1. Twickenham Drive	20.Hillingdon Close	11.Wimbelton Drive
2. Redmonton Place	21.Lambeth Place	12.Bent Close
3. Edgeware Place	22.Mortlake Place	13.Pinner Court
4. Southgate Court	23.Kenton Place	14.Kingsley Drive
5. Kingsley Drive	24.Sheen Court	15.Gilmore Street
6. Creaney Drive	25.Frith Close	16.Ursa Place
7. Kidbroome Way	26.Holborn Close	17.Canis Court
8. Burntoak Way	27.Hunt Lane	18.Cetus Close
9. Shepherds Bush Drive	28.Angelina Court	19.Adamson Close
10. St Johns Court	B2	20.Dalmain Street
11. Cambridge Mew	1. Newham Way	21.Barnet Place
12. Hailwood Court	2. Malden Ord	A8
13. Cambeth Place	3. Dulwich Place	1. Quilter Drive
14. Hillingdon Close	4. Whitton Court	2. Megiddo Way
15. Strillan Court	5. Hamwell Court	3. Geddes Court
16. Romford Parade	6. Perivale Close	4. Vestey Court
17. Wimbleton Drive	7. Balham Place	5. Mansel Place
18. Feltham Way	8. Havering Court	6. Granadilla Street

Randomly Selected Streets

7. Jessel Place
8. Seale Close
9. Colgrain Way
10. Roden Place
11. Blount Court
12. Channar Rise
13. Halgania Way
14. Bracken Court
15. Todea Court
16. Karo Place
17. Telopia Drive
18. Lanark Mew
19. Eckford Way
20. Sequoia Road

E5

1. Cobine Way
2. Jeffers Way
3. Phee Place
4. Dargin Place
5. Cockman Road
6. Tabard Street
7. Beaumont Way
8. Frinton
9. Martin Place
10. Ranleigh Way
11. Garfeld Way
12. Sherington Road

D8

1. Springvale Drive
2. Willow Road
3. Fernlea Street
4. Badrick Street
5. Churnton Court
6. Dugdale Street
7. Dorchester Avenue
8. Devon Court
9. Glenmere Road
10. Addison Way
11. Adela Place
12. Bick Place
13. Ballantine Road
14. Ellersdale Avenue

Randomly Selected Streets

Appendix B

Data Collection Form

Random House Numbers: 7 2 8 6 5 4 9 3 0 1

District Number _____ **Week Day** _____ **Week End** _____

Block Number	Street Name	Resident Not Home	Decline of Participation	Sample Number

Appendix C

Response Rate for the Community Members Sampled

Districts and blocks	Time Period	Residents Not Home	Participant Refusals	Response Numbers
District 47				
Block E4	Weekday	16	08	09
Block B2	Weekday	15	09	09
Block E1	Weekday	08	11	05
Block D5	Weekday	16	13	09
Block A4	Weekday	11	06	09
District 48				
Block D7	Weekday	17	08	10
Block A10	Weekday	25	10	09
Block B10	Weekday	18	07	09
Block C8	Weekday	15	06	10
Block C10	Weekday	13	08	09
District 61				
Block E2	Weekday	18	18	10
Block A10	Weekday	21	08	09
Block A7	Weekday	16	05	12
Block C9	Weekday	15	09	10
Block B7	Weekday	18	08	09
District 76				
Block A2	Weekend	08	05	07
Block D3	Weekend	15	04	09
Block D10	Weekend	10	07	09
Block C7	Weekend	07	09	10
Block C8	Weekend	13	09	09

Districts and blocks	Time Period	Residents Not Home	Participant Refusals	Response Numbers
District 85				
Block A5	Weekend	03	04	10
Block A7	Weekend	05	04	09
Block C6	Weekend	09	03	11
Block B10	Weekend	04	06	09
Block D10	Weekend	06	02	05
District 94				
Block A3	Weekday	24	11	10
Block A4	Weekday	18	13	09
Block A5	Weekday	22	10	10
Block E2	Weekday	18	08	09
Block E4	Weekday	26	09	09
District 102				
Block C2	Weekday	18	10	10
Block C5	Weekday	21	08	09
Block D7	Weekday	10	09	05
Block D8	Weekday	10	06	09
Block E5	Weekday	13	09	08
District 31				
Block	Weekend	03	04	10
Block	Weekend	07	04	09
Block	Weekend	05	06	11
Block	Weekend	04	08	09
Block	Weekend	08	04	12
Total		**553**	**350**	**361**

Appendix D

Levels of Significance for Type I and Type II Error and Effect Size

Type I Error

Type one error is the probability of rejecting a true null hypothesis and by convention is set at a level of statistical significance (α level) of .05 or .01. For the current study an α of .05 was selected.

Type II Error

Type two error is the probability of falsely retaining a null hypothesis and assesses if the experiment detected a true difference when a difference truly existed. Shavelson (1988) suggests that conventions for setting β levels are less established than for α levels posits that a β of .20 (power $\geq$ .80) assures a reasonable probability of detecting a difference should one exist. A β level of .20 was adopted for the current study.

Effect Size

Effect size (Δ) refers to the magnitude of an independent variable's effect, usually expressed as a proportion of explained variance in the dependent variable (Weinfurt, 1995). Cohen (1977) defines a small effect size as .20, a medium effect as .50 and a large effect as .80. The effect size for this study was conservatively set at a level of .15. To calculate the sample size required Shavelson (1988) suggests the following formula;

$$\underline{N} = (|Z_{\beta}| + |Z_{\alpha/2}|)^2 / \Delta^2$$

where $\underline{N}$ is the sample size, Z_{β} represents the z score for desired power level, $Z_{\alpha/2}$ represents the z score for the desired α level and Δ the desired effect size.

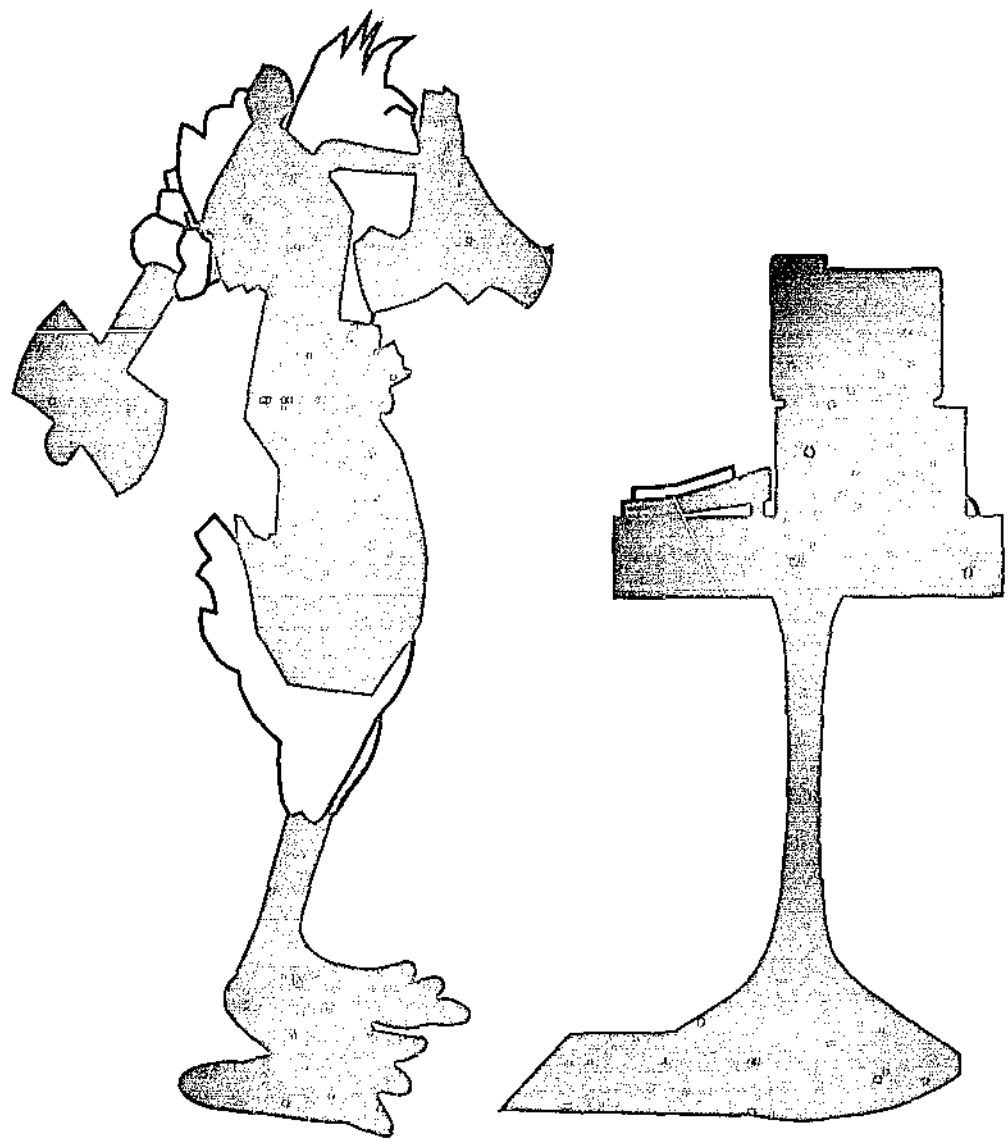
$$N = (|Z_{\beta}| + |Z_{\alpha/2}|)^2 / \Delta^2 = (.84 + 1.96)^2 / .2^2 = 196$$

This formula estimated that a sample of 348 participants would be required for the study. Three other factors were considered in the calculation of the final sample size.

Appendix E

Study Questionnaire

A study of Anger Experience and Expression.



By Darryl Milovchevich

Participant Study Information

Dear Sir/Madam,

This study is being conducted as part of my Honours degree in Psychology at Edith Cowan University and I would greatly appreciate your assistance in participating in the research.

This study aims to investigate differing influences on people's experiences of Anger. This understanding may lead to a general increase in knowledge concerning anger and improvements in anger management programs. If you agree to take part in the study you will be given a number of questions and asked to record your response on the response sheets provided. You will also be given a brief scenario and asked to imagine the level of anger you would feel in the given situation. Following the scenario you will be given a short set of questions to record your responses.

Your participation is entirely voluntary, and you are free to withdraw at any stage, from all or part of the study. There are no consequences for you if you choose not to participate. The information obtained from you will be treated in the strictest confidence, and will remain anonymous. Please do not record your name or any identifying information on the data form.

The first page of this booklet can be kept for your future reference. Please sign the following permission slip. It will be kept separate from the data collected thus ensuring your anonymity.

Should you require any information concerning the study, it's results, or have any feelings you wish to discuss feel free to contact myself or my University supervisor, Neil Drew, Psychology Department, Edith Cowan University.

Thank you for your co-operation and support in this study.

Yours Sincerely

Darryl Milovchevich.

Supervisor, Neil Drew.
Tel. (09) 400 5541

Participant Consent Form

Dear Sir/Madam,

This study is being conducted as part of my Honours degree in Psychology at Edith Cowan University and I would greatly appreciate your assistance in participating in the research.

This study aims to investigate differing influences on people's experiences of Anger. This understanding may lead to a general increase in knowledge concerning anger and improvements in anger management programs. If you agree to take part in the study you will be given a number of questions and asked to record your response on the response sheets provided. You will also be given a brief scenario and asked to imagine the level of anger you would feel in the given situation. Following the scenario you will be given a short set of questions to record your responses.

Your participation is entirely voluntary, and you are free to withdraw at any stage, from all or part of the study. There are no consequences for you if you choose not to participate. The information obtained from you will be treated in the strictest confidence, and will remain anonymous. Please do not record your name or any identifying information on the data form.

The first page of this booklet can be kept for your future reference. Please sign the following permission slip. It will be kept separate from the data collected thus ensuring your anonymity.

I have read the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realizing I may withdraw at any time. I agree that the research data gathered for this study may be published provided I am not identified.

Yours Sincerely

Darryl Milovchevich
Supervisor, Neil Drew
Tel (09) 8400 5541

_____
Participant Signature

Date / /1997

Age in Years

MALE ☐ FEMALE ☐

Born in Australia ☐ Overseas ☐

Education Level Attained

Primary ☐ Secondary ☐

University ☐

Marital Status

Single ☐ Married ☐ Other ☐

Every one feels angry or furious from time to time, but people differ in the ways that they react when they are angry. A number of statements are listed below which people use to describe their reactions when they feel *angry* or *furious*. Read each statement and mark the box which indicates how often you generally react or behave in the manner described when you are feeling angry or furious. Remember that there are no right or wrong answers. Do not spend too much time on any one statement.

1	2	3	4
Almost never	Sometimes	Often	Almost always

I control my temper.	1	2	3	4
I express my anger.	1	2	3	4
I keep things in.	1	2	3	4
I am patient with others.	1	2	3	4
I pout or sulk.	1	2	3	4
I withdraw from people.	1	2	3	4
I make sarcastic remarks to others.	1	2	3	4
I keep my cool.	1	2	3	4
I do things like slam doors.	1	2	3	4
I boil inside, but I don't show it.	1	2	3	4
I control my behavior	1	2	3	4
I argue with others.	1	2	3	4
I tend to harbor grudges that I don't tell anyone about.	1	2	3	4
I strike out at whatever infuriates me.	1	2	3	4
I can stop myself from losing my temper.	1	2	3	4
I am secretly quite critical of others.	1	2	3	4
I am angrier than I am willing to admit.	1	2	3	4
I calm down faster than most other people.	1	2	3	4
I say nasty things.	1	2	3	4
I try to be tolerant and understanding.	1	2	3	4
I'm irritated a great deal more than people are aware of.	1	2	3	4
I lose my temper.	1	2	3	4
If someone annoys me, I'm apt to tell him or her how I feel.	1	2	3	4
I control my angry feelings.	1	2	3	4

A number of statements that people use to describe themselves are given below. Read each statement and then mark the box which indicates how you *generally* feel. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to best describe how you *generally* feel.

	1 Almost never	2 Sometimes	3 Often	4 Almost always
I am quick tempered.	1	2	3	4
I have a fiery temper.	1	2	3	4
I am a hotheaded person.	1	2	3	4
I get angry when I'm slowed down by others' mistakes.	1	2	3	4
I feel annoyed when I am not given recognition for doing good work.	1	2	3	4
I fly off the handle.	1	2	3	4
When I get mad, I say nasty things.	1	2	3	4
It makes me furious when I am criticized in front of others.	1	2	3	4
When I get frustrated, I feel like hitting someone.	1	2	3	4
I feel infuriated when I do a good job and get a poor evaluation.	1	2	3	4

Office use only

Target 1

SCALE	RAW SCORE
AXO	
AXI	
AXC	
Trait Anger	

Below is a list of personality characteristics. Please use these characteristics to describe yourself. Indicate on the scale (from 1 to 7) how true of you each of these characteristics are. Please do not leave any items unmarked.

1	2	3	4	5	6	7
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always o almost alwa true

1. Loves children.		**14. Competitive.**		**27. Shy.**	
2. Firm.		**15. Casual.**		**28. Anxious.**	
3. Dependent.		**16. Timid.**		**29. Devotes self to others.**	
4. Patient.		**17. Self-critical.**		**30. Feels superior.**	
5. Bossy.		**18. Grateful.**		**31. Boastful.**	
6. Noisy.		**19. Sarcastic.**		**32. Loyal.**	
7. Needs approval.		**20. Forceful.**		**33. Strong.**	
8. Show off.		**21. Weak.**		**34. Carefree.**	
9. Appreciative.		**22. Bashful.**		**35. Rude.**	
10. Nervous		**23. Mischievous.**		**36. See self as running the show.**	
11. Sensitive to the needs of others		**24. Responsible.**		**37. Outspoken.**	
12. Aggressive.		**25. Emotional.**		**38. Worrying.**	
13. Confident.		**26. Skilled in business**		**39. Gentle**	
				40. Pleasure-seeking	

Car Park Scenario

Please read the following short episode and pause for a few moments before responding to the questions provided.

Reflect on the situation and imagine what reactions you would have if these circumstances were to occur.

- **Imagine the feelings you would have.**
- **How your body might respond (i.e. heart rate).**
- **What immediate actions or behavior would you make?**

You are returning to your car after shopping at a crowded regional shopping center. As you approach your late model car, you see a man reversing his car out of a bay next to yours. He hits your car with some force causing significant damage. He turns and looks at you and seems to laugh as he drives off.

After a few moments turn the page and record your responses.

Car Park Scenario

Please read the following short episode and pause for a few moments before responding to the questions provided.

Reflect on the situation and imagine what reactions you would have if these circumstances were to occur.

- **Imagine the feelings you would have.**
- **How your body might respond (i.e. heart rate).**
- **What immediate actions or behavior would you make?**

You are returning to your car after shopping at a crowded regional shopping center. As you approach your late model car, you see a woman reversing her car out of a bay next to yours. She hits your car with some force causing significant damage. She turns and looks at you and seems to laugh as she drives off.

After a few moments turn the page and record your responses.

Stealing Scenario

Please read the following short episode and pause for a few moments before responding to the questions provided.

Reflect on the situation and imagine what reactions you would have if these circumstances were to occur.

- **Imagine the feelings you would have.**
- **How your body might respond (i.e. heart rate).**
- **What immediate actions or behavior would you make?**

You're walking alone, along the busy main street of the entertainment area of Perth on your way to a dinner engagement with a close friend. Your carrying a shoulder bag containing some work notes, your car keys, wallet/purse and a gift for your friend. As you approach the traffic lights a young woman rushes past you grabbing your bag. As she runs off into the crowd, with your bag in hand she turns her head toward you and laughs.

After a few moments turn the page and record your responses.

Stealing Scenario

Please read the following short episode and pause for a few moments before responding to the questions provided.

Reflect on the situation and imagine what reactions you would have if these circumstances were to occur.

- **Imagine the feelings you would have.**
- **How your body might respond (i.e. heart rate).**
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You're walking alone, along the busy main street of the entertainment area of Perth on your way to a dinner engagement with a close friend. Your are carrying a shoulder bag containing some work notes, your car keys, wallet/purse and a gift for your friend. As you approach the traffic lights a young man rushes past you grabbing your bag. As he runs off into the crowd, with your bag in hand he turns his head toward you and laughs.

After a few moments turn the page and record your responses.

How well do the following statements describe how you feel and respond in the previously given situation presented. Please circle the appropriate answer, answering every question.

	Extremely Angry (White fury, Livid)	Highly Angry	Very Angry	Angry (mad)	Mildly Angry	Almost no Anger	No Anger (Not bothered)
How **angry** would you feel.	1	2	3	4	5	6	7

Each of the following statements form continuums between two points. How well do the following statements describe how you would *respond* in the previously presented situation. Please circle the answer most appropriate for you.

I would hold my anger in and keep it to myself.	1	2	3	4	5	6	7	I would express my anger outwardly to the person

I would have little or no control of my behavior.	1	2	3	4	5	6	7	I would have total control of my behavior.

Appendix F

Cell Sizes for Sample Across the Three Analyses

Analysis One Gender by Gender Role

	Male Participants	Female Participants
Androgynous	35	57
Masculine	56	38
Feminine	22	74
Undifferentiated	38	33
Total	151	202

	Analysis Two Gender by Gender Role by Gender of Target, Intent Vignette			Analysis Three Gender by Gender Role by Gender of Target, Accidental Vignette		
	Male Participant	Female Participant	Total Participant	Male Participant	Female Participant	Total Participant
Female Target						
Androgynous	21	23	44	21	23	44
Masculine	28	20	48	28	20	48
Feminine	14	40	54	14	40	54
Undifferentiated	13	18	31	14	18	32
Total	76	101	177	77	101	178
Male Target						
Androgynous	13	34	47	13	34	47
Masculine	28	18	46	27	18	45
Feminine	8	35	43	8	35	43
Undifferentiated	26	15	41	26	15	41
Total	75	102	177	74	102	176

Appendix G

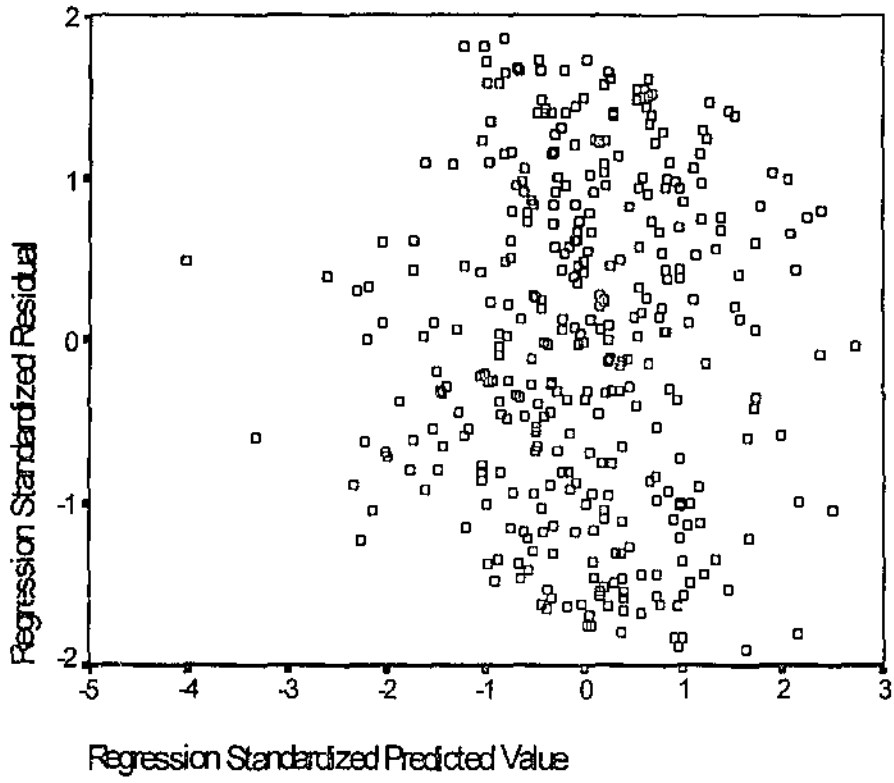
Summary of Tests Used to Screen Data for Univariate and Multivariate Assumptions of Normality for Analysis One

Univariate Assumptions	Variables					
Normality Tests	Anger Control	Anger In	Anger Out	Trait Anger	Femininity Score	Masculinity Score
Descriptive Statistics	Skewness (-.154) Kurtosis (-.686)	Skewness (.607) Kurtosis (.470)	Skewness (.967) Kurtosis (1.264)	Skewness (1.049) Kurtosis (1.390)	Skewness (-.253) Kurtosis (1.148)	Skewness (.290) Kurtosis (.181)
Stem and Leaf Plot	Slight Negative Skew	Positive Skew	Positive Skew	Slight Positive Skew	Slight Positive Skew	Slight Positive Skew
Box and Whisker Plot	Slight Negative Skew	Positive Skew	Positive Skew	Slight Positive Skew	Slight Positive Skew	Slight Positive Skew
Normal Probability Plot	Deviation from the line	Deviation from the line	Deviation from the line	Deviation from the line	Deviation from the line	Deviation from the line
K-S (Lilliefors) Statistic Significance Level	.067 .001	.102 .000	.124 .000	.104 .000	.055 .011	.051 .024
K-S (Lilliefors) Multivariates excluded Statistic Significance Level	.069 .000	.096 .000	.124 .000	.093 .000	.045 .088	.050 .035
Univariate Outliers						
Stem and Leaf Plot	1 Extreme (=<9)	3 Extremes (>=28)	9 Extremes (>=25)	8 Extremes (>=33)	8 Extremes 5 (=<60) 3 (>=122)	9 Extremes 7 (>=112) 2 (=<39)
Box And Whisker Plot	1 Outlier	3 Outliers	9 Outlier	8 Outliers	8 Outlier	9 Outliers
Case Numbers and values of Outliers over 3.0 Standard Deviations	None	272 (31) 307 (29) 235 (28)	145 (30) 162 (30) 81 (29) 200 (29) 165 (27)	166 (38) 67 (38) 79 (38) 81 (36) 272 (35)	145 (40) 48 (40) 64 (50)	39 (122)
Outliers over 3.0 Standard Deviations after Multivariate exclusion	None	307 (29) 235 (28) Adjusted to 27	162 (30) 200 (29) 165 (27) Adjusted to 26	166 (38) 79 (38) 67 (38) Adjusted to 34	None	39 (122) Adjusted to 118

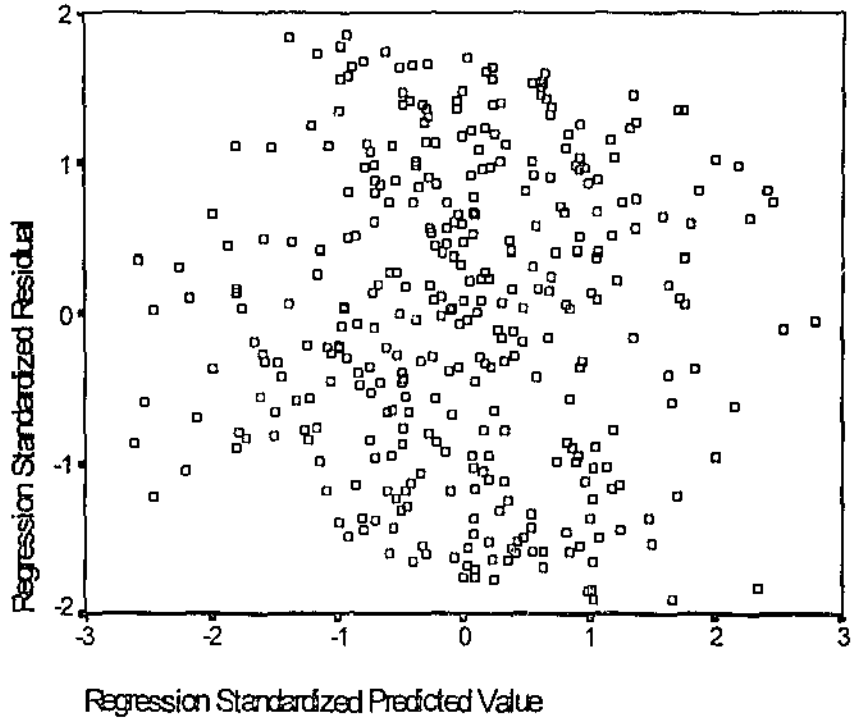
Summary of Tests Used to Screen Data for Multivariate Assumptions for Variables

Multivariate Assumptions	
Outliers Mahalanobis' Distance	Significant Mahalanobis distances > x^2 (6, N = 358) = 22.458, p < .001 were deleted Stage one deletions cases 145 (29.40) 272 (24.49) 127 (23.68) 48 (22.58) Stage two deletions cases 81 (23.03) No further deletions were conducted.
Multivariate Normality	The residual scatter plot after outlier exclusion and transformation indicated a normal distribution.
Linearity	The residual scatter plot after outlier exclusion and transformation indicated assumptions of linearity were met.
Homoscedasticity	The residual scatter plot after outlier exclusion and transformation indicated assumptions of homoscedasticity were met.
Homogeneity of Variance-Covariance Matrices	Box's M test indicated only small differences in variances $F(70,79307) = 72.171, p > .05$
Multicollinearity and Singularity	Inspection of the correlation matrix revealed no bivariate correlation's (> .90) Inspection of the collinearity diagnostic revealed no multicollinear variables. The determinant of the pooled correlation matrix was found to be -.94 and significantly different from zero.

Residual scatter plot for participants, analysis 1 (no outliers removed)



Residual scatter plot for participants, analysis 1(multi & univariate outliers removed)



Appendix H

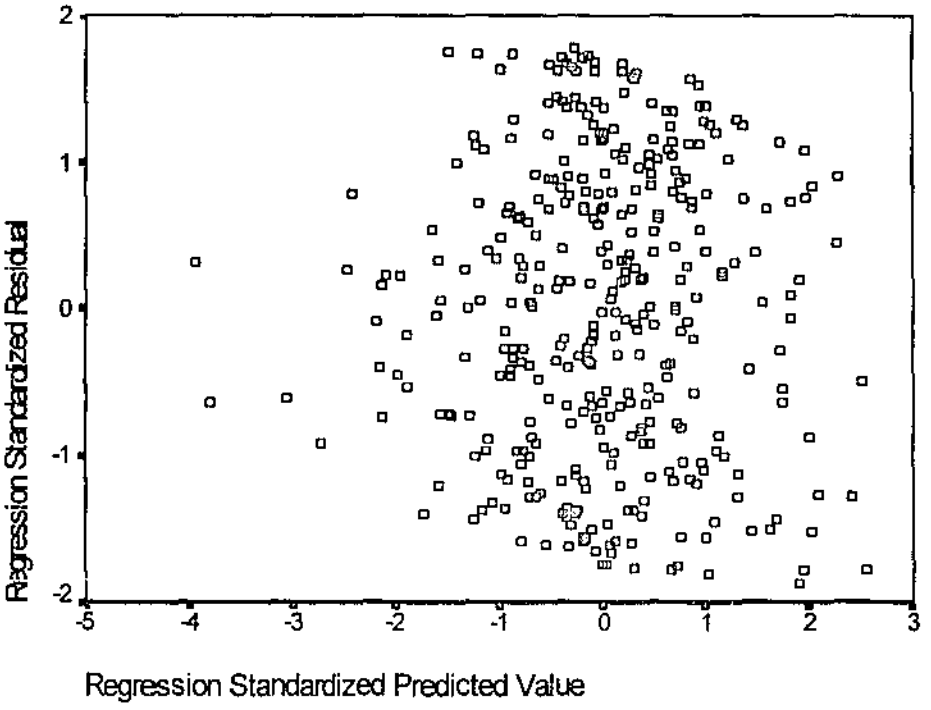
Summary of Tests Used to Screen Data for Univariate and Multivariate Assumptions of Normality for Analysis Two

Univariate Assumptions	*Variables*				
Normality Tests	State Anger	Anger Expression	Anger Control	Femininity Score	Masculinity Score
Descriptive Statistics	Skewness (1.101) Kurtosis (1.191)	Skewness (-1.061) Kurtosis (.454)	Skewness (-.742) Kurtosis (.341)	Skewness (-.268) Kurtosis (1.149)	Skewness (.290) Kurtosis (.181)
Stem and Leaf Plot	High Positive Skew	High Negative Skew	High Negative Skew	Slight Positive Skew	Slight Positive Skew
Box and Whisker Plot	High Positive Skew	High Negative Skew	High Negative Skew	Slight Positive Skew	Slight Positive Skew
Normal Probability Plot	High Deviation from the line	High Deviation from the line	High Deviation from the line	Deviation from the line	Deviation from the line
K-S (Lilliefors) Statistic Significance Level	.232 .000	.222 .000	.203 .000	.056 .008	.051 .024
K-S (Lilliefors) Multivariates excluded Statistic Significance Level	.245 .000	.221 .000	.201 .000	.048 .045	.050 .031
Univariate Outliers					
Stem and Leaf Plot	5 Extreme (>= 6.0)	22 Extremes (=<2.0)	18 Extremes (=<1.0)	9 Extremes 6 (=<60) 3 (>=122	9 Extremes 7 (>=112) 2 (=<39)
Box And Whisker Plot	5 Outliers	22 Outliers	18 Outliers	9 Outlier	9 Outliers
Case Numbers and values of Outliers over 3.0 Standard Deviations	125 (7) 231 (7) 161 (7) 217 (6) 195 (6)	None	None	145 (40) 48 (40) 64 (50)	39 (122)
Outliers over 3.0 Standard Deviations after Multivariate exclusion	195 (6) 217 (6) Adjusted To 5	None	None	*145 (40)* 64 (50) Adjusted to 53	39 (122) Adjusted to 118

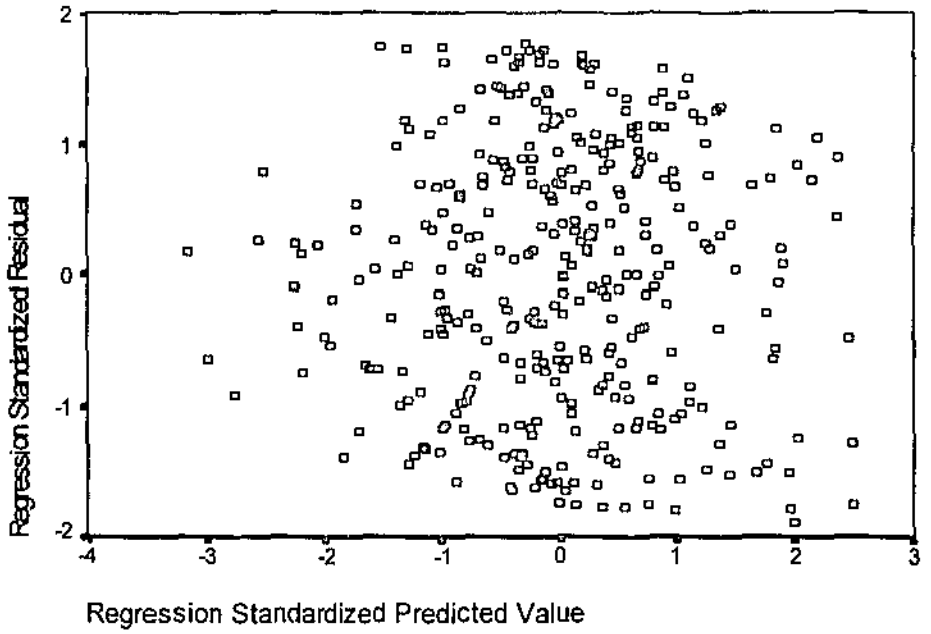
Summary of Tests Used to Screen Data for Multivariate Assumptions for Variables

Multivariate Assumptions	
Outliers Mahalanobis' Distance	Significant Mahalanobis distances > x^2 (5, N = 358) = 20.515, p < .001 were deleted Stage one deletions cases 125 (26.43) 48 (24.51) 231 (22.90) 161 (22.85) Stage two deletions found no cases so no further deletions were conducted.
Multivariate Normality	The residual scatter plot after outlier exclusion and transformation indicated a normal distribution.
Linearity	The residual scatter plot after outlier exclusion and transformation indicated assumptions of linearity were met.
Homoscedasticity	The residual scatter plot after outlier exclusion and transformation indicated assumptions of homoscedasticity were met.
Homogeneity of Variance-Covariance Matrices	Box's M test indicated no significant differences in variances $F(90,31118) = 1.23, p = .070$
Multicollinearity and Singularity	Inspection of the correlation matrix revealed no bivariate correlation's (> .90) Inspection of the collinearity diagnostic revealed no multicollinear variables. The determinant of the pooled correlation matrix was found to be -.24 and significantly different from zero.

Residual scatter plot for participants, analysis 2 (no outliers removed)



Residual scatter plot for participants, analysis 2 (multi & univariate outliers removed)



Appendix I

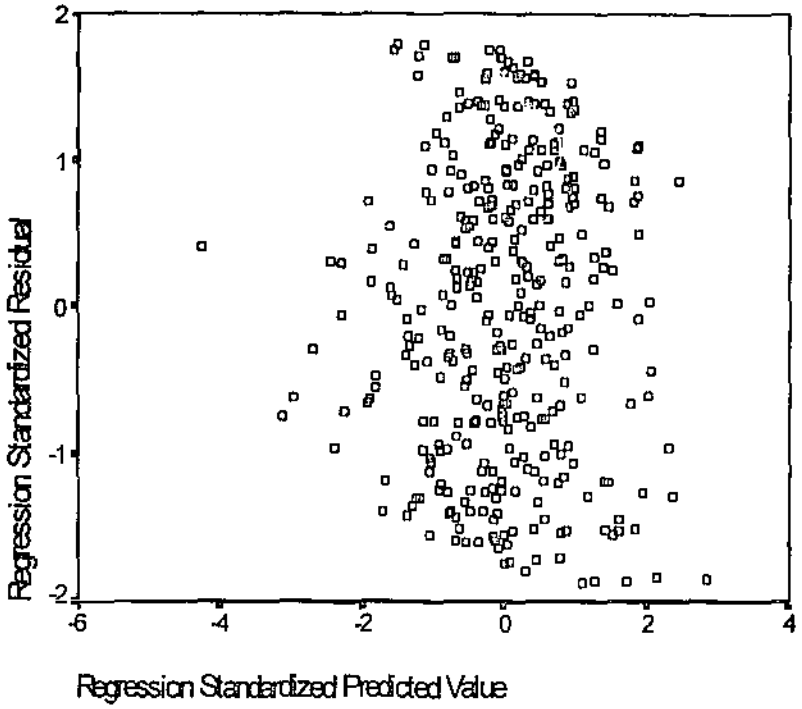
Summary of Tests Used to Screen Data for Univariate and Multivariate Assumptions of Normality for Analysis Three

Univariate Assumptions	Variables				
Normality Tests	State Anger	Anger Expression	Anger Control	Femininity Score	Masculinity Score
Descriptive Statistics	Skewness (.861) Kurtosis (.547)	Skewness (-.865) Kurtosis (.030)	Skewness (-.691) Kurtosis (-.431)	Skewness (-.268) Kurtosis (1.149)	Skewness (.275) Kurtosis (.164)
Stem and Leaf Plot	High Positive Skew	High Negative Skew	High Negative Skew	Slight Negative Skew	Slight Positive Skew
Box and Whisker Plot	High Positive Skew	High Negative Skew	High Negative Skew	Slight Negative Skew	Slight Positive Skew
Normal Probability Plot	High Deviation from the line	High Deviation from the line	High Deviation from the line	Deviation from the line	Deviation from the line
K-S (Lilliefors) Statistic Significance Level	.216 .000	.210 .000	.189 .000	.200 .042	.051 .025
K-S (Lilliefors) Multivariates excluded Statistic Significance Level	.222 .000	.210 .000	.188 .000	.042 .200	.050 .034
Univariate Outliers					
Stem and Leaf Plot	3 Extreme (>=6.0)	None	16 Extremes (=<1.0)	9 Extremes 6 (=<60) 3 (>=122)	9 Extremes 7 (>=112) 2 (=<39)
Box And Whisker Plot	6 Outliers	None	16 Outliers	9 Outliers	9 Outliers
Case Numbers and values of Outliers over 3.0 Standard Deviations	161 (7) 217 (7) 43 (6)	None	None	145 (40) 48 (40) 64 (50)	39 (122)
Outliers over 3.0 Standard Deviations after Multivariate exclusion	217 (7) 43 (6) Adjusted to 5	None	None	64 (50) 39 (53) Adjusted to 60	39 (122) Adjusted to 118

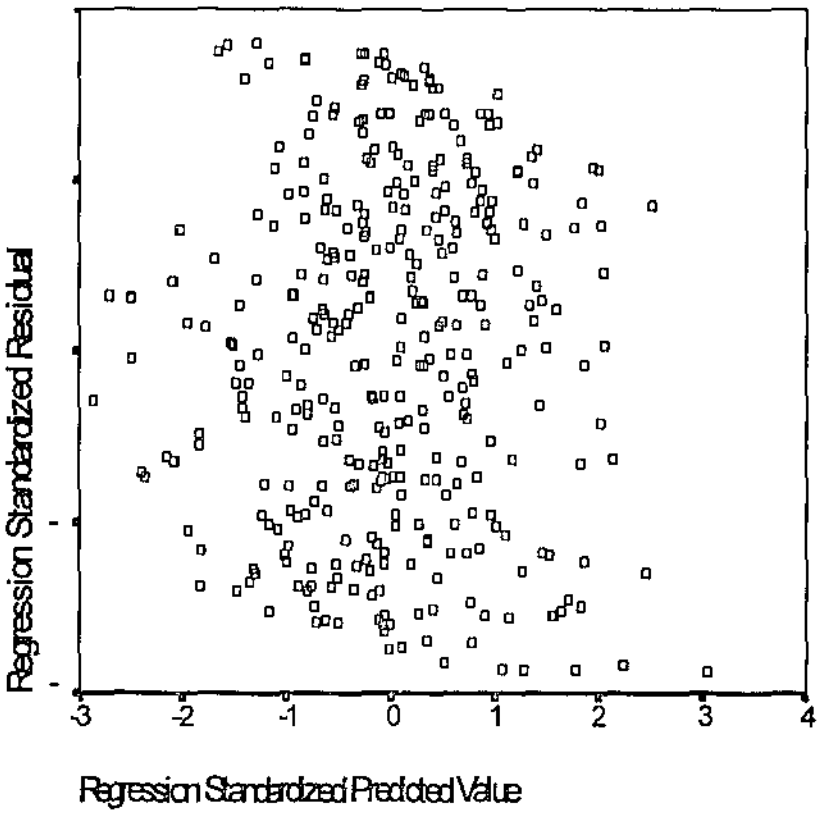
Summary of Tests Used to Screen Data for Multivariate Assumptions for Variables

Multivariate Assumptions	
Outliers Mahalanobis' Distance	Significant Mahalanobis distances > x^2 (5, N = 358) = 20.515, p < .001 were deleted Stage one deletions cases 161 (35.25) 48 (27.53) 125 (22.99) Stage two deletions cases 145 (20.63) No further deletions were conducted.
Multivariate Normality	The residual scatter plot after outlier exclusion and transformation indicated a normal distribution.
Linearity	The residual scatter plot after outlier exclusion and transformation indicated assumptions of linearity were met.
Homoscedasticity	The residual scatter plot after outlier exclusion and transformation indicated assumptions of homoscedasticity were met.
Homogeneity of Variance-Covariance Matrices	Box's M test indicated only small differences in variances $F(90,31702) = 1.21, p = .083$
Multicollinearity and Singularity	Inspection of the correlation matrix revealed no bivariate correlation's (> .90) Inspection of the collinearity diagnostic revealed no multicollinear variables. The determinant of the pooled correlation matrix was found to be -.27 and significantly different from zero.

Residual scatter plot for participants, Analysis 3 (no outliers removed)



Residual scatter plot for participants, analysis 3 (multi & univariate outliers removed)



Appendix J

Descriptives for Analysis One

Means and Standard Deviations for Gender by Gender Role on Trait Measures of Anger

Cells		Anger Control	Anger In	Anger Out	Trait Anger
Female	Androgynous	23.05 (4.53)	16.16 (3.42)	16.21 (3.73)	20.30 (4.34)
	Masculine	23.45 (4.65)	15.95 (4.01)	15.71 (4.23)	22.20 (5.28)
	Feminine	24.82 (4.58)	16.41 (4.01)	13.24 (2.76)	16.73 (3.34)
	Undifferentiated	23.64 (4.71)	14. 48 (3.30)	13.88 (3.36)	17.00 (4.44)
Male	Androgynous	23.46 (5.09)	16.97 (3.63)	16.69 (3.43)	20.34 (4.56)
	Masculine	21.77 (5.15)	16.54 (3.41)	17.07 (3.69)	22.20 (5.28)
	Feminine	25.45 (4.39)	17.64 (3.68)	14.05 (3.71)	17.45 (4.57)
	Undifferentiated	24.37 (4.81)	15.05 (3.88)	13.97 (2.44)	16.68 (4.36)

Note Standard deviations bracketed

Means and Standard Deviations for Gender on Trait Measures of Anger

Gender	Anger Control	Anger In	Anger Out	Trait Anger
Female	23.87 (4.63)	15.95 (3.78)	14.56 (3.67)	18.39 (4.51)
Male	23.34 (5.09)	16.42 (3.69)	15.76 (3.63)	19.69 (5.30)

Note Standard deviations bracketed

Appendix K

Descriptives for Analysis Two

Means and Standard Deviations for Gender by Gender Role by Gender of the Target on Trait Measures of Anger

Cells	State Anger	Anger Control	Anger Expression
Female Target			
Female Participant			
Androgynous	1.91 (0.90)	4.61 (1.41)	5.70 (1.02)
Masculine	2.35 (1.23)	5.20 (1.81)	6.00 (1.21)
Feminine	2.48 (1.11)	5.23 (1.56)	5.13 (1.52)
Undifferentiated	2.11 (1.18)	5.11 (1.94)	4.67 (1.91)
Male Participant			
Androgynous	2.14 (0.91)	5.05 (2.01)	5.52 (1.54)
Masculine	1.68 (1.02)	4.36 (1.77)	5.96 (1.20)
Feminine	2.14 (0.95)	6.00 (1.11)	4.36 (2.13)
Undifferentiated	2.15 (1.21)	4.69 (1.60)	4.77 (1.83)
Male Target			
Female Participant			
Androgynous	2.18 (1.19)	4.79 (1.87)	5.56 (1.31)
Masculine	1.56 (0.92)	4.67 (1.75)	6.33 (0.97)
Feminine	2.46 (1.40)	5.09 (1.85)	4.83 (2.05)
Undifferentiated	2.00 (1.13)	4.87 (1.25)	4.93 (1.71)
Male Participant			
Androgynous	2.00 (1.15)	5.23 (1.48)	5.69 (1.38)
Masculine	1.79 (1.26)	4.86 (2.09)	6.29 (1.21)
Feminine	2.00 (1.14)	5.13 (1.96)	5.88 (1.36)
Undifferentiated	2.04 (1.04)	5.42 (1.39)	5.73 (1.37)

Note Standard deviations bracketed

Means and Standard Deviations for Gender of Participant on State Measures of Anger

Gender	Anger Control	Anger Expression	State Anger
Female	2.14 (1.08)	4.99 (1.70)	5.34 (1.58)
Male	2.05 (1.21)	4.99 (1.74)	5.60 (1.56)

Note Standard deviations bracketed

Means and Standard Deviations for Gender of Target on State Measures of Anger

Gender	Anger Control	Anger Expression	State Anger
Female	2.20 (1.18)	4.97 (1.70)	5.35 (1.59)
Male	1.95 (1.09)	5.03 (1.76)	5.64 (1.54)

Note Standard deviations bracketed

Appendix L

Descriptives for Analysis Three

Means and Standard Deviations for Gender by Gender Role by Gender of the Target on Trait Measures of Anger

Cells	State Anger	Anger Control	Anger Expression
Female Target			
Female Participant			
Androgynous	2.13 (1.06)	4.09 (1.65)	5.61 (0.99)
Masculine	2.10 (0.85)	5.00 (1.86)	5.95 (1.43)
Feminine	2.85 (1.21)	5.45 (1.26)	4.78 (1.62)
Undifferentiated	2.11 (1.23)	4.56 (2.04)	4.83 (1.69)
Male Participant			
Androgynous	2.14 (0.96)	5.14 (1.68)	5.52 (1.21)
Masculine	1.75 (0.93)	4.61 (1.37)	5.57 (1.40)
Feminine	2.36 (1.34)	5.50 (1.74)	4.64 (1.95)
Undifferentiated	2.43 (1.34)	4.79 (1.97)	5.07 (1.77)
Male Target			
Female Participant			
Androgynous	2.06 (1.07)	5.03 (1.47)	5.47 (1.56)
Masculine	1.83 (1.04)	4.94 (1.92)	6.11 (1.23)
Feminine	2.29 (1.20)	5.14 (1.78)	4.57 (1.96)
Undifferentiated	2.27 (1.03)	5.33 (1.54)	4.47 (1.64)
Male Participant			
Androgynous	2.08 (1.44)	5.38 (1.80)	5.92 (1.44)
Masculine	1.63 (1.04)	5.00 (2.02)	6.26 (1.20)
Feminine	2.50 (1.20)	5.00 (2.07)	5.75 (1.04)
Undifferentiated	2.27 (1.04)	5.19 (1.65)	5.65 (1.06)

Note Standard deviations bracketed

Means and Standard Deviations for Gender of Participant on State Measures of Anger

Gender	Anger Control	Anger Expression	State Anger
Female	2.27 (1.15)	4.92 (1.67)	5.25 (1.54)
Male	2.09 (1.13)	5.11 (1.73)	5.47 (1.59)

Note Standard deviations bracketed

Means and Standard Deviations for Gender of Target on State Measures of Anger

Gender	Anger Control	Anger Expression	State Anger
Female	2.27 (1.14)	5.00 (1.68)	5.17 (1.65)
Male	2.06 (1.13)	5.04 (1.74)	5.61 (1.41)

Note Standard deviations bracketed

Appendix M

Ethical Considerations for the Study

The researcher, obtain written informed consent from each participant involved in the study. Participants were provided with both a covering letter and a participant consent form which provided a brief outline of the study topic, the questionnaire design, possible applications of its findings and provision for signed consent.

The participants in the study be guaranteed, confidentiality and anonymity. All participants were instructed both verbally, on the covering letter and the participant consent form of the questionnaire, not to record names, addresses or other identifying information on the data forms and that all information would be treated with the strictest confidence.

The researcher and their supervisor, be clearly identified and their contact telephone numbers be provided on the cover sheet of the study. The cover sheet of the study was designed for participants to retain for their own records and clearly identified both the researcher and their supervisor, their qualifications, the institution through which the study was being conducted and a contact telephone number for further information or queries. The researchers also carried photographic identification verifying them as student of Edith Cowan University.

Participants, be advised that involvement in the study is entirely voluntary and that they could discontinue involvement at any stage of the data collection process without penalty or prejudice. Both the cover sheet and the participant consent form advised participants of their right to refuse participation in the study. The participant

consent provided provision of written participant consent.

That adequate debriefing be provided to participants involved in the study when procedures with possible adverse consequences are used. A major ethical consideration in the study was that the research topic of anger and the use of scenarios depicting anger invoking situations that could facilitate feelings or recollections of anger in participants. To counter this possibility two strategies were implemented. Firstly, each participant was given a short debriefing when the questionnaires were collected concerning their thoughts and experience of the survey. A second strategy was that participants were encouraged on both the coversheet retained by participants and the participant consent form, to contact the researcher and/or their supervisor with any concerns in regards to the study and how it was conducted. No concerns were raised by participants during debriefing or after data collection had been completed.