Anger Parameters in Parolees undergoing psychoeducation: Temporal Stability, Social Desirability Bias, and comparison with non-offenders

Ephrem Fernandez, Ph.D.

Department of Psychology, University of Texas at San Antonio

Vasiliki Kiageri, MBPsS

Older Adult Psychology, Dudley and Walsall Mental Health Partnership NHS Trust

Deepan Guharajan, B.S.

Department of Psychology, University of Texas at San Antonio

Andrew Day, D.Clin.Psy.

School of Psychology, Faculty of Health, Deakin University

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Address for correspondence:

Ephrem Fernandez, Ph.D.

Department of Psychology

University of Texas at San Antonio

San Antonio, Texas 78249

Phone: (210) 458-5755

Email: ephrem.fernandez@utsa.edu

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Abstract

Background: Anger is commonly measured as if it were a single, simple construct. This may be particularly unhelpful if the main purpose of a measure is to determine change and responsiveness to interventions.

Aims: Our primary aim was to assess five anger parameters in parolees – frequency, duration, intensity, latency, and threshold and to test for effects of psychoeducation and social desirability bias on parolees' scores. Average anger scores for the offender sample were compared with those in a non-offender sample.

Methods: The offender sample was drawn from male parolees in San Antonio. A group of volunteers recruited at public libraries was engaged for baseline comparisons. The Anger Parameters Scale and the Marlow-Crowne Scale were used to assess anger and social desirability respectively. Parole officers delivered a psychoeducation course to parolees over 12 weeks, and anger and social desirability measures taken before and afterwards.

Results: At baseline, parolees were angry more often, stayed angry longer, and reached higher levels of anger than the non-offenders, confirming their eligibility for the programme. Mean anger scores were not significantly different after psychoeducation than before it. Parolees' reported anger was significantly and negatively correlated with social desirability scores.

Conclusions: Only three of the five anger parameters were prominent among these offenders: frequency, duration and intensity of their outbursts. Psychoeducation did not produce improvement, possibly because it was instructional rather than therapeutic, but possibly because

group means may mask useful individual differences. Concurrent assessment of social desirability is likely to assist in interpretation of anger measures.

Anger in Parolees: a comparison with non-offender community residents and measurement of its Temporal Stability and Social Desirability after psychoeducation

Anger is qualitatively understood in relation to the experience of negative affect, and further characterized in terms of a cognitive appraisal of perceived wrongdoing and a tendency to correct the wrongdoing (Smedslund, 1993). Quantitatively, it fluctuates in terms of its intensity from annoyance (low levels of arousal) to rage (high levels of arousal). Like anxiety, anger has also been categorized by frequency of the experience, and the state versus trait dichotomy applied (Spielberger et al., 1983). More recent formulations are of a triad of emotion, mood, and temperament (Fernandez, 2013), each qualified by duration and intensity.

Although anger can be functional, its deleterious effects on health are increasingly understood. Williams (2010), for example, reviewed substantial evidence that trait anger, chronic hostility, anger expression, and acute anger episodes are positively correlated with cardiovascular disease, including atherosclerosis. Angry arousal has also been shown to be associated with elevated pain intensity among people with chronic pain (Burns et al., 2015), and anger/hostility has also been linked to a range of appetitive disorders including unhealthy eating, alcohol consumption and smoking (Izawa & Nomura, 2006). No less important, however, are the mental health problems associated with anger. Though not viewed as a disorder in itself in

the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), anger is a key criterion in various mental disorders (Fernandez & Johnson, 2016).

Examples include disruptive, impulse-control and conduct disorders, such as intermittent explosive disorder (IED), characterized by impulsively aggressive behavior disproportionate to provocation, oppositional defiant disorder (ODD), borderline personality disorder, post-traumatic stress disorder (PTSD) and mood disorders such as depression, anxiety, and bipolar disorder (American Psychiatric Association, 2013).

Anger remains one of the main warning signs for aggression and violence and is therefore a frequent target of attention in forensic settings (Day & Vess, 2013). While a direct causal link between anger and criminal activity has not been established, anger is often reported to precede a violent act (Howells, 1998). A meta-analysis of 19 studies investigating the relationship between anger and cognitive distortion in violent offenders reported that nine of them statistically supported a strong relationship between anger and violence (Chereji et al., 2012), although other factors may mediate or moderate its expression. In intimate partner violence, for instance, it is held that violence is a function of situations that may trigger anger, plus a predisposition to anger, plus disinhibition that facilitates action on such anger (Finkel & Eckhardt, 2013).

Beyond the recognition that anger-instigated violent crimes do occur, relatively little is known about levels of anger in offender populations or what crimes relate to what types of anger. This type of information could be critical to the development of more effective interventions for

violent offenders, where there is currently some uncertainty about the impact of specialist anger management interventions (Heseltine et al., 2010).

There are limits to the specificity and sensitivity of physiological activity as measures of anger (Cacioppo et al., 2000; Stemmler, 2010), so self-report questionnaires have proliferated and become indispensable in assessing anger. In a recent review of sixteen such self-report instruments (Fernandez et al., 2015), it was noted that, rooted in unidimensional measures such as the Cook-Medley Scale, anger assessment has now moved toward deconstruction of anger along several dimensions. The Multidimensional Anger Inventory (MAI; Siegel, 1986), for example, measures anger as a function of frequency, duration, and magnitude, in addition to mode of expression, hostile outlook, and range of anger-eliciting situations.

One of the most widely-used anger assessment instruments is the State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988). It is designed to differentiate state from trait anger, and to emphasize the distinction between experiencing and expressing it. Specifically, it introduces the concept of 'anger in' versus 'anger out', as well as 'anger control'. Despite item homogeneity and other favorable psychometrics, the STAXI (and its successor, the STAXI-2), there are reservations about its use with offenders. Foley et al., (2002), for example, found that the STAXI-2 was ineffective in identifying individuals suitable for anger management interventions; among 82 offenders referred for anger management, they found that only 51% of them actually met criteria for the intervention. Although this may indicate inappropriate referral practice, it could reflect on the use of self-report in this context - given the possibility of social

desirability bias. McEwan et al., (2009) administered the STAXI in conjunction with the Paulhus Deception Scale (Paulhus, 1998) to 159 male psychiatric inpatients and found evidence that they 'faked positive'. Similar findings of an inverse relationship have emerged when the Marlowe-Crowne social desirability scale has been correlated with other self-report measures of anger (e.g., Baker et al., 2008; Day et al., 2012).

In a recent attempt to explore multidimensional aspects of anger among incarcerated adults from an adult detention center in a large metropolitan city in the US, inmates were assessed not only on the basis of frequency and intensity of anger-related behaviours (as with the STAXI-2), but also on five anger parameters: frequency, duration, intensity, latency, and threshold (Fernandez et al., 2014). Compared to an adult community sample, the inmates reported experiencing anger more often, more intensely, and for longer periods of time. On latency and threshold however, the forensic sample turned out to be equally sensitive to provocation and equally quick to anger as the community sample. This points to the need for anger to be assessed not as one amorphous construct but in its multiple parameters.

In this study, our first aim was to measure the multiple parameters of anger in a sample of violent offenders on parole. The nature of their crimes had resulted in court-mandated attendance at an anger management psychoeducation course as a parole condition. The course had a pre-defined curriculum to be covered in 12 weeks, primarily instructional in format and delivered by parole officers. Our second aim was to compare scores on all measures of anger before and after the psychoeducation course. We also hypothesised that anger ratings among

parolees would be correlated with a measure of social desirability bias. Finally, we compared anger scores from parolees to those obtained from a previous community sample. Our hypothesis was that the parolees would report more maladaptive levels of anger, on multiple dimensions, than would members of the public

METHOD

The study was approved by the Institutional Review Board for Human Subjects Research at University of Texas at San Antonio and by the Research Review Panel of the Parole Office in San Antonio.

Participants

The offender sample consisted of 64 men convicted of violent crimes and recently released on parole in San Antonio, a densely urban area with a population of mixed socioeconomic status. The comparison group consisted of 64 adult volunteers previously recruited at several libraries in the same San Antonio community and surveyed as part of a separate study (Fernandez et al., 2014).

Evaluation tools

The Anger Parameters Scale (APS; Fernandez et al., 2010, Fernandez et al., 2014) was used to assess five parameters of anger: 1) frequency, which measures how often someone experiences anger (high versus low); 2) duration, which taps into how long anger persists (short versus long);

3) intensity, referring to the magnitude at which anger is experienced (weak versus strong); 4) latency, which is the dimension that measures how quickly anger arises after the anger-provoking stimulus (slow versus fast); 5) threshold, which pertains to how sensitive an individual is to anger-provoking stimuli (insensitive versus sensitive). The five parameters of the APS are each measured by 6 items/statements and participants were asked to rate how true each statement is for them on a 0 (absolutely false) to 4 (absolutely true) rating scale; fractional responses are permitted. Examples of items per parameter are as follows: frequency: “Anger is my least common emotion”; duration: “My anger is prolonged”; intensity: “I explode with anger”; latency: “I am slow to anger”; threshold: “A single provocation is enough to anger me”. To control for response sets, half of the 30 items of the APS are negatively keyed and therefore reverse-scored. Scores for each parameter range from 0 to 24. The higher the scores, the more that parameter tends toward maladaptiveness. The APS has been psychometrically evaluated and found to have factorial validity, temporal stability, and internal consistency with Cronbach’s alpha as follows: 0.85 for frequency, 0.90 for duration, 0.62 for intensity, 0.88 for latency, and 0.74 for threshold; (Fernandez et al., 2010, 2014; Henderson, 2016).

The Marlowe-Crowne (MC) test of social desirability bias (Crowne & Marlowe, 1960) was developed to detect ‘faking good’ - or denial of character flaws or psychological inadequacies. It consists of 33 items, 18 of which are rated true and 15 rated false. The higher the score, the more likely that person is biased toward endorsing socially desirable self-descriptions. Based on

the originally normed sample, the mean score is 13.72 with a standard deviation of 5.78. The scale has acceptable temporal stability and internal consistency, with a Cronbach's alpha of 0.88.

Procedure

A pair of research assistants arrived at a Metropolitan Parole Complex a few minutes prior to the beginning of the first meeting of a psychoeducation course on anger, aggression and violence, delivered by parole officers to a maximum of 30 parolees, each mandated to attend. Due to the variable number of parolees enrolling in each psychoeducation course, the final sample consisted of parolees recruited from six cycles of the same course. The parole office, which served as a recruitment centre, did not disclose information on refusal or attrition rates; on average the enrolment was 10-12 participants per cycle.

The research assistants read a recruitment script and advised parolees of the voluntary nature of the study and of their right to decline participation at any time without loss of services/privileges to which they were otherwise entitled. The parolees were further reassured that their parole officers would not be informed of their participation or lack thereof and that confidentiality of data would be maintained at all times. Those choosing to participate were then provided with participant information sheets, which included all information relevant to the study in writing, together with a consent form. Participants were not asked to consent in writing but rather to read the form and simply provide verbal consent if applicable.

The research assistants then gave a PowerPoint presentation to consenting parolees. While referring to the slides, research assistants read aloud each item of the APS, in response to which participants recorded their 0-4 ratings on standardized answer sheets. On completion of the APS, the participants filled out a basic demographic intake sheet which asked them to provide their age, gender, ethnicity, race, education level, occupation, and index offence. In lieu of any personally-identifying information, an alphanumeric code was entered by each participant on all his/her response sheets. These codes were linked to names only for the purpose of reminders in the next phase of the study and for the purpose of monetary compensation.

In the subsequent 12 weeks, parolees met for an hour per week of the court-mandated anger management programme. Programme content covered three main areas of information (i) elicitors of anger and aggression in interpersonal situations, (ii) statistics about crime and mental health, and (iii) legal ramifications of criminal activity related to angry/impulsive outbursts of aggression. The course was run primarily in the format of lectures supplemented with power-point slides but not involving any role playing or other interactive exercises.

The second phase of our study took place just after the last meeting in the psychoeducation course. Because 12 weeks had passed between the beginning and the end of the course, consent forms were distributed again, reminding continuing participants of the procedures of the study. Those who continued to consent were reminded of their codes, in case they had forgotten them, and their purpose – to enable data to be matched from the first to the last session while allowing anonymity after the end of the study by de-linking names altogether.

The APS and the MC scales were then administered by power point presentation. Finally, a \$10 cash compensation was provided to each participant completing both sessions. Participants' names were then de-linked from all data collected.

Results

The 64 participant parolees were all men, with a mean age of 35.19 years (range 19-71 years). Forty-seven (73%) of them self-identified identified as Hispanic/Latino. An over-lapping group of 45 (70%) identified themselves as 'Caucasian', 13 (20%) as African-American and Forty-seven (73%) of the consenting parolees completed the psychoeducation course, allowing for pre-post course comparisons completers and non-completers. Social desirability scores were available for a subset of just 37 parolee course completers.

The community comparison group was matched for age (mean 35.19 years, range: 19–71 years). It consisted of 35 women, 28 men and 1 transgender individual; previous research has suggested that there is no sex difference in self-rated anger (ref). A lower proportion of the community sample self-identified as Hispanic/Latino (26, 41%) but a similar proportion as Caucasian (50, 78%); none of the community sample identified themselves as African-American, again there is no evidence of differences in anger according to ethnic group (ref). The community sample reported higher educational achievement than the forensic sample, with 19 (30%) of participants having a high school diploma/GED, 17 (27%) having a Bachelor's Degree,

and 15 (23%) a Master's Degree. Among parolees, less than half (13, 48%) reported having obtained a high school certificate/GED while 18 (28%) reported having attended high school but not graduated.

Table 1 shows the descriptive statistics for each of the five anger parameters for the parolee and community samples. Mean parolee scores were close to the middle of range for the first three parameters (frequency 10.96, SD 5.16; duration mean 11.17, SD 6.67; intensity 11.64, SD 6.08), and a little lower for the other two (latency 10.65, SD 6.78; threshold 8.78, SD 6.20). The MANOVA revealed that the total mean Anger Parameters Scale (APS) score for parolees was significantly higher than that for the community sample (Wilks' $\Lambda=0.714$, $F(1,126) = 9.76$, $p < 0.01$). Univariate ANOVAs indicated that this statistical significance was attributable to group differences on the frequency parameter ($F(1, 126) = 26.33$, $p < 0.01$), on duration ($F(1, 126) = 23.47$, $p < 0.01$) and on intensity ($F(1, 126) = 27.24$, $p < 0.01$). Although there was a tendency for parolees to be faster on latency and more sensitive on threshold than the community sample, these differences were not significant (latency $F(1, 126) = 3.22$ *ns*; threshold $F(1, 126) = 3.52$, *ns*). Figure 1 illustrates the extent to which the average profile for the parolees was consistently higher than that for the community. Effect sizes based on pooled standard deviations were 0.83 for frequency, 0.79 for duration, 0.84 for intensity, 0.37 for latency and 0.33 for threshold.

Mean anger scores on all parameters are similar for the 47 parolees who completed the programme and the 17 parolees who did not are shown in Table 2. Repeated measures MANOVA did not yield any significant changes between initial and concluding phases of data collection for the completers (Wilks' $\Lambda = 0.794$, $F(1, 46) = 2m.18$, *ns*; see also Figure 2). The pre-post effect sizes are consistent with these results for all five parameters (anger: 0.24; frequency: 0.33; duration: 0.3; intensity: latency: 0.07; threshold: 0.05). Each anger parameter pre-intervention score was positively correlated with the post-intervention score measure (frequency $r = 0.38$; duration $r = 0.62$; intensity $r = 0.69$; latency $r = 0.64$; threshold $r = 0.67$, averaging $r = 0.60$).

The mean score on the Marlowe-Crowne (MC) test of social desirability among the subset of 37 parolees who had completed both phases of the study was 15.65 (SD 5.17). For all but the latency parameter, there was a significant inverse correlation between MC score and anger scores (frequency $r = -0.35$; duration $r = -0.42$; intensity $r = -0.35$; latency $r = -0.14$; threshold $r = -0.38$, averaging $r = -0.33$).

Discussion

Our findings not only confirm that this group of parolees were appropriately selected for an attempt to reduce their anger, but also allowed more detailed scrutiny of the qualities of that anger - parolees were quicker to anger and more sensitive to provocation (latency and threshold parameters), but problems with its frequency, duration and intensity were most marked. In this

naturalistic study, we found no significant change in anger ratings among those men who successfully completed the education programme, and suggest that intervention which is more targeted towards the areas of greatest difficulty could be a better approach.

Closely interwoven with anger ratings is the possibility of reality distortion. Self-report measures are unavoidable when assessing subjective experiences but are, by their nature, limited because they rely on participants' ability to perceive their own problems accurately and/or their willingness to provide truthful responses. A common assumption when assessing behaviours or attributes that may be subject to social disapproval is that participants may choose to present themselves in a socially favorable light. In previous studies of violent offenders, scores on the Crowne and Marlowe (1960) social desirability bias scale have been found to be significantly and negatively correlated with both STAXI and Novaco Anger Scale scores (Baker et al, 2008; Day et al., 2012; Novaco, 2003). Positive self-presentation may be especially likely when the outcome of the assessments might affect the legal status of violent offenders (Andrews & Meyer, 2003; Farmer & Andrews, 2009; McEwan et al., 2009; Selby, 1984; Stuckless et al., 1995). On the face of it, parolees in our study responded in a socially desirable manner as suggested by the significant negative correlation between the Marlowe Crown and anger parameters. The mean bias score for the parolees was also one third of a standard deviation above that for the college sample with whom the instrument was originally tested, although this should not be taken as conclusive evidence of bias as in previous studies. First, parolees are different from students in all sorts of ways, but, perhaps of more importance, Guharajan et al., (2017) have recently argued

for caution in interpreting CMC scores as the negative correlation with anger scores is driven primarily by a handful of anger-related items on the MC (e.g., item 23: “There have been occasions when I have felt like smashing things” is keyed as “false”, so failure to endorse it is automatically scored as a point in the direction of denial or social desirability bias). When such anger-related items were excluded from the test, the correlation diminished to low, non-significant, levels. Clearly there is a need for closer inspection of the tests that are purportedly meant to assess social desirability bias and to re-interpret their relationship with self-reported anger.

Our findings provide some support for the utility of the Anger Parameters Scale (APS) with offenders. This instrument showed differences that one would expect between the forensic and community samples, and replicates the findings of a previous study in which APS scores from prison inmates were compared to those of a community sample.

The APS parameters showed no significant change between initial data collection and after completion of a 12-week anger management course. This might have been expected after in the light of findings that psychoeducation with offender groups is less effective than actual treatment in the reduction of anger (e.g., Heseltine et al., 2010; Kassonov & Tafrate, 2002). An alternative explanation for the lack of improvement, however, may be that the outcome measures were not sensitive to change. Another argument might be that the sample size of 64 participants (47 completers; 17 non-completers) was not large enough to detect small changes.

The small pre-post Cohen's d (averaging $+0.19$ across the five parameters), however, suggests that the magnitude of effect was weak to begin with and unlikely to increase appreciably with larger N . An important consideration is that reliance on comparison of mean scores may have obscured worthwhile individual change. This sort of problem has been illustrated previously for anger management groups (Quayle and Moore, 1998) in which not only were mean scores concealing different directions in change, but some scale score changes which appeared negative in that they suggested rising anger were found, in clinical context, to indicate movement from denial of anger towards acknowledging it. Furthermore, it should be kept in mind that those who did not complete a second rating may represent a special subgroup of individuals facing various contextual challenges in their lives.

Also related to demographic aspects of the participants, a large percentage of the forensic sample was Hispanic/Latino, as would be expected of a study conducted in San Antonio, Texas. Our findings may not be generalisable beyond this group. Further, our forensic sample was exclusively of men so no inferences can be drawn for female offenders, though past research has generally not yielded gender differences in anger within clinical or forensic samples (Fernandez & Scott, 2009; Fernandez & Malley-Morrison, 2013). Finally, with regard to educational status, our forensic sample was generally less educated than the community sample, though all parolees reported at least a seventh-grade education and literacy in English.

In conclusion, our findings add to an understanding of anger in offender samples by teasing out its components. Only frequency, duration and intensity of outbursts marked these

parolees out as different from general population volunteers. The consistency of the anger measures among the parolees suggested a need for intervention, but they did not appear to respond to this psycho-education programme.

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Table 1

Means and SDs for the forensic sample and the community sample on five parameters of anger.

Parameters	Parolees N=64	Community N=64
	<i>M (SD)</i>	<i>M (SD)</i>
Frequency	10.96 (5.16)	6.29 (5.13)
Duration	11.17 (6.67)	5.8 (5.84)
Intensity	11.64 (6.08)	6.78 (4.31)
Latency	10.65 (6.78)	8.57 (6.3)
Threshold	8.78 (6.2)	6.96 (4.65)

Note: As in Frequency, Duration, and Intensity, higher scores indicate greater maldaptiveness for Latency (quicker to anger) and Threshold (more sensitive to anger provocation)

Table 2

Means and SDs of pre-treatment scores for completers vs. non-completers of the psychoeducation course.

Parameters	Completers N=47	Non-completers N=17
	<i>M (SD)</i>	<i>M (SD)</i>
Frequency	10.39 (4.91)	11.74 (5.17)
Duration	10.05 (6.48)	11.45 (6.9)
Intensity	11.57 (5.82)	10.58 (6.63)
Latency	10.78 (6.63)	9.77 (7.75)

Threshold	8.50 (6.28)	7.50 (6.4)
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Note: Higher scores indicate greater maladaptiveness e.g., quicker to anger in the case of latency, and more sensitive to anger provocation in the case of threshold

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Author/s:

Fernandez, E;Kiageri, V;Guharajan, D;Day, A

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