

Development and validation of a Measure of Criminal Social Identity within a sample of Polish recidivistic prisoners

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ABSTRACT

Background *Social identity is a well-established theoretical concept within psychological research; however, the role of criminal social identity has received far less research attention. One salient reason for the limited research relating to the concept of criminal social identity is the absence of a specific measure.*

Aim *To develop and test the construct validity of a new measure of criminal social identity (MCSI) and to provide additional evidence relating to Cameron's three-factor conceptualisation of social identity.*

Method *The eight-item MCSI was used to collect data from recidivists incarcerated in high-security prison (N = 312) to assess criminal social identification. These data were subjected to confirmatory factor analysis.*

Results *Three alternative models of criminal social identity were specified and tested in Mplus 6, and results revealed that the data were best explained by a three-factor model of criminal social identity (cognitive centrality, in-group affect and in-group ties).*

Conclusion *The current study is important in terms of future research in criminology and psychology because the MCSI provides the first reliable MCSI, which was developed and validated on a relatively large recidivistic prison sample. Copyright © 2012 John Wiley & Sons, Ltd.*

Introduction

The development of social identity has been a source of great interest to social and criminal psychologists; however, to date, research has omitted the examination of criminal social identity. In addition to the unique identity that is sometimes labelled 'the personal self-concept', there are also social aspects of the self,

which the criminal shares with other criminals. The self in this sense is defined depending on their criminal affiliation, and part of who they are and how they define themselves is determined by a collective identity that can be considered the criminal social self. The concept of criminal social identity has important theoretical and practical implications for the field of criminology because it has been theorised that the presence of a persistent criminal social identity increases the likelihood of the development of criminal thinking styles and subsequently an increased possibility of engagement in criminal behaviour (Boduszek & Hyland, 2011). As many validated measures exist within the field of social psychology, presently, no measure has been developed and validated to accurately measure the concept of criminal social identity. The purpose of this paper is the development and validation of a measure of criminal social identity (MCSI).

Research indicates that the most extensively applied measure of social identity to date is that created by Brown and colleagues (Brown et al., 1986). Scholars applying this measure tend to report that social identity is a one-dimensional construct, with factor analytic outcome data demonstrating item directionality rather than construct dimensionality (Brown et al., 1986; Kelly, 1988). However, more recent empirical studies have suggested a multidimensional nature to social identification (Hinkle et al., 1989; Ellemers et al., 1999; Jackson and Smith, 1999; Cameron and Lalonde, 2001; Jackson, 2002; Cameron, 2004; Obst and White, 2005). Ellemers and colleagues (1999) provided support for the view that social identity is most accurately characterised by three components; however, this research proposed a factor structure that consisted of group self-esteem, obligation to the group and self-categorisation. Jackson's (2002) investigations delivered further evidence of a multidimensional construct rather than one-dimensional construct. Jackson's research outlined three aspects of social identity: self-categorisation that reflects a cognitive factor of identity, evaluation of the group that is related to an affective aspect of identity and perception of solidarity that was also referred to as in-group ties. More recently, Cameron (2004) proposed a new and unique three-factor measure of social identity. The first factor is termed *cognitive centrality* reflecting the cognitive importance of belonging to a particular group; this factor is related to the concept of self-categorisation, which was suggested in the investigations of Ellemers et al. (1999) and Jackson (2002); however, there are subtle and important distinctions between cognitive centrality and the notion of self-categorisation. The notion of cognitive centrality refers to the prominence of the group within the overall structure of the self-concept, whereas self-categorisation refers to whether or not a particular group is actually self-defining, and/or the momentary 'switching on' of an identification given its contextual salience. The second factor is termed *in-group affect*, and this describes the emotional valence of belonging to a given group; this factor corresponds to the emotional aspects of identity, which has been reported by previous scholars (Hinkle et al., 1989; Ellemers et al., 1999; Jackson, 2002). The third factor is termed *in-group ties*, which is related to the psychological perception of resemblance and emotional connection with other members of a

particular group; this concept has also been noted in previous studies (Hinkle et al., 1989; Karasawa, 1991; Ellemers et al., 1999; Jackson, 2002). It is important to highlight that although in-group affect and in-group ties are similar constructs given that they both reflect emotional aspects of one's social identity, they are distinct concepts, as discussed by Cameron (2004).

Empirical support for three-factor structure of social identity has been found across numerous research studies conducted within different populations that have ranged from race and gender identity (Boatswain and Lalonde, 2000; Cameron and Lalonde, 2001) through studies on one's sense of community and social identity in internet or geographical populations (Obst et al., 2002), to the statistical testing of the models within confirmatory factor analysis frameworks (Cameron, 2004; Obst and White, 2005). In his recent analysis, Cameron (2004) tested three alternative models of social identity: a one-factor model, a two-factor model (including a cognitive and emotional element) and a three-factor model (including a cognitive centrality, in-group ties and in-group affect). Statistical findings obtained from four different research projects including a diverse focus of identity reported that data were best explained by the three-factorial model of social identity.

Although some research has provided support for the orthogonality of factors, most empirical support have suggested that moderate statistical correlation exists among the latent factors (Jackson, 2002; Cameron, 2004; Obst and White, 2005). This was theoretically proposed by McGarty (1999) who stated that social categorisation (cognitive centrality) is an essential precondition for the emotional bond to take place that is associated with such group membership.

Given that Cameron's (2004) three-factorial scale is a relatively new contribution to the social identity research, further investigation of the validity and applicability of the measure is warranted. Furthermore, it is necessary to develop a specific MCSI and test the construct validity of such a measure within an appropriate population of criminals. Thus, the main objective of the current project was to examine the reliability and construct validity of a new and specific MCSI, in accordance with Cameron's (2004) empirical findings. The eight-item MCSI was developed and constructed on the basis of Cameron's (2004) pre-existing 12-item measure of social identity (Three-dimensional Strength of Group Identification Scale).

Method

Participants and procedure

The opportunistic sample included 312 ($N = 312$) male prisoners (recidivists) incarcerated in Nowogard High Security Prison. The offender sample consisted of 89 burglars and thieves, 68 assault offenders, 25 murderers, 18 drug dealers, 7 addicted thieves, 2 sex offenders and 103 mixed offenders. The respondents ranged

in age from 20 to 66 years ($M = 33.85$, $SD = 9.38$). Most offenders (88.1%; $n = 275$) come from urban areas. There are 52.2% ($n = 163$) of offenders who reported to have primary school education, 45.5% ($n = 142$) secondary school education and 2.2% ($n = 7$) some college or university. There are 68.3% ($n = 213$) of prisoners who indicated their marital status as single, 11.9% ($n = 37$) as married, 18.6% ($n = 58$) as divorced or separated and 1.3% ($n = 7$) as widowed. The frequency of imprisonment reported by offenders ranged from 1 to 19 times ($M = 3.57$; $SD = 2.48$) and number of reported police arrests from 1 to 20 ($M = 4.85$; $SD = 4.09$).

The sample was recruited from Nowogard High Security Prison for recidivists. The ethical approval for this project was granted by the Polish Prison Service (PPS). Of the 845 imprisoned adult male offenders only 362 (approximately 43%) volunteered their participation in current study; however, due to incomplete responses, only 312 (approximately 37%) were considered for final analysis. The response rate was affected in part due to restricted access to certain secure units of the prison. Participants completed an anonymous, self-administered, paper and pencil questionnaire, which was compiled into a booklet along with an instruction sheet and a consent form attached to the front of the booklet. Participants were assured about the confidentiality of their participation and were informed that they could withdraw from the study at any time. Participants completed the questionnaires within the prison in their living units. After completing the questionnaire, prisoners were asked to return it to the prison educational coordinator in a sealed envelope.

Materials

The MCSI is an eight-item measure that was adopted and modified from Cameron's (2004) Three-dimensional Strength of Group Identification Scale (12 items). The MCSI was initially developed in English and subsequently translated into Polish. The translation was performed by a team of Polish and English-speaking researchers. First, the principal researcher translated the measures into Polish. The Polish version of the MCSI was then sent to a group of academics working in conjunction with the PPS for their approval, and an appropriate member of the PPS translated the Polish versions back into English. Both translations of the MCSI, together with the original English version, were then submitted to three experts who indicated appropriate changes.

The instrument intends to measure prisoners' criminal social identity. Each item was scored on a 5-point Likert scale: 1 = *strongly disagree*, 2 = *disagree*, 3 = *sometimes*, 4 = *agree*, 5 = *strongly agree*. Three items included in the scale were scored in a reverse direction (i.e. *strongly disagree* = 5 and *strongly agree* = 1). Possible scores ranged between 8 and 40, with higher scores indicating higher levels of criminal identity. The measure included three subscales: in-group ties (three items) subscale

measures the level of personal bonding with other criminals; cognitive centrality (three items) subscale measures the psychological salience of a criminal's group identity; and in-group affect (two items) subscale measures a criminal's felt attitude toward other in-group criminals.

Analysis

The current analysis contains descriptive statistics (means, standard deviations, range, reliability) for all variables; correlations between criminal social identity, recidivism and number of police arrests; and confirmatory factor analysis testing dimensionality and construct validity of the MCSI. All pre-analysis including descriptive statistics and correlations were conducted using SPSS 19.

In relation to the Criminal Social Identity concept, three alternative models (for details see result section) were specified and estimated in Mplus version 6 with restricted maximum likelihood estimation (Muthen and Muthen, 1998–2010) using confirmatory factor analysis (CFA). CFA technique helps to determine the factor structure and factor loadings of measured variables, and to assess the fit between the data and pre-established theoretical models. Goodness-of-fit indices were used to compare different models: chi-square (χ^2), Root Mean Square Residual (RMSR), Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) with 90% Confidence Interval (90% CI), Akaike Information Criterion (AIC; Akaike, 1973), Comparative Fit Index (CFI; Bentler, 1990) and Tucker Lewis Index (TLI; Tucker and Lewis, 1973). A nonsignificant chi-square (Kline, 2005) and values above 0.95 for the CFI and TLI are considered to reflect a good model fit (Hu and Bentler, 1999; Vandenberg, 2002). However, for CFI and TLI, values above 0.90 indicate adequate fit (Bentler, 1990; Hu and Bentler, 1999). RMSEA and RMSR values less than 0.05 suggest good fit, and values up to 0.08 indicate reasonable errors of approximation in the population (Browne & Cudeck, 1993). AIC was used to compare alternative models, with the smallest value indicating the best fitting model.

Results and discussion

Descriptive statistics and correlations

Descriptive statistics including means (M) and standard deviations (SD) for the MCSI (cognitive centrality, in-group affect and in-group ties), recidivism and number of police arrests are presented in Table 1. The descriptive statistics indicate that recidivistic offenders showed, on average, moderate levels of criminal social identity in general and in relation to all subscales. This finding can be explained in terms of the nature of the sample investigated in this research and further supported by findings relating to the Pearson correlation coefficients between criminal identity, number of arrests and recidivism (Table 1). All respondents were recidivists, and it is to be expected that those offenders who exhibit repeated or

Table 1: Descriptive statistics, reliability and correlations for criminal identity (total) and three subscales, recidivism and number of police arrests ($N = 312$)

Variables	CI	T	A	C	R	PA
Criminal identity (CI)	1					
In-group ties (T)	0.78***	1				
In-group affect (A)	0.67***	0.38***	1			
Centrality (C)	0.78***	0.33***	0.31***	1		
Recidivism (R)	0.27***	0.20***	0.21***	0.20***	1	
Police arrests (PA)	0.20***	0.18**	0.09	0.15**	0.69***	1
Means	21.41	8.67	4.05	8.70	3.57	4.85
Standard deviations	6.49	3.12	2.14	3.37	2.48	4.09
Range	8–38	3–15	2–10	3–15	1–19	1–20
Cronbach's alpha (α)	0.86	0.92	0.92	0.96	n/a	n/a

** $p < 0.01$; *** $p < 0.001$.

habitual criminal behaviour after being released from incarceration will show at least moderate levels of criminal social identity. Furthermore, criminal social identity possessed a positive, statistically significant correlation with recidivism and number of police arrests, respectively.

On the basis of the results from the current sample, the reliability analysis for the entire measure, along with the three subscales, demonstrated satisfactory internal consistency with Cronbach's Alpha coefficient levels exceeding the recommended cut-off point of 0.8 for each scale.

Confirmatory factor analysis of MCSI

The first model specified included criminal social identity as a one-factor phenomenon comprised of each of the eight items within the scale. The second model reflected two dimensions of criminal social identification: a first dimension that comprised the three items measuring a cognitive aspect (centrality; Q1, Q2 and Q3) and a second dimension that comprised five items (Q4, Q5, Q6, Q7 and Q8) measuring the emotional relationship with criminal others. The third model of criminal social identity included three factors comprising cognitive centrality (three items; Q1, Q2 and Q3), in-group affect (two items; Q4 and Q5) and in-group ties (three items; Q6, Q7 and Q8). The specifications for each model were taken from the results of previous factor analyses reported by Cameron (2004) and Obst and White (2005).

Table 2 reports the fit indices for the three alternative models. As can be noted, all fit indices indicate improvement in the three-factorial model of criminal social

Table 2: Fit indices for the alternative confirmatory factor analysis models of criminal social identity

Item	1-factor model	2-factor model	3-factor model
χ^2	913.58	348.04	23.18
df	20	19	17
<i>p</i>	0.00	0.00	0.14
RMSEA	0.39	0.24	0.03
90% CI	0.368 0.412	0.22 0.27	0.00 0.07
SRMR	0.23	0.12	0.02
AIC	6175.59	5511.67	5164.41
CFI	0.49	0.82	0.99
TLI	0.29	0.73	0.99

RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; SRMR = Standardised Root Mean Square Residual; AIC = Akaike Information Criterion; CFI = Comparative Fit Index; TLI = Tucker Lewis Index.

identity above the one and two-factor models, respectively. The three-factor model showed statistically significant improvement in the chi-square value $\chi^2 = 23.18$ with $p = 0.14$ over the one-factor model and the two-factor model. The chi-square findings for the three-factor model indicate that there is no significant difference between the data and the pre-established theoretical model of criminal social identity. Additionally, the AIC also suggests that three-factor solution has the most parsimonious model fit. The RMSEA and Standardised Root Mean Square Residual values were reported to be below 0.05, which indicates very close model fit to the population covariance matrix. Further support for the three-factor model can also be observed in increased values reported by CFI and TLI; they all exceeded the 0.95 cut-off.

Table 3 demonstrates the standardised and unstandardised factor loadings (with standard errors) for each observed variable on their latent variable (factor). According to Hair et al., (1998), in CFA, standardised factor loadings should be 0.6 and higher to confirm that observed variables identified *a priori* are represented by a specified latent variable (factor), on the basis that the 0.6 level corresponds to approximately half of the variance in the observed variable being explained by the latent variable. Thus, current results are consistent with the indications of Hair et al. (1998). Among the current sample all item loadings ranged from 0.83 to 0.97.

Correlations between three factors indicate that all components of criminal social identity tend to be moderately statistically correlated (Table 4). The strongest correlation existed between in-group affect and in-group ties ($r = 0.41$), which is consistent with the theoretical view that these two factors reflect the emotional aspects of social identity. Moreover, both factors showed a weaker association with cognitive centrality, respectively.

Table 3: Standardised and unstandardised factor loadings (and standard errors) for the three-factor model of criminal social identity

Item	β	B	SE
Factor 1 (centrality)			
1. Being a criminal has little to do with how I feel about myself in general	0.92	1.00	–
2. Being a criminal is an important part of my self-image	0.97	1.08	0.03
3. The fact I am a criminal rarely enters my mind.	0.93	1.06	0.04
Factor 2 (in-group affect)			
4. In general I'm glad to be a part of criminal group	0.88	1.00	–
5. Generally I feel good about myself when I think about being a criminal	0.97	1.07	0.07
Factor 3 (in-group ties)			
6. I have a lot in common with other people who committed a crime	0.92	1.00	–
7. I feel strong ties to other people who committed a crime	0.94	0.94	0.03
8. I find it difficult to form a bond with other people who committed a crime	0.83	0.78	0.04

All factor loadings are statistically significant ($p < 0.001$).

Table 4: Correlations for the three-factor model of the measure of criminal social identity

Item	Factor 1	Factor 2	Factor 3
Factor 1 (centrality)	–		
Factor 2 (in-group affect)	0.34	–	
Factor 3 (in-group ties)	0.35	0.41	–

All factor correlations are statistically significant ($p < 0.001$).

Conclusion

The main objective of this paper was to develop and empirically validate a new MCSI. The MCSI is an eight-item measure adapted and modified from Cameron's (2004) 12-item Three-dimensional Strength of Group Identification Scale. This study specified and empirically tested three alternative models of criminal social identity within a sample of recidivistic Polish prisoners. The results of the confirmatory factor analysis demonstrated that the three-factor model of criminal social identity was the only model to fit the data. This three-factor conceptualisation demonstrated excellent model fit and therefore provides strong empirical support for the construct validity of the MCSI. The three-factor solution identified for the concept of criminal social identity is consistent with the investigations of Cameron (2004) and Obst and White (2005) of a three-factor explanation of social identity. Moreover, results from the current study contradict the findings reported by Brown and colleagues (1986) and Kelly (1988), suggesting that social identity construct is most parsimoniously and accurately represented by a single latent

variable. In conclusion, Boduszek and Hyland (2011) suggested that presence of criminal social identity significantly contributes to the development of criminal behaviour; therefore, the findings that emerge from the current study are important in terms of future criminological and psychological research because the MCSI provides the first effective MCSI, which has been developed and validated within a relatively large, recidivistic prison sample.

Limitations and further directions

The current research project possesses a number of limitations that should be considered by the reader. One limitation relates to the method of data collection. Constraints of access to the prison population in this high-security unit for recidivistic offenders necessitated the use of self-administered questionnaires. These naturally precluded a proportion of the prison population who were unable to read or write from participating in the study; however, given the nature of the access to prisoners provided to the researchers, this was an unavoidable limitation.

The validation of the MCSI was derived from a Polish translation; therefore, the generalisability of the current findings to prisoner population in other cultures remains to be determined. Future research should seek to replicate this study with the English version of the MCSI to determine whether the MCSI is factorially invariant across distinct cultures.

Given that the current study employed a sample of male recidivistic prisoners, future studies would benefit from the use of more extensive and diverse forensic samples such as sex offenders, young offenders, or female offenders.

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