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Exploring Anger Among Offenders: The Role of Emotion Dysregulation and Alexithymia

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This study tests whether specific dimensions of emotion dysregulation predict maladaptive anger expression among offenders from Italy and Australia. In particular, it examines the unique associations among emotion dysregulation dimensions and different aspects of anger expression and control, in both inmates and offenders on parole. Multiple regression analyses reveal that difficulties controlling impulsive behaviour when distressed are related to state anger, trait anger, and chronic anger expression. On the other hand, alexithymia predicts the maladaptive expression of anger inwardly directed. Finally, lack of emotional awareness and limited access to emotion regulation (ER) strategies are negatively related to anger control, suggesting that they may represent useful treatment targets. Interestingly, incarcerated offenders reported significantly higher levels of state anger and lower levels of anger control out (i.e. seeking support from others) than offenders living on parole in the community, highlighting the importance of contextual influences in the emotional life of offenders.

Keywords: alexithymia; anger; emotion dysregulation; offenders.

Notwithstanding studies of emotion dysregulation in personality disordered offenders (McMurran & Howard, 2009), research on violent offenders' emotional life has primarily focused on anger and its regulation as antecedents of aggression (Davey, Day, & Howells, 2005; Novaco, 2011). As a result, the majority of treatment approaches with violent offenders have been aimed at improving anger control (Roberton, Daffern, & Bucks, 2014), regardless of the possible causes of anger dysregulation. Recent research efforts have adopted an expanded focus, exploring the link between aggression and other emotions (Elison, Garofalo, &Velotti, 2014), as well as between aggression and emotion regulation (ER) more generally (Roberton et al., 2014). We refer here to ER following Gratz and Roemer's (2004) conceptualization. They proposed a comprehensive framework which emphasizes the functionality of emotions, describing ER as encompassing the following: the awareness, understanding and acceptance of emotions; the capacity to control impulsive behaviour and pursue desired goals under emotional

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distress; and the ability to use appropriate ER strategies flexibly. Accordingly, emotion dysregulation represents a deficit in any of these abilities (Gratz & Roemer, 2004). Another construct that has received substantial attention from scholars in the field of ER research is alexithymia, that is, a trait-like deficit in emotional awareness and clarity characterized by an impairment in the ability to symbolize and elaborate upon emotional experience (Tull, Medaglia, & Roemer, 2005). More specifically, alexithymia may be conceptualized as involving deficits in the ability to identify one's feelings and distinguish them from bodily sensations (such as emotional arousal), label and describe with words one's emotional states, and pay attention to personal thoughts and inner experiences rather than focusing on external details of everyday life (i.e. externally-oriented, or concrete, thinking; Bagby, Parker, & Taylor, 1994; Taylor, Bagby, & Luminet, 2000). Although alexithymia is clearly related to ER in general, and partly overlaps with specific ER dimensions (e.g. emotional awareness; Roberton et al., 2014), research has shown that they represent two distinct features (Giromini, Velotti, de Campora, Bonalume, & Zavattini, 2012; Gratz & Roemer, 2004).

Research with community samples has provided preliminary evidence for the association between emotion dysregulation and aggression. For instance, Scott, DiLillo, Maldonado and Watkins (2015) report an independent contribution of both negative urgency (i.e. the inability to refrain from impulsive reactions under negative emotional arousal) and emotional suppression to subsequent displaced aggression in a laboratory experiment. A review of longitudinal studies with children and adolescents revealed that earlier emotion dysregulation is generally predictive of later aggressive behaviour (Roll, Koglin, & Petermann, 2012). More specifically, Skripkauskaite et al. (2015) found in an adolescent sample that difficulties in ER were associated with both proactive and reactive aggression. In the same study, when investigating the predictive value of ER difficulties in explaining aggression one year later, ER difficulties significantly predicted (albeit indirectly, through the mediating role of maternal criticism) proactive aggression. Finally, selected deficits in ER (i.e. negative urgency and lack of emotional awareness) were found to mediate the association between negative affect and physical aggression in a sample of undergraduate students (Donahue, Goranson, McClure, & Van Male, 2014). Difficulties in ER (and in particular, emotional non-acceptance) also mediated the effect of men's restrictive emotionality on aggressive behaviour measured in a laboratory experiment (Cohn, Jacupcak, Seibert, Hildebrandt, & Zeichner, 2010). Notwithstanding the relevance of such evidence, the possibility to generalize them to more severely violent populations remains unclear.

Only a handful of studies have investigated the association between ER and aggression among offenders. For instance, Tager, Good, and Brammer (2010) investigated the association between ER and abuse towards partners in a sample of violent offenders attending a treatment programme for perpetrators of intimate partner violence. They found that higher levels of ER difficulties correspond to more frequent perpetration of abusive behaviour towards one's partner. More recently, in an Australian study, ER was found to be inversely related to lifetime history of violence. Specifically, maladaptive ER was operationalized as consisting of a lack of emotional awareness and a difficulty in persisting in goal-directed behaviour (refraining from impulsive reactions) when emotionally upset. This maladaptive pattern of ER was found to predict a more extensive history of violence in an offender sample (Roberton et al., 2014). Finally, overall emotion dysregulation has been associated with aggression in both community participants and a sample of incarcerated violent offenders, fully mediating the link between low self-esteem and aggressive tendencies (Garofalo, Holden, Zeigler-Hill, & Velotti, 2016). Also alexithymic features may cause a predisposition to

behaving aggressively in a variety of ways, for example leaving the individual unable to utilize the adaptive information inherent in his or her emotions. As a result, an increase in physical arousal may occur (Gross & Levenson, 1997), ultimately increasing the likelihood of impulsive reactions on a behavioural plan (Anderson & Bushman, 2002; Roberton, Daffern, & Bucks, 2012, 2015).

Despite the well-established role of anger in understanding violence and aggression (Berkowitz, 2012; Daff, Gilbert, & Daffern, 2014; Davey et al., 2005; Novaco, 2011), there is a dearth of studies investigating possible associations among ER difficulties and anger dimensions such as chronic anger expression, anger suppression, and trait anger. Theoretical assumptions (e.g. Garofalo et al., 2016; Velotti, Elison, & Garofalo, 2014) describe how an inability to regulate emotions may contribute to the experience of angry feelings as a secondary reaction to one's painful emotional experience (e.g., shame), which in turn could lead to the development of chronic anger expression, or trait anger, increasing the likelihood and frequency of aggressive behaviour (Daff et al., 2014). This pathway linking ER, anger, and aggression, is also consistent with recent theories supporting the relevance of mentalization deficits in the emergence of aggression (Bateman, Bolton, & Fonagy, 2013). Indeed, an act of aggression may also be construed as an attempt to protect the self from painful emotional experiences stemming from an inability to think and reflect about one's own mental states and those of others (Fonagy, 2004). Based on a different theoretical framework, the General Aggression Model (GAM; Anderson & Bushman, 2002) posits that the combined influence of multiple causal and intervening factors contributes to aggression and violent behaviour. Specifically, affective constructs (including both anger and ER; Roberton et al., 2012) may interact in preparing an individual to aggress. For instance, it has been argued that chronic anger expression may stem from an underlying inability to refrain from impulsive behaviours and access to adaptive ER strategies (Roberton et al., 2012), yet little is known as to whether or not this could be confirmed by empirical studies.

In one study, trait anger was found to be associated with early maladaptive schemas involving both insufficient self-control and emotional inhibition in an offender sample; interestingly, both trait anger and insufficient self-control were also found to be predictive of aggressive behaviour (Gilbert, Daffern, Talevski, & Ogloff, 2013). Difficulties in ER also mediate the relationship between childhood maltreatment and both anger experience and anger expression in a sample of violent offenders referred due to intimate partner or non-intimate partner violence (Gardner, Moore, & Dettore, 2014). Furthermore, with experimental procedures it has been shown that emotional reappraisal (but not emotional suppression) is helpful in attenuating anger experience and expression, in turn allowing indivduals to persist in engaging in goal-directed behaviour (Memedovic, Grisham, Denson, & Moulds, 2010; Szasz, Szentagotai, & Hofmann, 2011). Finally, alexithymia has also been associated with maladaptive anger expression among forensic psychiatric outpatients (Hornsveld & Kraaimat, 2012), as well as with poor anger control in juvenile offenders (Bischof, Stith, & Whitney, 1995) and with trait anger and chronic anger expression among substance-dependent patients (Payer, Lieberman, & London, 2011).

Other indirect evidence of the association between ER difficulties and maladaptive anger expression comes from recent studies conducted on different populations. Tull, Jakupcak, Paulson, and Gratz (2007) found an association between experiential avoidance and trait anger, finding that both also predicted aggressive behaviour above and beyond the influence of the other. Furthermore, all dimensions of ER included in Gratz and Roemer's (2004) model were found to be associated with anger in both Italian and American young adults living in the community (Velotti, Casselman, Garofalo, &

McKenzie, 2015). However, when controlling for the variance shared by all dimensions, only negative urgency was found to predicted anger, as measured with the Aggression Questionnaire (AQ; Buss & Perry, 1992). Moreover, in an offender sample, difficulty attending to emotions (a selective deficit in ER, corresponding to the 'lack of awareness' dimension in the conceptualization of Gratz & Roemer, 2004) was found to be positively related to trait anger and negatively to the ability to control anger by relying on internal or external sources of comfort (Roberton et al., 2015). Interestingly, both trait anger and lack of emotional awareness have also been independently and uniquely associated with aggression, suggesting that they represent two separate, albeit overlapping, constructs (Roberton et al., 2015). Finally, overall emotion dysregulation mediates the association between low self-esteem and AQ-assessed anger among both violent offenders and community individuals in Garofalo et al. (2016). In particular, when examining the unique contribution of specific ER dimensions, Garafalo et al. (2015) found that both negative urgency – or the inability to control impulsive behaviour when experiencing negative emotions – and lack of emotional awareness played a role mediating the effect of low self-esteem on anger among offenders, consistent with the findings of Roberton et al. (2015).

However, the extent of the overlap and the specific associations between selected ER dimensions (including alexithymia) and anger expression remain inadequately understood. In the present study, we sought to examine whether difficulties in specific dimensions of ER are associated with state and trait anger, and with chronic anger expression among offenders. We combined two samples of incarcerated and non-incarcerated offenders in an attempt to expand the range of sample characteristics and thus increase the generalizability of results (see Ross, Benning, Patrick, Thompson, & Thurston, 2009). Group differences were assessed and the different condition (i.e., being incarcerated or living in the community on parole) was statistically controlled for. Beyond confirming the hypothesized link between deficits in impulse control and maladaptive anger expression (e.g., Spielberger, 1999; Velotti et al., 2015), we also anticipated that other ER dimensions, such as emotional awareness (Garofalo et al., 2016; Roberton et al., 2015) and alexithymia, might be related to maladaptive anger expression, as well as with difficulties controlling anger.

Method

Participants

The participants consisted of 111 male offenders. The Italian sample incorporated 59 prisoners convicted of violent crimes and recruited from a northern Italian prison (mean age = 41.34, SD = 11.51), and the Australian sample comprised 52 offenders living in the community and recruited from Community Corrections Offices across Melbourne (mean age = 38.21, SD = 12.17). The two samples were similar in age, $t(109) = 1.39$, $p > .05$. The participants were administered the same self-report questionnaires, in their original English or Italian version, but procedures differed slightly. The Italian participants completed the measures individually or in small groups in the presence of a licensed psychologist after providing written, informed consent.[1] They did not receive payment. The Italian Ministry of Justice and the Research Ethics Board of the Italian Association of Psychology approved the procedure.

In Australia, a clinical psychology doctoral student orally administered the measures to accommodate any participants who were illiterate, after obtaining written, informed consent. Participants were offered an AUS$25 voucher for either public transportation or a department store. The study was approved by the Victorian Department of

Justice and the Monash University Human Research Ethics Committees.

Measures

Emotion Dysregulation

Self-reported emotion dysregulation was assessed using the 36-item Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS measures difficulties in ER through six dimensions mapped onto Gratz's model: Nonacceptance of emotional responses (Nonacceptance); lack of emotional awareness (Awareness); limited access to ER strategies (Strategies); difficulties engaging in goal-directed behaviour when distressed (Goals); difficulties refraining from impulsive behaviour when upset (Impulse); and lack of emotional clarity (Clarity). Higher subscale scores indicate greater difficulties. The DERS has good internal consistency for both the total scale (α = .93) and subscales (α = .80−.89; Gratz & Roemer, 2004). The Italian version of the DERS has been confirmed as having good psychometric properties (all αs > .77; Giromini et al., 2012).

Alexithymia

Emotional understanding was also assessed with the 20-item Toronto Alexithymia Scale − Revised (TAS-20; Bagby et al., 1994) total score, which demonstrates good internal consistency (α = .80). The TAS-20 is a self-report instrument which comprises 20 items rated on a 5-point Likert scale. The TAS-20 total score (with higher scores meaning greater alexithymia) is computed by summing scores on three dimensions: difficulty in identifying feelings, difficulty in describing feelings, and external-oriented thinking style. Since the psychometric properties of the subscales are questionable (Kooiman, Spinhoven, & Trijsburg, 2002), we used the total score only as an index of overall alexithymia. The Italian version of the TAS-20 demonstrates good estimates of internal reliability (α = .75; Bressi et al., 1996).

Anger Expression

The 57-item State-Trait Anger Expression Inventory − 2 (STAXI-2; Spielberger, 1999) was administered to assess the experience, expression and control of anger through six scales: state anger (State-A); trait anger, or chronic anger expression (Trait-A); outward expression of anger through verbal or physical aggression (Expr-OUT); inward suppression of experienced angry feelings (Expr-IN); how often an attempt is made to control an outward expression of anger (Contr-OUT); and how often an attempt is made to actively calm oneself when experiencing angry feelings (Contr-IN). The STAXI-2 shows good internal consistency (α > .73, for all scales) in both the original and the Italian versions (Spielberger, 1999).

Data Analysis

Cronbach's α coefficients and descriptive statistics were computed for all variables. Independent samples t tests were performed to see if there are significant differences between the Italian and Australian offenders on emotion dysregulation dimensions, alexithymia and anger expression dimensions. Pearson's r coefficients were calculated to examine the interrelations among emotion dysregulation, alexithymia and anger expression dimensions. Multicollinearity was tested by means of variance inflation factors (VIF); a VIF value of 1 indicates that the model terms are not linearly related, whereas a value in excess of 10 suggests that multicollinearity may be unduly influencing the least squares estimates. Finally, hierarchical regression analyses were performed to examine the unique associations of both emotion dysregulation dimensions and alexithymia (i.e. after the influence of the other was controlled for) with anger expression dimensions. In each hierarchical regression analysis, country (dummy coded as 1 = Italy and 2 = Australia) was entered in the first step, whereas emotion dysregulation dimensions and alexithymia were simultaneously entered in the second step, with the STAXI-2

dimensions entered as dependent variables one at a time. Semi-partial correlation coefficients (sr^2) were evaluated in order measure the contribution of each variable to the overall model.

Results

Descriptive statistics and Cronbach's α coefficients are displayed in Table 1. The only scale with an internal consistency lower than .70 is the Awareness scale of the DERS, in line with previous studies with the Italian version of the DERS (e.g. Velotti & Garofalo, 2015).

Multiple independent samples t tests revealed that Italian offenders scored higher than Australian offenders on the State-A scale of the STAXI-2, $t(109) = 4.75$, $p < .001$, while Australian offenders scored higher than Italian offenders on the Goals dimension of the DERS, $t(109) = -2.02$, $p < .05$. No significant differences were found for any of the other variables.

Table 1. Means, standard deviations (*SD*s) and Cronbach's α reliability coefficients for all study variables ($n = 111$).

	Mean	*SD*	α
Nonacceptance	14.60	5.47	.84
Goals	13.92	4.80	.82
Impulse	12.90	5.65	.81
Awareness	15.26	4.81	.67
Strategies	18.01	6.38	.83
Clarity	10.85	3.91	.75
TAS-20	54.40	13.64	.79
State-A	19.33	7.90	.86
Trait-A	19.59	6.17	.85
Expr-OUT	16.74	4.98	.82
Expr-IN	18.75	4.73	.80
Contr-OUT	22.86	5.80	.75
Contrl-IN	23.26	5.95	.79

Note: Contr-IN = Anger control inward scale (STAXI-2); Contr-OUT = Anger control outward scale (STAXI-2); Expr-IN = Anger expression inward scale (STAXI-2); Expr-OUT = Anger expression outward scale (STAXI-2); State-A = State anger scale (STAXI-2); STAXI-2 = State-Trait Anger Expression Inventory – 2; TAS-20 = Toronto Alexithymia Scale, total score; Trait-A = Trait anger scale (STAXI-2). Nonacceptance, Goals, Impulse, Awareness, Strategies and Clarity are scales from the Difficulties in Emotion Regulation Scale (DERS).

Table 2 shows zero-order correlations among emotion dysregulation dimensions, alexithymia, and anger expression facets.

Inspection of the correlation matrix revealed significant associations in the expected direction among scales from the STAXI-2 and both the DERS subscales and the TAS-20 total score. That is, STAXI-2 scales indicating the negative side of anger expression (i.e. State-A, Trait-A, Expr-OUT, and Expr-IN) are positively related to several DERS dimensions and alexithymia. Conversely, STAXI-2 scales indicating positive aspects of anger expression (i.e. Contr-IN and Contr-OUT) are negatively related to the DERS subscales and TAS-20 total score.

The VIF values range from 1 to 2.86, suggesting that multicollinearity has not biased the regression findings and that the least squares method is valid. As shown in Table 3, hierarchical multiple regression analyses revealed that – after controlling for group status and for the shared variance among the DERS subscales and TAS-20 total score – only the DERS Impulse scale significantly predicts State-A, Trait-A, and Expr-OUT. Further, only the TAS-20 total score is significantly and positively related to Expr-IN. Finally, Contr-OUT is positively related to the DERS Nonacceptance scale, whereas Contr-IN is negatively related to the Awareness and Strategies scales of the DERS.

Discussion

In general, our findings provide evidence for the hypothesized role of emotion dysregulation in maladaptive anger expression, particularly regarding the role of impulse dyscontrol. First, as expected, group differences occurred with respect to state anger (lower in the sample on parole, i.e. the Australian participants) and anger control outwardly directed (greater in the sample on parole). Accordingly, the condition of captivity (and not just the condition of serving a sentence, even if on parole)

Table 2. Pearson's *r* coefficients among emotion dysregulation dimensions, alexithymia, and anger expression dimensions ($n = 111$).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Nonacceptance	–	.48**	.44**	−.09	.63**	.29**	.32**	.27**	.15	.08	.28**	−.02	−.12
2. Goals		–	.63*	.09	.68**	.35**	.23*	.10	.34**	.28**	.28**	−.23*	−.24*
3. Impulse			–	.20**	.65**	.47**	.30**	.33**	.48**	.42**	.24*	−.28**	−.26**
4. Awareness				–	.09	.36**	.15	.00	.26**	.12	.00	−.21*	−.32**
5. Strategies					–	.47**	.50**	.27**	.41**	.29**	.36**	−.23*	−.35**
6. Clarity						–	.50**	.25**	.35**	.24*	.31**	−.15	−.22*
7. TAS-20							–	.28**	.31**	.25**	.36**	−.23*	−.21*
8. State-A								–	.45**	.27**	.23*	−.18*	−.08
9. Trait-A									–	.70**	.34**	−.50**	−.39**
10. Expr-OUT										–	.47**	.55**	−.45**
11. Expr-IN											–	−.12	−.10
12. Contr-OUT												–	.79**
13. Contr-IN													–

Note: $^{*}p < .05$; $^{**}p < .01$. Contr-IN = Anger control inward scale (STAXI-2); Contr-OUT = Anger control outward scale (STAXI-2); Expr-IN = Anger expression inward scale (STAXI-2); Expr-OUT = Anger expression outward scale (STAXI-2); State-A = State anger scale (STAXI-2); STAXI-2 = State-Trait Anger Expression Inventory – 2; TAS-20 = Toronto Alexithymia Scale, total score; Trait-A = Trait anger scale (STAXI-2). Nonacceptance, Goals, Impulse, Awareness, Strategies and Clarity are scales from the Difficulties in Emotion Regulation Scale (DERS).

Table 3. Multiple regression analyses predicting anger expression dimensions ($n = 111$).

		State-A	Trait-A	Expr-OUT	Expr-IN	Contr-OUT	Contr-IN
Step 1							
Country		−.41** (.17)	.02 (.00)	.13 (.02)	.12 (.02)	.14 (.02)	.03 (.00)
	R^2	.17**	.00	.02	.02	.02	.00
Step 2							
Country		−.42** (.17)	−.08 (.01)	.07 (.00)	.14 (.02)	.22* (.04)	.11 (.01)
Nonacceptance		−.08 (.00)	−.21 (.00)	−.22 (.03)	.06 (.00)	.25* (.03)	.13 (.01)
Goals		−.19 (.02)	.02 (.00)	.03 (.00)	.06 (.00)	−.15 (.01)	−.02 (.00)
Impulse		.36** (.06)	.33** (.05)	.38** (.07)	−.08 (.00)	−.19 (.02)	−.01 (.00)
Awareness		−.03 (.00)	.13 (.00)	−.02 (.00)	−.10 (.01)	−.19(.02)	−.30** (.07)
Strategies		.09 (.00)	.25 (.00)	.10 (.00)	.18 (.01)	−.17 (.01)	−.40** (.08)
Clarity		.09 (.00)	.02 (.00)	−.02 (.00)	.12 (.01)	.14 (.01)	.09 (.00)
TAS-20		.08 (.00)	.14 (.00)	.18 (.02)	.25** (.04)	−.18 (.02)	−.09 (.01)
	R^2	.37**	.32**	.23**	.22**	.21**	.23**
	ΔR^2	.20**	.32**	.21**	.20**	.19**	.23**

Note: $^{*}p < .05$; $^{**}p < .01$. Contr-IN = Anger control inward scale (STAXI-2); Contr-OUT = Anger control outward scale (STAXI-2); Expr-IN = Anger expression inward scale (STAXI-2); Expr-OUT = Anger expression outward scale (STAXI-2); State-A = State anger scale (STAXI-2); STAXI-2 = State-Trait Anger Expression Inventory – 2; TAS-20 = Toronto Alexithymia Scale, total score; Trait-A = Trait anger scale (STAXI-2). Nonacceptance, Goals, Impulse, Awareness, Strategies and Clarity are scales from the Difficulties in Emotion Regulation Scale (DERS).

is likely to influence the state-dependent experience of anger and to undermine the offenders' abilities to control anger. This is in line with recent clinical and empirical work corroborating the relevance of context for emotions and ER (e.g. Aldao & Tull, 2015; Kim, Ford, Mauss, & Tamir, 2015; Velotti, Zavattini, & Garofalo, 2013). This is also consistent with prior studies reporting that different psychopathological profiles are likely to characterize offenders serving their sentences in prison or in mandatory intervention programmes in the community, such as García-Jiménez, Godoy-Fernández, Llor-Esteban, and Ruiz-Hernández (2014), who found that incarcerated offenders reported greater levels of personality pathology and crime-related variables (e.g. use of weapons and drug consumption) than offenders on parole.

Additionally, different patterns occurred with regard to externalizing *versus* internalizing problems with anger expression. Indeed, greater impulse control difficulties significantly and uniquely predicted both state anger and trait anger, as well as the chronic expression of anger outwardly directed, in line with previous findings linking impulse dyscontrol with trait anger (Velotti et al., 2015). By contrast, individuals with high levels of inwardly experienced anger are those who report greater difficulties understanding and labelling their own emotional experience (i.e. greater alexithymia). Taken together, such findings seem to suggest that anger-laden aggressive behaviour (i.e. state and trait anger, and their outward expression) may stem from problems with controlling impulsive behaviour under emotional arousal (also named negative urgency), whereas difficulties in identifying and describing one's own feelings could lead to inwardly-directed behaviour to cope with unbearable feelings of anger.

The results concerning anger control are partly surprising. Indeed, non-acceptance of emotional responses (i.e. difficulties accepting negative emotions, or experiencing secondary negative emotional reactions to specific emotions, such as feeling ashamed about feeling angry) is positively associated with increased outward anger control. Although this contrasts with previous research suggesting that non-acceptance of emotional responses is related to aggressive behaviour (Cohn et al., 2010[2]), it supports Butler, Lee and Gross's (2007) proposition that the consequences of emotional suppression and non-acceptance may vary across different contexts and populations, ranging from positive to negative outcomes.

Another possible explanation is that offenders who tend to reject negative emotions may have chronically suppressed the experience of anger and subsequently not expressed anger, thereby avoiding anger and its expression, leading in turn to higher anger control outwardly directed. That is, offenders who have difficulties accepting their negative emotions are more likely to seek help from others. Conversely, offenders who accept their negative feelings may present less emotional and behavioural control, and thus act on the spur of their angry feelings. This theory is in line with experimental studies showing that emotional acceptance does not predict an improvement in anger modulation and control (Germain & Kangas, 2015; Szasz et al., 2011). Further research seems required to explore individual differences in emotional non-acceptance and corresponding outcomes.

On the other hand, the ability to engage in calming strategies inwardly directed (i.e. Contr-IN), is negatively predicted by two emotion dysregulation dimensions, indicating that enhanced ER is associated with an increased ability to control anger. Specifically, DERS-assessed emotional awareness (i.e. a tendency to acknowledge and pay attention to emotions as a possible source of information about oneself) and confidence in one's own ability to rely on a wide array of effective ER strategies are selectively related to greater anger control.

On the whole, our results seem to highlight that different dimensions of the ER domain are relevant for different aspects of anger expression and control, therefore suggesting that treatment modules should involve a broader focus on improving ER

competencies across several domains. In summary, increasing one's ability to control impulsive behaviour may lead to a decrease in state anger, trait anger, and chronic anger expression, whereas targeting alexithymic features may help in reducing the inward expression of anger, and the ability to control anger may be enhanced by addressing an individual's ability to engage in effective ER strategies and to acknowledge and attend to his or her emotions, even if upsetting.

Our findings join the increasing evidence supporting the relevance of including ER modules as part of treatment programmes for violent offenders. Following prior suggestions (e.g. Roberton et al., 2014, 2015), we argue that such treatment modules should include an emphasis on the following: gaining insight on the individual ER style, stressing the importance of flexibly choosing adaptive ER strategies depending on contextual contingencies; the functional nature of emotions (including negative ones) and therefore the importance of attending to emotions and allowing them to unfold rather than controlling them and their expression *tout court*; highlighting the separation of emotions and behaviour, such that emotions can be tolerated without necessarily acting out the associated behavioural tendencies; and enhancing one's personal ability to modulate emotional reactions in order to control behaviour. Taken together, these skills may help offenders to increase their confidence in their ability to deal with disturbing emotional reactions, in turn improving their behavioural responses when distressed and ultimately limiting the maladaptive experience and expression of anger. Moreover, these treatments might enable offenders to reconnect with their inner experience, improving their emotional awareness and their ability to reflect on and talk about their feelings and the vital information they inherently involve with respect to personal needs, values, priorities, and goals. Indeed, adaptive ER may be particularly relevant with respect to the experience of anger, which holds several adaptive functions, such as promoting self-defence, self-preservation, self-enhancement, and solving interpersonal problems (Roberton et al., 2015).

The results of this study should be considered in light of some limitations. First, self-report questionnaires were used, and further research using multi-method assessment could strengthen these findings. Second, the specificity of the results for offenders, as opposed to their generalizability to other populations, is hampered by the absence of a comparison group. Third, the methodological and procedural differences in the samples' recruitment and data collection in Italy and Australia may have affected the findings, although sample source is used as a covariate in the final regression model. Most importantly, the Italian participants were incarcerated whereas the Australian participants were under supervision in the community, and the condition of imprisonment could influence ER. Finally, given the number of predictors, the models may have been somewhat underpowered. Replication in larger samples is important and would be useful.

In conclusion, these results reveal intriguing new insights into the nuanced relationships among distinct facets of ER and maladaptive anger expression. This is important, since anger expression problems are strongly related to violence, and violent offender treatment programmes place great emphasis on the management of anger. These results seem to suggest that ER strategies, impulse control, and emotional awareness may prove a useful focus of interventions directed at problematic anger expression among offenders.

Notes

1. None of the participants reported being illiterate, but researchers were allowed to read questionnaire items aloud if any participants exhibited difficulty in reading them.
2. It is worth noting that Cohn et al. (2010) refer specifically to actual episodes of aggression, rather than anger expression as a trait.

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