

Aggression Types and Beliefs: A Comparison of Aggressive and Non-Aggressive Male Psychiatric In-patients

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STATEMENT OF ORIGINAL WORK

I, the undersigned hereby declare that the work contained in this thesis is my own original work, and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature

Date

ABSTRACT

This study investigated aggression types and beliefs about aggression among male psychiatric in-patients, using the Aggression Questionnaire (AQ) and the Expagg Questionnaire (Expagg). Two groups were compared: an aggressive group ($n = 40$) and a non-aggressive group ($n = 44$). As expected, the aggressive group displayed significantly higher levels of self-reported aggression, as reflected by their total scores on the AQ and its four subscales (anger, hostility, physical and verbal aggression). The non-aggressive group scored significantly higher on the Expagg than the aggressive group. This indicates a tendency towards expressive beliefs about aggression where aggression is being viewed as an expression of negative feelings and thus as a temporarily *loss* of control. The relatively lower Expagg scores for the aggressive group shows a tendency towards instrumental beliefs about aggression where aggression is seen as a means to reach a desired goal and thus as an effort to temporarily *gain* control over the situation. The total scores on the Expagg correlated negatively with self-reported aggression. The implications for prevention and intervention programs are discussed.

OPSOMMING

Die studie het verskillende aggressietipes asook oortuigings aangaande aggressie van manlike psigiatrisie binnepasiënte ondersoek, deur gebruik te maak van die Aggression Questionnaire (AQ) en die Expagg Questionnaire (Expagg). Twee groepe is vergelyk: 'n aggressiewe groep ($n=40$) en 'n nie-aggressiewe groep ($n=44$). Die aggressiewe groep het, soos verwag, beduidend hoër vlakke van selfgerapporteerde aggressie behaal. Dit blyk uit die betrokke groep se totale tellings op die AQ en sy vier subskale (woede, vyandigheid, fisiese en verbale aggressie). Die nie-aggressiewe groep het beduidend hoër tellings as die aggressiewe groep op die Expagg behaal. Dit dui op 'n neiging tot die huldiging van 'n stel ekspressiewe oortuigings ten opsigte van aggressie by die nie-aggressiewe groep. Aggressie word dus beskou as die uitdrukking van negatiewe gevoelens en dus as 'n tydelike *verlies* van kontrole. By die aggressiewe groep dui die relatief laer Expagg-tellings op die huldiging van instrumentele oortuigings ten opsigte van aggressie. Aggressie word dus beskou as 'n poging om 'n verlangde doelwit te bereik en word ervaar as 'n poging om tydelike kontrole oor die situasie te *verkry*. Die Expagg-totaaltellings het negatief gekorreleer met selfgerapporteerde aggressie. Die implikasies vir voorkomende en intervensieprogramme word bespreek.

STATEMENT OF DEPARTMENT

This work is the result of a research project, which is of the same extent as that required for master's theses.

It is a rule of the Department of Psychology that the report of the research may take the form of an article, which is ready for submission for publication to a scientific journal.

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INTRODUCTION

One of the most complex aspects of human behaviour is that of aggression. Numerous studies have focused on different variables related to aggression, such as cultural and sex differences (Ramirez, Sancho, Andreu, & Fujihara, 1996), risk assessment (Lidz, Mulvey, & Gardner, 1993; Litwack, 1996; Monahan & Steadman, 1996), as well as more general concerns like the effect of media violence on aggressive behaviour (Blanck & Bevan, 1992).

Aggression, like many forms of social behaviour, is a result of a complex interaction between emotion and cognition. Cognition has a direct impact on our emotional reactions, and these in turn, influence our cognitions. This complex interplay of thoughts and emotions determines whether and to what degree we aggress against others (Baron & Byrne, 2000). Zillmann (1988) suggests that cognitions have a powerful effect on arousal levels in response to various forms of annoyance or provocation, and in this way strongly affects aggression.

Baron and Richardson (1994) define aggression as any form of behaviour directed towards the goal of harming or injuring another living being who is motivated to avoid such treatment. This of course, is a very broad definition and covers various subcategories of aggressive behaviour, such as physical/verbal aggression, legitimate/illegitimate aggression, as well as individual/group aggression.

Taking the psychological functions of aggressive behaviour into account, a further distinction becomes apparent in the literature, namely between expressive (hostile) and instrumental (goal-driven) aggression. The distinction lies primarily therein that the motive for the aggressive behaviour may either be to harm the other person as an expression of negative feelings (expressive aggression), or to reach a desired goal by means of an aggressive act (instrumental aggression) (Krahé, 1996). Because beliefs about aggression are strongly embedded within the social context of our lives, researchers started to investigate the powerful effect, be it instrumental or expressive, social beliefs have on aggression. However, before expanding further upon the

concepts of instrumental and expressive beliefs, the term “social beliefs” needs to be elaborated on.

Social beliefs are culturally and historically embedded frameworks that people use to interpret and conceptualise social events and phenomena (Campbell, Muncer, & Gorman, 1993). They consist of organised collections of opinions and feelings about aspects of the world (so-called implicit theories), which exert a powerful effect on people’s understanding of themselves and their social environment in general (Baron & Byrne, 2000). This system of social beliefs, also referred to as values, ideas and practices, serves to organise information and thus forms a kind of social language through which individuals relate to others and the world around them. It therefore ensures that communication flows between members of a society by providing them with a code for social exchange as well as a code for naming and labelling unambiguously the various aspects of their world (Moscovici, 1984).

Psychologists studied various phenomena, for example, health, racial differences, interpersonal relationships, as well as religious and superstitious beliefs (Campbell, Muncer, & Coyle, 1992) in order to determine the effect of social beliefs on individuals’ daily functioning. Results of these studies clearly indicate that differences in social experiences give rise to differences in implicit goal systems and expectations and that these, in turn, regulate differences in inference processes (Zelli, Dodge, Laird, & Lochman, 1999). In other words, the way in which the individual makes sense of his social environment will depend largely on his orientation towards, or goals with regard to social interaction. If and how he will act upon the social cues, referred to as the type and content of inferences, will mainly be determined by social expectations and accepted moral codes (Bargh, Lombardi, & Hoggins, 1988; Bargh & Pratto, 1986).

Another factor which seems to exert a powerful influence on social judgement, is the impact of real versus hypothetical experiences (Fiske & Neuberg, 1990), where real experiences can be defined as actual events, while hypothetical experiences refer to imaginary events. According to research, information regarding real incidents is more thoroughly processed and therefore more easily available than information regarding hypothetical incidents (Belmore & Hubbard, 1987; Scrull & Wyer, 1989; Schwarz,

Bless, Strack, Klumpp, Rittenauer-Schatka, & Simons 1991). It therefore has a much greater potential to impact on our social experiences and daily interactions.

As explained earlier, social beliefs about aggression can be divided into two categories, namely instrumental and expressive beliefs. Instrumental beliefs are goal-directed and serve to maintain aggression as a way of dealing with conflict in interpersonal relationships. According to this belief aggression is seen as a way to gain control. Test items that load onto this instrumental factor are, for example:

- I believe that my aggression comes from being pushed too far by rude and unpleasant people.
- If someone challenged me to fight in public, I'd feel cowardly if I backed away.
- If I hit someone and hurt him, I feel as if he was asking for it.

Instrumental beliefs are supported by theories like the cognitive neo-associationist view of Berkowitz (1984, 1988), which states that exposure to aversive events generates negative feelings. These feelings activate tendencies toward aggression or flight and will develop into overt aggression depending on higher levels of thought and cognition (Baron & Byrne, 2000). The social learning theory (Bandura, 1973; Baron & Richardson, 1994) also underlies instrumental beliefs to the extent that this theory emphasises aggression as a learned behaviour that can elicit social/material reward and status enhancement.

Theories related to instrumental beliefs about aggression are thus united by the common issue regarding the benefits of aggression for the aggressor, namely the fact that one's needs are being met by others (eg. getting what you want by means of verbal or physical threats), as well as the personal benefit of having a sense of power and control. Another perspective emphasising the control component is that of Black (1988), who sees aggression as a way of social control among those who lack status and legitimate power in the world. Aggression is therefore being viewed as a direct, if crude way of gaining control, therefore explaining the high incidence of aggression among members of low socio-economic groups.

Expressive beliefs on the other hand, are generally held by people who regard aggression as negative, dysfunctional and socially harmful (Campbell et al., 1993). Aggression is thus seen as a temporary loss of self-control. As such it represents a personal failure to adhere to standards of behaviour which people set for themselves. As a consequence they view their behaviour negatively. Test items loading onto this factor are, for instance:

- I believe that my aggression comes from losing my self-control.
- If someone challenged me to fight in public, I'd feel proud if I backed away.
- If I hit someone and hurt him, I feel guilty.

Theories related to expressive beliefs about aggression are, for example, the instinct and drive theories which regards aggression as an innate tendency. The most famous supporter of the instinct theory was Sigmund Freud who believed that aggression stems from a powerful death wish or instinct ('thanatos'). This instinct is initially aimed towards self-destruction, but is redirected towards others. The drive theory, on the other hand, holds that external conditions (e.g., frustration, loss of face) arouse a strong motive to engage in harm-producing behaviour through the temporary suspension of self-control (Berkowitz, 1988, 1989; Feshbach, 1984). Expressive theories therefore share a common concern with the build up of tension, stress or arousal and its consequent discharge through aggressive behaviour.

Tracing back the research interest in beliefs about aggression over the last 15 years, the work of Campbell and her various co-workers must be singled out. On the basis of qualitative research on models of aggression in the social talk of men and women, Campbell and Muncer (1987) proposed a theory of gender differences in aggression, which they also later operationalised (Campbell et al., 1992). Their theory concerns different social beliefs of aggression for the genders and has largely been informed by the work of Moscovici (1984). Moscovici asserted that different social groups might have different behaviour patterns because of their holding of different social beliefs. Acting upon this assertion, and also in line with more classical stances on aggression (Bandura, 1973; Buss, 1971; Dollard, Doob, Miller, Mowrer, & Sears, 1939; Lorenz, 1966; Storr, 1968; Tedeschi, Smith, & Brown, 1974), Campbell and her co-workers argued that women tend to view aggression in an expressive way whereas men tend

to be more orientated towards an instrumental view. Empirical support for this argument came, among others, from studies conducted by Archer and Haigh (1997a,b) as well as Campbell et al. (1993).

Campbell et al. (1993) also attempted to identify possible intervening variables influencing the relation between gender and these social beliefs of aggression. They considered as possible mediators gender identity, as well as the personality types of communality (individualism, assertiveness and competitiveness) and agency (interpersonal dependence, co-operation and suppressed self-interest). They found, however, that the "mediators" made no significant contribution to the amount of variance explained in the instrumental-expressive bipolarity; gender accounted for the major part of the variance.

Recently, Archer and Haigh (1997a, b) started to investigate the relation between self-reported aggression and social beliefs about aggression with their focus largely on four types of self-reported aggression, namely physical aggression, verbal aggression, anger and hostility, as measured by the Aggression Questionnaire (AQ; Buss & Perry, 1992). In their 1997a study, for instance, instrumental beliefs about aggression showed a highly significant positive correlation with all four types of aggression, whereas expressive beliefs correlated significantly, though negatively, with physical and verbal aggression. In their 1997b study, instrumental beliefs about aggression were found to be significantly and positively associated with levels of self-reported physical aggression but only moderately so with verbal aggression.

The need was also perceived to extend the current focus of research on aggression beyond student samples. A notable exception to the use of student samples was the study by Archer and Haigh (1997a), which involved a comparison of male and female violent and non-violent prisoners. In the present study, an aggressive/non-aggressive dichotomy has also been utilised, but as the primary basis of comparison.

The choice of a psychiatric sample for the present study was motivated by the fact that the incidence of aggressive behaviour is particularly high in psychiatric patients (Borum, 1996; Oulis, Lykouras, Dascalopoulou, & Psarros, 1996; Reed, 1997; Wesseley, 1997). Already in 1979, Rapkin concluded that individuals with personality

disorders, alcoholics and drug abusers more readily display antisocial and aggressive behaviour, and that schizophrenics seem to be over-represented in samples of patients arrested for violence. Although there was a conventional wisdom for many years among social researchers that no significant relationship existed between violence and mental illness, when variables like drug abuse, poverty, gender and age were considered, empirical evidence seems to favour the opposite. Recent research, including two large-scale epidemiological surveys (Mulvey, 1994; Link & Stueve, 1995) as well as a second generation of studies that improved on the limitations of earlier research (Monahan, 1992; Rabkin, 1979; Taylor, 1995), now strongly suggests that mental disorder may be a significant risk factor for violence to occur. For this reason, clinical judgement of violence risk is therefore also one of the most important variables determining hospitalisation. Research indicates that 66,7% of hospitalised adolescents showed violent behaviour, 43,1% were suicidal, and 27,5% exhibit both behaviours (Inamdar, Lewis, Siomopoulos, Shanok, & Lamela, 1982). Monahan (1992) also found that among psychiatric inpatients in a municipal hospital, 40% had made suicide attempts whilst 42% had been violent before admission.

Studies about aggression among psychiatric in-patients also showed anger to be a powerful predictor of aggressive behaviour (Beck, White, & Cage, 1991; McNeil & Binder, 1994; Oulis, et al., 1996). A few years earlier, Buss and Perry (1992) already explained that anger served as a kind of "psychological bridge", between the instrumental (physical and verbal aggression) and the cognitive (hostility) component. Anger, as a physical high-arousal state, is thus often a prelude to aggression. Buss and Perry (1992), also proposed that, after anger has cooled down, a "cognitive residual of ill will, resentment and suspicion of others' motives" (p. 457) lingers, explaining the relationship between anger and hostility. Furthermore, under certain circumstances, heightened arousal like anger can elicit aggressive behaviour in response to annoyance, frustration or provocation. In other words, this "residual of anger" can exert a powerful effect on another, totally unrelated incident. Zillmann (1988) offered an interesting explanation for this phenomenon by means of the excitation transfer theory.

This theory suggests that, in accordance with the Buss and Perry findings (1992), arousal in one situation can persist and intensify emotional reactions in later, unrelated

situations. Transfer of excitation (i.e., arousal or anger) are most likely to take place when the persons involved are relatively unaware of this "residual of ill will" or, recognise the presence of this arousal but attribute it to events in the present situation (Zillmann, 1988). Further studies expanded on this theory and found that deindividuation, a state wherein individuals experience reduced self-awareness and awareness of social norms, proved to be the strongest indicator of excitation transfer to occur (Tayler, Helgeson, Reed, & Skokan, 1991).

With regard to the choice of a male only population for the present study, it is important to note that research on social beliefs about aggression has hitherto largely concentrated on a comparison between male and female student samples. Each of these studies utilised samples consisting of both men and women because a primary focus was to compare the genders. Given that gender appears to be a significant correlate of social beliefs of aggression as well as of aggression types (Buss & Perry, 1992; Campbell et al., 1993), the present study controlled for gender differences in the correlation between beliefs and aggression types by employing a sample comprised of one gender alone, namely male psychiatric in-patients.

Research has also focused on variables like academic qualifications, marital status and a previous criminal record with regard to their predicting power of aggressive behaviour. Webster, Harris, Rice, Cormier, and Quincey (1994) as well as Mulvey and Lidz (1984), found that higher academic levels and occupational skills correlated negatively with aggressive behaviour, whilst non-marital status and living alone increased the risk of violence (Harris, Rice, & Quincey, 1993; Quincey, Maquire, & Varney, 1983; Rice & Chaplin, 1979; Tantam, 1988; Whitman & Quincey, 1981). A previous criminal record still proves to be the strongest indicator of future aggression (Borum, 1996; Reed, 1997; Webster et al., 1994).

To conclude, the mental health profession is increasingly being called upon to make informed clinical judgements as to potential dangerousness of certain individuals to self and others. Numerous studies, however, indicate the inherent difficulties in accurately predicting the future risk of violence. As overt aggressive behaviour is intermittently expressed (because of legal or other consequences), reluctantly revealed or actively concealed, direct behavioural observation and inquiry is difficult or

even impossible (Borum, 1996; Harris et al., 1993; Mossman, 1994). In order to make a contribution to more accurate predictions of future aggression by identifying potential predictors which can be more reliably assessed, it was decided to focus on the underlying social beliefs of male psychiatric patients, and to determine its effect on different types of aggression as the main aim of the present study.

The study had the following objectives:

- To compare aggressive and non-aggressive groups in terms of the following variables: academic qualifications, marital status and criminal record;
- to compare aggressive and non-aggressive groups with regard to different types of self - reported aggression, including physical aggression, verbal aggression, anger and hostility;
- to compare aggressive and non-aggressive groups with regard to their beliefs of aggression as an instrumental or expressive act;
- to compare non-aggressive and aggressive groups with regard to their reference to the nature of the aggressive incident (real or hypothetical) when answering the Expagg;
- to compare the participants who referred to real aggressive incidents, with those who referred to hypothetical aggressive incidents with regard to aggression types and beliefs; and
- to investigate the intercorrelations between beliefs about aggression and different aggression types.

From these objectives the following hypotheses were derived:

- Hypothesis 1: Limited academic qualification, being single and living alone will be indicative of aggressive group membership.
- Hypothesis 2: Participants with a criminal record will predominantly belong to the aggressive group.
- Hypothesis 3: The aggressive group will display significantly higher levels of self-reported aggression and aggression types (anger, hostility, physical and verbal aggression), than the non-aggressive group.

- Hypothesis 4: The non-aggressive group will be significantly more inclined than the aggressive group to view aggression as an expressive, rather than an instrumental act.
- Hypothesis 5: The aggressive group will be significantly more inclined than the non-aggressive group to select a real, rather than hypothetical Target Aggression Incident when answering the Expagg.
- Hypothesis 6: The non-aggressive group will be significantly more inclined than the aggressive group to select a hypothetical, rather than real Target Aggression Incident when answering the Expagg.
- Hypothesis 7: Participants who refer to real aggressive incidents, as opposed to those referring to hypothetical incidents, will display higher levels of self-reported aggression as well as being significantly more inclined to view aggression as an instrumental act.
- Hypothesis 8: Beliefs about aggression will show significantly negative correlations with the different aggression types, while different aggression types will demonstrate significant positive intercorrelations.

METHOD

Participants

Altogether 84 male psychiatric in-patients (40 aggressive and 44 non-aggressive) were selected from two psychiatric hospitals in the Cape Metropole, namely Stikland and Valkenberg. The age of participants ranged between 20 and 60 years for both the aggressive ($M=35.6$; $SD=8.3$) and non-aggressive ($M=36.6$; $SD=8.4$) groups. The group was composed of Afrikaans speaking (56%), English speaking (35%) and bilingual (9%) participants. All participants were:

- unscreened for ethnicity
- unscreened for specific diagnoses according to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; American Psychiatric Association, 1994) and
- not patients who were acutely psychotic or whose primary diagnosis was mental retardation.

Participant identification was done by means of collateral information through a semi-structured interview with staff and psychologists of the psychiatric ward as well as scanning the content of patients' files. Aggressive participants were selected on the basis of a pervasive pattern of excessive aggression for the duration of at least one year during which the participants' aggressive behaviour had a significant effect on their social, personal and career functioning. The non-aggressive group were general psychiatric in-patients not conforming to the specified diagnostic criterion of aggression used to identify the aggressive group.

Measuring Instruments

Socio-demographic Questionnaire

The participants provided information regarding age, occupation, home language, marital status, highest academic qualification and living arrangements, as well as whether they had a criminal record or not.

Expagg (Campbell et al., 1992)

The 20-item Expagg, which has a forced-choice format, was developed by Campbell et al. (1992) to measure a participant's representation of aggression. This scale consists of items describing an aggressive incident, where the participant can refer to a real (actual) or hypothetical (imaginary) incident when completing the questionnaire. Real (recent or past) aggressive incidents refer to experiences where the individual was actively involved in overt aggressive behaviour, either as a respondent or as a participant. Hypothetical aggressive incidents on the other hand, refer to imaginary aggressive experiences where the participant describes how he would have responded if he was actually involved in the situation.

The representations of aggressive responses are measured on a single dimension that ranges from instrumental to expressive. Archer and Haigh (1997a), however, felt that, at least in theory, it would be possible for participants to endorse both an instrumental and expressive view of aggression, or neither an instrumental nor an expressive view. They therefore had the Expagg changed into a 40-item format where instrumentality and expressiveness were represented as two independent dimensions. This entailed 20 items for each of the scales with each statement being rated on a 5-point Likert-type scale that ranges from 1 ("Never") to 5 ("Always").

A further objection by Archer and Haigh (1997a) against the original Expagg was the application of a principal component analysis to determine the instrument's underlying structure (see Campbell et al., 1992), which, according to them, cannot be applied to nominal items. In a follow-up psychometric study, however, Campbell, Muncer, McManus and Woodhouse (1999) applied a more appropriate analysis, called Microfact, to the 20-item Expagg and found substantial support for a single basic factor. They also reported good reliability for the questionnaire, namely a Kuder Richardson-20 value of .80.

In the present study the original 20-item Expagg was used because it requires less complicated responses from the participants. The latter has been an important consideration, given that the average psychiatric patient at the selected mental institutions comes from a low socio-economic environment with limited schooling.

Moreover, the 20-item Expagg was scored by assigning a value of 0 to instrumental responses and a value of 1 to expressive responses. A high score thus indicated a predominantly expressive view of aggression.

For the present study, the Kuder Richardson-20 was also the preferred measure of internal consistency. Since the Statistical Package of the Social Sciences, version 9.0.1 (SPSS; George & Mallery, 1999) does not make provision for calculation of the Kuder Richardson-20, it was computed manually. This yielded a value of .87 (which was the same as an alpha coefficient of .87 for the Expagg).

In the present study the underlying structure of the Expagg was further investigated by means of a homogeneity analysis. The latter can be thought of as a principal component analysis of nominal (in this case dichotomous) data. A two-dimensional solution was specified and the discrimination measures of the different items are displayed in Figure 1.

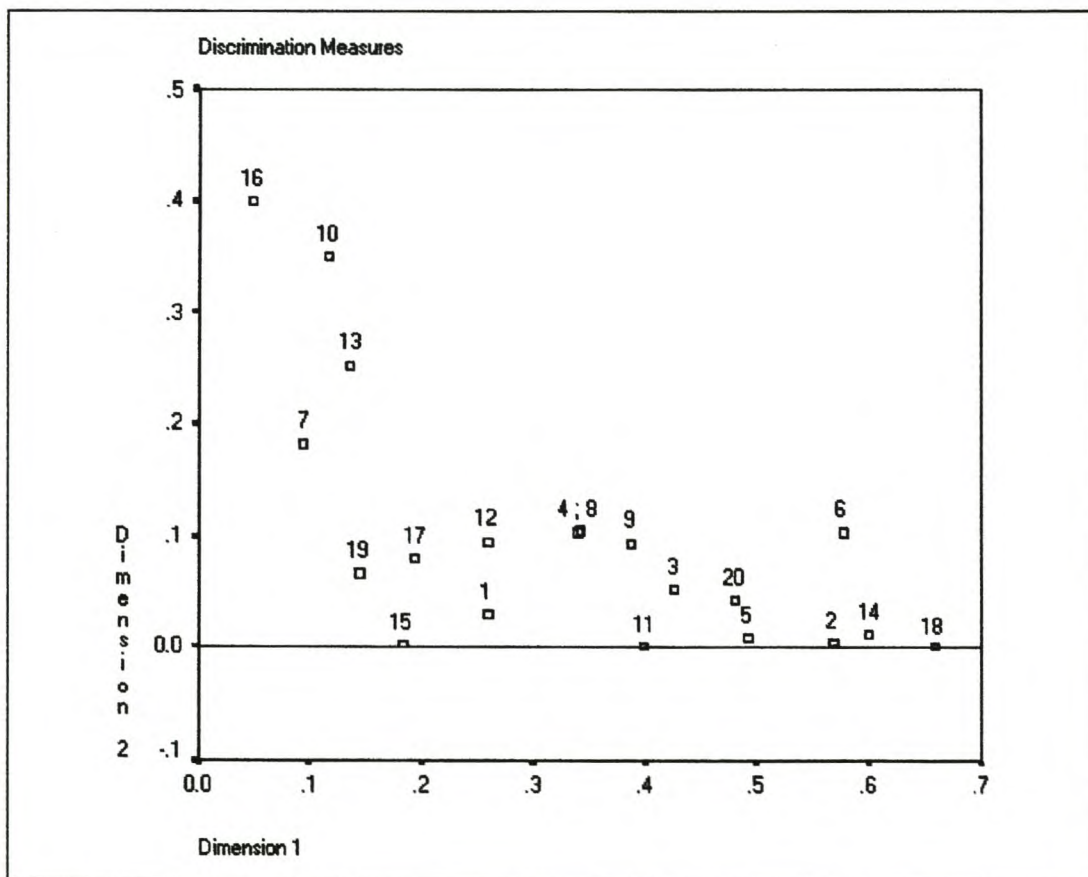


Figure 1. Plot of the discrimination measures of the Expagg items.

Examination of Figure 1 shows that the first dimension is related to 16 items. This indicates that the Expagg has predominantly a single basic factor. Only four items are closest to the second dimension, namely items 7, 10, 13 and 16. Inspection of the content of these four items reveals a factor that is possibly concerned with private versus public aggression. The associated eigenvalues for the two dimensions are .33 (dimension 1) and .10 (dimension 2) respectively.

As a further refinement, Archer and Haigh (1997) added three additional questions to the 20-item Expagg (which have to be answered on completion of the questionnaire). These questions evolve around the aggressive incident (referred to as the Target Aggression Incident) the participant had in mind when answering the questionnaire and were measured in terms of the following:

- nature of the Target Aggression Incident (whether the aggressive incident a respondent referred to in answering the items was a recent, past or hypothetical one);
- sex of the opponent involved in Target Aggression Incident (whether it involved someone of the same or opposite sex); and
- relationship with person involved in Target Aggression Incident (whether or not that person was the respondent's partner in life).

Aggression Questionnaire (Buss & Perry, 1992)

The Aggression Questionnaire (AQ) was devised by Buss and Perry (1992) as an improvement on the Hostility Inventory (Buss & Durkee, 1957), which lacked psychometric soundness. The AQ contains 29 items, measuring four types of aggression, namely physical aggression (9 items), verbal aggression (5 items), anger (7 items) and hostility (8 items). Each item is rated on a 5-point Likert-type scale, ranging from 1 ("Never applies to me") to 5 ("Very often applies to me").

Buss and Perry (1992) reported an alpha coefficient of .89 for the total scale, with internal consistency reliabilities for the subscales ranging from .72 to .85. In the present study, the internal consistency reliability of the AQ was .96. The alpha coefficients for the individual subscales were as follows:

Physical aggression:	.92
Verbal aggression:	.83
Anger:	.80
Hostility:	.86

Harris (1997) reported that the AQ has high convergent validity with other self-report measures of aggression (such as the Personality Assessment Inventory, the Lack of Frustration Tolerance Scale and the Aggression Inventory). Moreover, the study by Harris confirmed the four-factor structure of the AQ. A study by Williams, Boyd, Cascardi and Poythress (1996), however, suggested that the four-factor structure might be a poor fit in an offender population. The latter authors proposed a two-factor structure, with the physical aggression and anger subscales being combined, as well as the verbal aggression and hostility subscales. However, since the present sample was not a criminal offender one, the four-factor solution had been maintained.

Procedure

The questionnaires were available in both English and Afrikaans, and administered individually. Where necessary, the researcher helped to clarify instructions and/or items. Participation was voluntary and informed consent obtained.

Statistical Methods

Statistical analysis was done by means of the Statistical Package of the Social Sciences, version 9.0.1 (SPSS; George & Mallery, 1999), and involved correlations, t-tests for independent samples and one-way analyses of variance. Reliability coefficients were also computed and the dimensional structure of the Expagg investigated by means of a homogeneity analysis.

RESULTS

Comparison of non-aggressive and aggressive groups in terms of academic qualifications, marital status and criminal record

Academic Qualifications

With regard to the academic qualifications of the participants, just more than half (55%) of the total group ($N=84$) indicated some incomplete secondary education (i.e., grade 5 to 11), 24% indicated that they obtained grade 12 qualifications, whereas 21% indicated post-grade 12 qualifications. A summary of the academic qualification and group membership is reflected in Table 1.

Table 1

Cross Tabulation of Group Membership and Academic Qualification

Group	Highest Academic Qualification					
	Grade 5 to 7	Grade 8 to 11	Grade 12	College Diploma	University Degree	Post Graduate
Aggressive	3 (100%)	23 (53.5%)	8 (40%)	5 (50%)	1 (20%)	0 (0.0%)
Non- aggressive	0 (0.0%)	20 (46.5%)	12 (60%)	5 (50%)	4 (80%)	3 (100%)
Total	3 (100%)	43 (100%)	20 (100%)	10 (100%)	5 (100%)	3 (100%)

Chi-square = 6.535; $df=2$; $p = .038$

As reflected in Table 1, a significant relation between group membership and formal academic qualification was found ($p<.05$). Of the total group of participants 24% indicated that they had matriculated. The majority of those who had matriculated belonged to the non-aggressive group (60%), whereas the remaining 40% were part of the aggressive group. All of the participants with below grade 12 qualifications indicated aggressive group membership while participants with post-grade 12 qualifications primarily belonged to the non-aggressive group (67%). Four out of five participants with a first university degree and all of those with a postgraduate degree

were part of the non-aggressive group. The participants further had a variety of jobs (teacher, musician, mechanic, etc.) Nearly half of the participants (42%) were unemployed at the time of the investigation. Of those unemployed, 60% were in the aggressive group.

Marital Status

As far as marital status is concerned almost equal percentages of participants were single (35%), married (30%) or divorced/widowed (35%). Cross tabulation of marital status and group membership revealed a significant result ($p < .05$), which is summarised in Table 2.

Table 2

Cross Tabulation of Group Membership and Marital Status

Group	Single	Married	Divorced/ Widowed	Total
Aggressive	17 (59%)	7 (27%)	16 (55%)	40 (48%)
Non-Aggressive	12 (41%)	19 (73%)	13 (45%)	44 (52%)
Total	29 (100%)	26 (100%)	29 (100%)	84 (100%)

Chi-square = 6.54; $df = 2$; $p = .04$

It is evident from Table 2 that the married participants predominantly fell into the non-aggressive group. Moreover, relatively even numbers of single and divorced/widowed participants can be observed in the two comparison groups.

Criminal Record

Altogether 82 participants answered the question as to whether or not they had a criminal record. Out of these 36% responded in the affirmative. A significant relation between group membership and criminal offence was found ($p < .01$). The results appear in Table 3.

Table 3

Cross Tabulation of Group Membership and Criminal Record

Group	Yes	No	Total
Aggressive	24 (83%)	16 (30%)	40 (49%)
Non-Aggressive	5 (17%)	37 (70%)	42 (51%)
Total	29 (100%)	53 (100%)	82 (100%)

Chi-square = 20.73; $df = 1$; $p = .00$

Table 3 reveals that the criminal offenders predominantly belonged to the aggressive group.

Comparison of aggressive and non-aggressive groups with regard to aggression types

The aggressive and non-aggressive groups were compared with respect to their total AQ scores, as well as their scores on the four AQ subscales. The results are presented in Table 4.

Table 4

Comparison of the AQ scores of the Aggressive (n=40) and Non-Aggressive (n=44) Groups

Scale	Group	<u>M</u>	<u>SD</u>	<u>t</u>	<u>p</u>
Total AQ	Aggressive	113.73	16.05	13.13	0.00
	Non-Aggressive	70.07	14.42		
Physical aggression	Aggressive	35.70	5.44	13.67	0.00
	Non-Aggressive	18.82	5.84		
Verbal aggression	Aggressive	20.23	3.39	11.48	0.00
	Non-Aggressive	12.30	2.95		
Anger	Aggressive	27.45	3.97	12.34	0.00
	Non-Aggressive	16.84	3.90		
Hostility	Aggressive	30.35	6.55	5.78	0.00
	Non-Aggressive	22.11	6.51		

It is evident from Table 4 that the aggressive group, as compared to the non-aggressive group, showed significantly higher levels of self-reported aggression – not only on the total AQ but on the four sub-scales as well ($p < .01$).

Comparison of aggressive and non-aggressive groups with regard to aggression beliefs

The aggressive and non-aggressive groups were compared with respect to their results on the Expagg by means of a t-test for independent samples. The results are summarised in Table 5.

Table 5

Comparison of the Expagg Scores of the Aggressive (n=40) and Non-Aggressive (n=44) Groups.

Group	<u>M</u>	<u>SD</u>	<u>t</u>	<u>p</u>
Aggressive	8.43	3.87		
Non-Aggressive	15.30	3.47	-8.58	0.00

As shown in Table 5, the non-aggressive group scored significantly higher on the total Expagg than the aggressive group ($p < .01$). High total Expagg scores indicate predominantly expressive beliefs about aggression.

Comparison of aggressive and non-aggressive groups with regard to the nature of the Target Aggression Incident

Looking at the distribution of percentages for the nature of the Target Aggression Incident question, a potentially significant relationship seems evident (aggressive group = more real incidents; non-aggressive group = more hypothetical incidents). These responses to the nature of the Target Aggression Incident question were subjected to a cross tabulation with the aggressive/non-aggressive dichotomy. The results are presented in Table 6.

Table 6

Cross Tabulation of Group Membership and Nature of Target Aggression Incident.

Group	Real	Hypothetical	Total
Aggressive	37 (69%)	3 (10%)	40 (48%)
Non-Aggressive	17 (31%)	27 (90%)	44 (52%)
Total	54 (100%)	30 (100%)	84 (100%)

Chi-square = 26.48; df = 1; p = .00

It is evident from Table 6 that the association between group membership and the nature of the Target Aggression Incident (real versus hypothetical) was statistically significant ($p < .01$). More specifically, 90% of participants who referred to a hypothetical incident in their answering of the Expagg were classified as non-aggressive psychiatric patients. Participants who referred to real aggressive incidents were primarily part of the aggressive group.

Comparison of participants who referred to real aggressive incidents and those who referred to hypothetical aggressive incidents with regard to aggression types and beliefs.

The participants who referred to real aggressive incidents were compared with those who referred to hypothetical aggressive incidents with regard to their mean Expagg and AQ scores. The results appear in Table 7.

Table 7

Comparison of Participants Referring to a Real (n=54) or Hypothetical (n=30) Target Aggression Incident With Regard to Aggression Types and Beliefs

Scale	Nature of Incident	<u>M</u>	<u>SD</u>	<u>t</u>	<u>p</u>
Total AQ	Real	105.89	19.65	12.10	.00
	Hypothetical	63.80	12.19		
Physical aggression	Real	32.30	7.70	10.22	.00
	Hypothetical	17.07	5.81		
Verbal aggression	Real	18.37	4.48	7.76	.00
	Hypothetical	11.93	3.08		
Anger	Real	25.41	5.35	10.93	.00
	Hypothetical	15.57	2.91		
Hostility	Real	29.81	5.95	8.02	.00
	Hypothetical	19.23	5.49		
Expagg	Real	9.74	4.42	-7.83	.00
	Hypothetical	16.13	3.03		

From Table 7 it can be deduced that participants who referred to a real aggression incident in answering the questionnaires, had significantly lower Expagg and higher AQ scores than participants who drew upon a hypothetical incident alone ($p < .01$).

Relationship between beliefs about aggression and aggression types

The interrelationship between beliefs about aggression and the different aggression types was investigated through a series of product-moment correlation coefficients. These are displayed in Table 8.

Table 8

Correlation Coefficients Between Beliefs about Aggression and Aggression Types
(N=84)

Scale	Expagg	Total AQ	Physical aggr	Verbal aggr	Anger	Hostility
Expagg	---					
Total AQ	-0.78*	---				
Physical aggr	-0.81*	0.94*	---			
Verbal aggr	-0.73*	0.88*	0.82*	---		
Anger	-0.73*	0.94*	0.85*	0.84*	---	
Hostility	-0.52*	0.83*	0.66*	0.59*	0.72*	---

*p< .01

As shown in Table 8, all correlations were statistically significant at the 99% confidence level. Moreover, the total Expagg scores were negatively correlated with the different aggression types. A tendency was thus demonstrated for strong expressive beliefs about aggression to be associated with low levels of self-reported aggression. This applies to all four types of self-reported aggression.

DISCUSSION

The purpose of the present study was to compare two groups of male psychiatric in-patients (aggressive and non-aggressive) with regard to their beliefs about aggression as well as different types of aggression.

The hypothesis that having limited academic qualification as well as being single and living alone would indicate membership of the aggressive group, was supported. All of the participants with a postgraduate degree as well as four out of five participants with a first university degree were part of the non-aggressive group. This supports the conclusion by Webster et al. (1994) that an improvement in academic levels and vocational skills may be a protective factor against aggression and violence. Mulvey and Lidz (1984) also suggested that, given the fact that a substantial amount of violence by mental patients occurs at home, being employed might present less precipitatory incidents for the patient and therefore reduces the likelihood for conflict in the home.

Closer inspection of the participants' marital status shows that the non-aggressive group predominantly consisted of married participants. This is in accordance with studies that found non-married status to be a significant indicator of aggressive behaviour (Harris et al., 1993). One possible explanation is that being married may imply improved social skills, which, in turn, are related to a decreased risk of aggressive behaviour (Quinsey et al., 1983; Rice & Chaplin, 1979; Whitman & Quinsey, 1981). There is also a suggestion that persons who kept mainly to themselves can, in some cases, be at increased risk for violent behaviour (Tantam, 1988). This was supported by the findings of the present study that participants who lived alone were mainly part of the aggressive group.

The present study also revealed, as was expected, that participants with a criminal record predominantly belonged to the aggressive group (with associated lower Expagg scores and significantly higher AQ and AQ subscale scores), as Archer and Haigh (1997a) previously established. Research involving risk assessment of violent

behaviour also acknowledges a previous criminal record as the strongest indicator of future violence to occur (Borum, 1996; Reed, 1997; Webster et al., 1994).

It was expected that the aggressive group would display significantly higher levels of self-reported aggression as measured by their total scores on the AQ. Higher scores for the aggressive group also emerged on the four subscales of the AQ (see Table 4). The aggressive group's higher scores on the anger and physical aggression subscales are supported by similar findings among prisoners who were convicted for violent offences (Archer & Haigh, 1997a). The findings for the anger and hostility subscales, where the aggressive group scored significantly higher than the non-aggressive group, are also in agreement with results from other studies using psychiatric in-patients (Beck et al., 1991; McNiel & Binder, 1994; Oulis et al., 1996). It should be kept in mind, however, that the patients in the Oulis et al. study predominantly had a diagnosis of a psychotic disorder. Higher levels of self-reported aggression could also be attributed to the fact that male psychiatric patients who displayed aggressive behaviour, probably had low frustration tolerance, ineffective coping strategies as well as limited insight in situations of overt conflict (Monohan, 1992).

It was expected that the aggressive group would have strong instrumental beliefs about aggression (aggression seen as an attempt to gain control) whereas the non-aggressive group would be more inclined to have expressive beliefs (aggression seen as a temporary loss of control). This hypothesis was supported in the sense that the non-aggressive group scored significantly higher on the Expagg than the aggressive group. (The higher the score on the Expagg, the more expressive the belief.) These findings are reflected in the Archer and Haigh study (1997a), where instrumental beliefs were strongly correlated with measures of aggression among a prison sample. Being hospitalised could also have contributed to the feeling of powerlessness among the aggressive group and therefore served as an incentive to gain control through aggressive behaviour. Feelings of inferiority (e.g., lack of formal academic qualification) may have been prominent in the aggressive group, leading to more desperate efforts of manipulating social situations by means of aggressive interaction. This perspective has already been highlighted by Black (1988) who saw aggression as a way of social control among those who lack status and legitimate power in the world.

It was also expected that participants who referred to real aggressive incidents would predominantly be part of the aggressive group (Hypothesis 5) and that those who referred to hypothetical incidents would predominantly be part of the non-aggressive group (Hypothesis 6). Furthermore, it was hypothesised that members of the aggressive group would display higher levels of self-reported aggression and would be significantly more inclined to hold instrumental beliefs about aggression, compared to the non-aggressive group (Hypothesis 7). All these hypotheses were supported. It seems that information on real incidents are processed more thoroughly and are more readily accessible than information on hypothetical incidents (Belmore & Hubbard, 1987; Srull & Wyer, 1989). This observation is supported by findings that the greater the amount of attention paid to information, the better the chance that the information will enter the long-term memory. Research showed that information on real incidents have a much greater potential to influence later social judgement (Fiske & Neuberg, 1990). Schwarz et al. (1991) also found that the ease with which information can be brought to mind plays a key role in the impact of such information on social judgement. Thus, in making social judgements (e.g. on aggression), it is not only crucial what a person remembers, but also the ease or difficulty with which it is remembered that influences the social judgement.

Finally, it was hypothesised that beliefs about aggression would show significant negative correlations with the different aggression types, while different aggression types would demonstrate significant positive intercorrelations. The findings of the present study supported this hypothesis since all intercorrelations were statistically significant at the 99% confidence level. This is in accordance with the findings of the Archer and Haigh (1997a) study utilising a prisoner sample, as well as the Archer and Haigh (1997b) study, comparing beliefs about aggression and types of self-reported aggression. The findings of the present study thus supported the fact that expressive beliefs are generally held by individuals who regard aggression as negative, dysfunctional and socially harmful (Campbell, et al., 1993). Research also showed that when there is a goal or reward involved, indicating the holding of instrumental beliefs, individuals will be more inclined to aggress towards each other (Baron & Richardson, 1994). This confirms the relationship between instrumental beliefs and different aggression types.

The present study contributed in the following way:

- Research findings of the present study can be effectively utilised in clinical and forensic settings pertaining to areas like diagnosis, psychodynamic formulation as well as treatment and intervention planning of patients.
- As there is a unique correlation between beliefs about aggression and different types of aggression, growing knowledge about this relationship can find expression in more appropriately designed prevention and intervention programmes aimed at community level.
- Another important implication of the present study is that of risk assessment. Knowledge about the correlates of potentially dangerous behaviour has never been of greater concern to mental health professionals as well as society at large. Bingley (1997) reminds us that society, as well as the patient, is entitled to the effective assessment and management of current and future dangerousness - "an objective which must be accorded the highest priority" (p. 29). Set against the backdrop of escalating violence in South Africa, protecting society against individuals who might otherwise place them at risk, has never been of greater importance.

The following limitations of the study are noteworthy:

- The participants were psychiatric in-patients and therefore in different "stages" of treatment. Whereas some of the patients were already stabilised on medication for a length of time, others were new admittees in the early stages of clinical evaluation without any pharmacological or psychotherapeutic intervention. Some of the patients were also receiving individual psychotherapy, which could have contributed to greater honesty and congruency in answering the questionnaire.
- A large proportion of participants were low functioning with limited writing and reading skills. The semantic meaning of words therefore caused some confusion and incomprehension, impacting upon the quality of the responses.

- Information by staff and psychologists, together with the content of patients' files, were used to identify participants. Collateral information from someone close to the participant could have offered valuable information and should be considered as a necessary requirement for follow-up studies in aiding the process of participant identification.
- Aggressive participants were selected on the basis of a previous history (at least one year) of aggression that have had a significant effect on the patient's social, personal and career functioning. This implies that overt, self-reported aggression served as the basis of selection. However, covert aggression by its very nature goes unreported, therefore making it difficult, if not impossible, to assume that the participants in the non-aggressive group were in fact non-aggressive.

The present study emphasised the need to extend the comparison of instrumental and expressive beliefs to other samples as well, especially focusing on the wider community. Intervention and prevention programs aimed at community level have the potential of opening up new and exiting research possibilities. However, a major problem of devising effective strategies for dealing with aggression, is a public attitude that accommodates aggression as an inherent part of human nature. According to Lore and Schultz (in Krahé, 1996) this attitude ignores potential options for controlling aggression, as suggested by research on human and animal behaviour. High intra-individual variability across situations and settings demonstrates that aggression is not an inevitable but an optional strategy for humans. Therefore, the mechanisms by which inhibitory forces against aggression can be strengthened should be of utmost concern for researchers and political decision-makers.

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