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## **ABSTRACT**

In the United Kingdom (UK) the prison population has increased by around one third since the turn of the millennium amid growing concern over the correctional mission of prisons, the number of prisoners exhibiting mental health difficulties and high levels of recidivism. This study aims to explore the relationship between ‘imported’ (pre-prison) factors and prisoner mental health status.

Prisoners (N=756) from two UK prisons completed an established measure of mental health (General Health Questionnaire: GHQ-12) and a bespoke survey on pre-prison characteristics and experiences (for example, dispositions, childhood abuse, substance misuse, learning difficulties and employment).

Prevalence of mental health difficulties was high, with 40.3% reaching the ‘caseness’ threshold. Binary logistic regression and odds ratio analyses were used to explore the ability of imported factors to predict mental health ‘caseness’ and the direction of influence. Collectively, the imported factors correctly predicted the caseness category of 76.5% of participants ( $p<0.001$ ). Pre-prison dispositions proved to be strong predictors of caseness as did childhood sexual abuse and learning difficulties at school. We found the direction of influence of three imported factors differed from all others: unemployment, prior experience of prison and a history of substance misuse. These three factors are associated with a lower rate of mental health caseness. It is of concern that, on release, these same factors are likely to militate against re-integration into society.

Imported factors can serve as powerful predictors of ‘within-prison’ mental health status, but practitioners need to be cognisant of the relative importance and direction of influence of factors, as evidenced by these findings.

**Keywords:** Prison, mental health, importation, predictors, adaptation, prisonization.

## 1. Introduction

The use of prison is increasing in many countries. Since the turn of the new millennium the world's prison population has risen by 19.8% to over 10.35 million (Walmsley, 2015). In the United Kingdom (UK) the rate of increase during this same period has been even higher (33%) and prison population is at a record high (Allen and Dempsey, 2016). It is a matter of debate as to why the prison population has been rising so rapidly. It could be, for example, the consequence of increasingly punitive political rhetoric, harsher sentencing, seismic changes in societal norms or changes in the remit and, therefore, intake of prisons (MOJ, 2016; Garside, 2003). Meanwhile, fundamental concerns over the ability of prisons to discharge their correctional and rehabilitative mission has become a high profile issue in the media, at a time when prisons are experiencing severe operational challenges (BBC, 2017).

International concern over the mental health of prisoners has also been rising (ICPR 2015, Bradley, 2009). Mental health problems within the prison population are of particular concern for many reasons, but especially as they are considered to be a significant cause of morbidity in prisons (Birmingham, 2003). Systematic reviews of studies from around the world have repeatedly confirmed that many prisoners experience poor mental health (Fazel et al., 2016; Fazel & Danesh, 2002). Prevalence rates vary depending on sampling design as well as diagnostic criteria and assessment technique, but the general picture is bleak. In the UK, for example, a large scale interview based survey recorded mental disorder in over 90 per cent of the 3,142 prisoners assessed (Singleton, Meltzer and Gatward, 1998) whereas Shaw et al. (2010) found 47% of a sample of 84 male prisoners who had spent approximately two months in prison met the general population clinical threshold for 'caseness' on the General Health Questionnaire (GHQ). There is also evident concern worldwide that the prevalence rate in not

only high, but rising (Fazel et al., 2016; Bradley; 2009; Adams & Ferrandino, 2008; Edgar and Rickford, 2009). In keeping with these statistics, trends and concerns the United Nations (UN) has substantially revised Standard Minimum Rules for the treatment of prisoners (UN, 2016) and Rule 25 now places an obligation on all signatories to evaluate, promote, protect and improve the mental health of prisoners.

Understanding the process by which prisoners adapt to prison life, seminally defined by Clemmer (1940) as prisonization, has long been viewed as a necessary shift towards prisoner conformity and a pre-requisite for maintaining ordered prisons and reducing recidivism. Conversely the institutionalising effect of prison is recognised as an impediment to social reintegration post-prison. Adaptation has, traditionally, been assumed to be a unitary concept measured by the extent to which a prisoner conforms and engages with the culture, routines and activities of prison life. However, the exact mechanism of adaptation appear complex and potentially enlightening prison-research methods are difficult to design.

For the purpose of theorising and empirical investigation, researchers have tended to group factors that may influence adaptation into three broad categories: imported, indigenous (or deprivational) and situational (see Dhimi, Ayton, Loewenstein, 2007; Jiang & Fisher-Giorlando, 2002; Damboenu and Nieuwbeerta, 2016; Steinke, 1991). ‘Imported’ factors include a multitude of characteristics and experiences that a prisoner carries with them into the prison setting. These may include a previous prison sentence, childhood abuse, educational attainment, employment history and use of illegal substances. ‘Indigenous’ factors reflect the ‘within-prison’ experience of deprivation and loss, described by some as the ‘pains of prison’ (Medlicott, 1999). These factors typically include ‘type of confinement’ and ‘length of time spent in prison’ as measures that capture to some degree the loss of, for example, autonomy,

relationships, familial contact and employment. 'Situational' factors reflect aspects of the immediate prison environment, which are thought to have the potential to influence adaptation event(s) and pay, therefore, greater attention to the immediate context of a prisoner's adaption or behaviour at a specific point in time (see for example Flanagan, 1983; Jian and Fisher-Giorlando, 2002). Situational factors may include the weather, location, other people and the nature of interaction with those present at the time of a given event or behaviour.

Summarising the findings of studies that have looked for relationships between factors from each of these categories and adaptation is a difficult task as there is considerable inconsistency in the methods that researchers have used. Citing a wide range of literature Dhimi et al. (2002) suggest that 'imported' factors have been shown to be better predictors of mal-adaption than indigenous factors, but they note that some 'imported' factors appear to have no predictive power. Similarly, Dâmboeanu and Nieuwbeerta (2016) found a strong relationship between a range of importation and indigenous factors and types of prison misconduct, but also reported differential impact. The testing of situational factors is less commonly reported in the literature, but Jiang and Fisher-Girolando (2002) found situational factors to be the most powerful predictor of violent incidents although the relative power differs depending on the nature of the infraction. They concluded that all three types of factors help to explain violent behaviour in prison. While there is evidence of the independent effects of imported and indigenous factors, an interpretation of the interaction between both is necessary in order for a better understanding (Dhimi et al, 2007).

The relationship between within-prison adaptation and mental wellbeing is likely to be strong, and research on this interface appears to confirm this. Stoliker (2016) has found, for example,

a correlation between self-reported mental health status and a commonly used indicator of mal-adaptation, physical assault, by inmates on others. Many of the findings of prisonization research are likely, therefore, to be relevant and illuminative in respect of the mental wellbeing of prisoners. The terms are not synonymous, however, and a consideration of both prisoner mental-health and adaptation may enable a richer 'stereoscopic-view' of both constructs. There is far more research on factors that impact prisoners' adaptation than those that influence their mental health. As Dhami, Ayton and Loewenstein (2007) note the emphasis of research has only recently begun to attend more carefully to influences on prisoners' psychological and emotional reaction to imprisonment. Much can be learned from the methodological approach used to explore adaptation. The categorical devices of 'importation', 'indigenous' and 'situational' provide a helpful framework for the exploration of factors that influence the mental health of prisoners.

In respect of the impact on mental health, it is the influence of the impact of the prison environment (indigenous and situational factors) that has received the most attention to date. Nurse, Woodcock and Ormsby (2010) identified a number of possible indigenous determinants including isolation, lack of family contact and substance misuse. Yang, Kadouri, Revah-Levy, Mulvey and Falissard (2009) also examined the impact of long-term-incarceration on mental illness and observed differences in the outlook of prisoners with mental-illness and those without. In a larger scale study (N=87) Dettbarn (2012) explored the impact of length of prison term on mental health and concluded that a damaging effect of long-term imprisonment could not be proven. Liem and Kunst (2013) have also shown that incarceration has a unique effect on mental health and argued that former prisoners can present a discrete sub-type of post-traumatic stress disorder. Similar themes recently emerged from a meta-synthesis of five studies by Terry, Praetorious and Nordberg (2016) which also identified what would appear to

be a situational factor as a potential determinant: anti-therapeutic attitudes of staff. In contrast to the growing body of literature on within-prison factors and the mental health of prisoners, there is a paucity of research on imported factors. The few studies that do exist suggest that knowledge of the experiences of prisoners prior to incarceration may be help in the prediction of within and post prison mental health. In a rare study of female prisoners (N=125) Tripodi and Pettus-Davis (2013) found a strong the relationship between sexual abuse in childhood and severe mental illness in adulthood, although the focus appeared to be on mental ill-health in adulthood rather than ‘within-prison’ *per se*. In contrast to the growing number of studies that have examined indigenous and/or situational factors and mental health, the ability of prior experience and characteristics to predict ‘within-prison’ mental health status is largely untested. Such research may enable prison staff to anticipate and possibly prevent the occurrence of mental health problems within the prison population.

### *The present study*

In this study we test, collectively and individually, the power of a number of imported factors to predict the ‘within-prison’ mental health status of male prisoners. It is acknowledged that many other imported, indigenous and situational factors may influence the mental health of prisoners, but in an attempt to take some initial steps it was considered appropriate to focus on a manageable selection of factors. Imported factors selected for inclusion in this study were drawn from literature ranging across mental health, social-exclusion and prison adaptation.

### *Study aims*

The aim of this study therefore was to explore the relationship between mental health in prison and imported characteristics; and to provide some insight into the relative predictive power of these factors.

## **2. Methodology**

### **2.1 Ethical approval**

Ethical approval for this study was obtained from the Local Health Board and the College of Human and Health Sciences, Swansea University, Wales, UK.

### **2.2 Participants**

The sample was comprised of male prisoners drawn from two Category B male-only UK prisons UK. Category B prisons are closed, have the second highest level of security and cater for prisoners who have been convicted or are on remand. The capacity of Prison 'X' and Prison 'Y' is 1,126 and 422 respectively.

All prisoners in both prisons were provided with key information on the purpose and scope of the research and invited to participate. Participation was entirely voluntary and dependent upon informed consent. Participants were advised of their right to withdraw from the study at any point. A protocol for the provision of immediate mental health care was put in place should any participant react adversely to any element of the study. Prison staff were provided with training and guidance on the protocol.

775 prisoners participated of whom 756 completed the GHQ-12 mental health measure which was essential for their inclusion in the calculation of prevalence. For a case to be included in



binary logistic analysis, complete data was required on all factors. In the event, complete data was available for 635 participants.

[Table 1 here]

## 2.4. Measures

Two measures were administered to all participants: the General Health Questionnaire (GHQ-12; Goldberg & Williams, 1988) and a bespoke self-report survey on pre-prison characteristics and experiences.

The General Health Questionnaire (GHQ) is an established and widely used measure of adult mental health that has been shown to work well in the community (UoE, 2010) and prison settings (Andersen, Sestoft, Lillebak, Gabielsen and Hemmingsen, 2002; Shaw et al, 2010; Liebling and Maruna, 2005; Gunn et al., 1978).

The 12 item version of the GHQ (GHQ-12) can be used to screen for independently verifiable forms of psychiatric illness. It is a present state measure. It is reported to have excellent psychometric properties (Goldberg et al., 1997; Hu, Stewart-Brown, Twigg and Weich, 2007). Goldberg et al. (1988) report Cronbach alpha reliability co-efficients for the GHQ-12 typically range from 0.82 to 0.90.

The GHQ-12 can be scored a number of ways (Kelly, Dunstan, Lloyd and Fone, 2008; Hu et al., 2007). We used the 0-0-1-1 method which yields a composite score from 0 to 12. We set a parameter score of  $\geq 3$  for caseness: a case of common mental disorder, which is the most widely accepted convention (Kelly et al., 2008; Shaw et al, 2010).

A bespoke self-report survey was developed with a view to gathering data on a cross-section of 'imported factors' evident in literature; reflecting a wide range of sub-domains including early childhood, education, employment, personality and prior experience of crime.

Specifically, participants were asked to indicate whether they had been in prison prior to their current incarceration; used illegal substances prior to prison; been in full-time employment prior to prison; been sexually abused as a child; spent any time in State care as child; experienced learning difficulties at school; engaged in self-harm prior to prison; generally been 'a worrier' prior to prison; generally found it difficult to 'get on with others' before prison; been generally impulsive prior to prison.

## 2.5. Analysis

All data was entered into the Statistical Package for the Social Sciences (SPSS v22).

### 2.5.1 Prevalence rate:

The prevalence rate was calculated by calculating the proportion of the sample who had a GHQ-12 Total score of  $\geq 3$ . Other thresholds, such as  $\geq 7$ , have been used by researchers in prison settings (see Shaw et al., 2010), but a threshold that allowed for more ready comparison with local communities was considered important for ease of interpretation.

### 2.5.2 Predictive power of imported factors

Binary logistic regression analysis was used to evaluate the collective ability of the ten imported factors to predict the single dependent variable: 'caseness'. Odds ratios which indicate the probability of 'caseness' when each factor is present and all others are held equal were also calculated. This enables estimation of the strength of association and direction of influence.

Binary logistic regression analysis requires data on every variable for a case entered included in the analysis. We chose not to impute missing data values as all imported variables were dichotomous and the risk of false imputation high. Complete data (GHQ-12 caseness category and all survey items) was available for 635 participants (see Table 1).

### 3. Results

#### 3.1. *Prevalence of Mental health caseness*

**[Table 2 here]**

There was no statistically significant difference between the prisons in ‘caseness’ categorisation  $\chi^2(1)=.31$ ,  $p=.58$ , although ‘caseness’ was markedly higher at 40.3% in the combined prison population than the general population (21.4%)  $\chi^2(1)=132.28$ ,  $p<.000$ , using population data from the British Household Panel Survey (University of Essex, 2010) and filtered for males and equivalent ‘caseness’.

#### 3.2 *Prediction of mental health caseness category*

**[Table 3 here]**

Within the regression model imported factors correctly categorised 76.5% of participants into their GHQ-12 mental health caseness category. This is a higher accuracy rate than that which would be obtained by chance (59.5%) and meets threshold required for recognition as a useful predictive model (Hair, Black, Babin and Anderson 2013; Tripodi and Pettus-Davis, 2013).

[Table 4 here]

### *3.3.Direction of influence*

We coded and entered data across factors consistently to enable determination of direction of influence through the  $\beta$  value sign and Mann Whitney U analyses (See Supplemental Tables). The participants' responses on the ten dichotomised factors variables were consistently coded as 1 or 2, where 1 reflected adversity. For example, if a participant responded 'yes' when asked if they had previously been in prison it was recorded as 1 and 'no' as 2.

On seven factors, adversity was associated with mental health 'caseness'. On three factors (previous prison sentence, prior use of illegal substances and unemployed prior to prison) the direction of influence was reversed.

### **Odds ratios**

Several of the factors proved to be, independently, very powerful predictors of mental health 'caseness'. The most powerful single predictor of 'caseness' was the participants' view of whether they had been a worrier prior to prison life. If the participant considered themselves to be a worrier they were over 6 times more likely to reach 'caseness'. (see Table 3).

## **4. Discussion**

A high rate of mental health ‘casesness’(40.5%) was recorded in this study of male prisoners, which is similar to that reported by others who have used the same measure and threshold (Shaw et al, 2010). The observed prevalence rate was nearly twice that found in the wider community and statistically significant. However, despite the markedly higher rate of mental health difficulties in the prison population, it is widely recognized that mental health service provision for prisoners is far from commensurate with the community setting (Terry et al, 2016) and the mental health needs of many prisoners are frequently neglected (Edgar and Rickford, 2009). Such a high prevalence rate, coupled with what is known about the relationship of poor mental health and longer term outcomes, provides further evidence of the legitimacy of the way in which policy makers and prison personnel have been highlighting their concerns (Bradley, 2009; Owers, 2007) and supports the general direction of the UN (UN, 2016). It should add impetus to the drive to improve mental health services for prisoners (Terry at al., 2016) and to consider their well-being in-line with community-based, person-centred provision (Care Act, 2014; Social Services and Well-being (Wales) Act, 2014)

As with prison adaptation, a logical first step in any attempt to address and better manage mental health problems within the prison population is to identify the factors that promote the difficulties. In this study we have focused exclusively on ‘imported’ factors and demonstrated that, collectively, a small number can predict mental health ‘casesness’ with a statistically significant degree of accuracy (76.5%; see Table 3). The ability of imported factors to predict ‘within-prison’ mental health status is in keeping with what many practitioners understand through experience, namely, the origin of mental health difficulties for many prisoners is to be found in previous life experiences. For many prisoners the antecedents of mental health problems can be traced as far back as childhood. This does not, of course, in anyway diminish the potential impact of indigenous or situational factors, nor does it discount the possibility of

factor interaction, but it does provide clear evidence that any ‘within-prison’ intervention needs to take pre-prison factors fully into account. The findings should also encourage those who are concerned with improving the mental health of prisoners to acknowledge and invest in community focused initiatives that can prevent the occurrence of adverse experiences that may create susceptibility and later vulnerability.

The power of individual factors to predict mental health ‘casesness’, as evidenced in this study (see Table 4), suggests that exploration of a wide range of imported factors in regime design and mental health risk assessments is warranted. The data indicates, for example, that a prisoner is over 6 times more likely to experience mental health problems if he considered himself to be a ‘worrier’ in life prior to prison. Similarly, those who consider themselves to have difficulty relating to others, or to be of an impulsive nature prior to prison are at far greater risk of mental health difficulties within-prison; 3.5 and 1.9 times respectively. These findings suggest that personality type and socialization are useful predictive markers. The finding that sexual abuse in childhood is a strong predictor of mental health difficulties in prison serves as a useful reminder of the latent potency of trauma and abuse. It is unrealistic to assume that the mental health needs of prisoners can be addressed separately from any abuse and trauma they have endured. Similarly, the relationship between learning difficulties at school on later mental health is strong for the prison population. The evidence from other research suggests that many prisoners continue to experience learning difficulties (Creese, 2015) which may intensify the impact.

Adversity on all but three of the imported factors was found to negatively impact within-prison mental health status - previous imprisonment, use of illegal substances and unemployment. Within existing literature prison experience, substance misuse and unemployment are strongly

associated with social exclusion and poor mental health in the community setting (Moran, 2012; Windsor, Jemal and Benoit, 2014), whereas, in this study they appear to afford some degree of protection within prison. The direction of influence observed is, therefore, counter-intuitive. A possible explanation for this finding is that the presence of these factors may make the adoption of a prisonized identity an easier process, which in turn eases mental stress. These three protective factors may act, in part, as a 'pass' into the prevailing mores, values, customs and attitudes, which define prison culture thereby enabling better integration which, in turn, may be a mediating factor for prisoners' mental health. The 'prisonized' identity may support mental well-being, but discourage engagement in the prison's rehabilitative mission. Conversely, those who are denied social access and are 'excluded' within prison are viewed by their peers and staff as 'vulnerable' and are more likely to experience more immediate distress and poorer mental health. It is important to note, however, that although a considerably lower rate than those without prior prison experience (49.6%), those with prior prison experience still have, relative to the general population, a high rate of 'casesness' (34.7%).

The collective and individual predictive power of imported factors, together with knowledge of direction of influence, may help inform the assessment of mental health vulnerabilities on admittance to prison. As information on the imported factors considered in this study, as well as many other imported factors, are likely to be available in individual case files it may be possible to identify heightened risk at the point of admission. Risk assessment should therefore be a dynamic and ongoing process and consideration of an array of indigenous and situational factors are likely to increase the accuracy of these assessments, but imported factors are clearly useful predictive markers. Likewise, elements of regime and sentence planning which promote purposeful activity and socially interactive milieu, may mitigate negative, worry and difficulty mixing, personality traits. This study strongly suggests that ascertaining information on the



personality of prisoners prior to incarceration is likely to be highly rewarding when seeking to understand and address within-prison mental health.

The findings of this study also highlight the necessity of preparing prisoners with insightful well-informed programmes for release. Whereas within-prison certain prior experiences appear to offer some degree of protection, the prison regime needs to be preparing the prisoner for the hostility that these same factors may generate and the stigma attached to these factors in local communities. The prison-release dynamic will be compromised by narrowed opportunity and continued disbaring from work and other well-being opportunities due to a history of prison, substance misuse and unemployment. It may be that as the direction of influence oscillates again on the prisoner's release, they are at their most vulnerable. What had proven to be a means of acceptance in prison becomes the cause of mistrust and rejection outside of prison. It is possible that the change from benefit to cost that the prisoner experiences also has a cost in terms of post-release mental health. Ironically, those who have entered prison for the time have no prison history to cushion the impact on mental health within-prison, but have acquired that 'history' as they are leaving and reentering society, at which point it is harmful to social engagement and almost certainly their mental health.

The study adds a nuanced view to the literature discussing factors that influence the mental health of prisoners. It clearly demonstrates that a range of pre-prison experiences and characteristics influence mental health status in prison. However, it should be noted that the study relied on participants' recall of the past and their willingness to accurately report the same. The design did not include independent corroboration of their recollection of past experiences. Similarly, the mental health measure used is a useful screening tool especially for use in large scale research, but no independent clinical diagnostic assessment was undertaken.

Additionally, the scope of quantitative data alone, to capture experiential processes and identity mental health attributes is limited. Further research of this area would benefit from the inclusion of more subtle aspects of personal experience.

For the purpose of feasibility the choice of imported factors was limited in number as was the detail of information gathered on each factor. While the study has successfully demonstrated that strong relationships do exist between, for example, self-reported personality traits, childhood abuse, educational difficulties and substance misuse, further studies will be needed to examine these and other specific relationships in far more depth. Similarly, the inclusion of indigenous and situational factors in future studies may allow scope for an understanding of how they interact.

## **Conclusions**

In the context of growing concern over mental health of prisoners, the aim of this study was to explore the association between pre-prison experiences and characteristics and mental health within-prison. We observed a high prevalence rate of mental health difficulties. The study clearly demonstrates that within-prison mental health caseness can be predicted, with an acceptable degree of accuracy, by imported factors. However, we do not advocate the use of imported factors alone, nor do we argue for their predictive supremacy over indigenous or situational factors. They should be afforded the appropriate considerations and it is critical that past experiences of abuse and learning problems are explored and where necessary addressed. The study has also demonstrated sizeable differences in the predictive power of individual factors and suggests that personality type may be one area well worth exploring when carrying

out initial intake assessments, designing regime or individual sentence plans, as it appears certain dispositions may be useful predictive markers.

Of considerable interest is the counterintuitive difference in the direction of influence that certain imported factors have on mental health. We suggest that awareness on the part of prison staff of not only the hierarchy, but the direction of influence is critical. Professionals working with prisoners should also be aware of the direction of influence is likely to change depending on the context and needs to be considered at an individual case level at release as well as entry into prison.

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## Tables for main text

**Table 1**

**Summary of participants'**

	Number of participants who completed GHQ-12	Number of participants for whom data on all factors was available	Age <sup>1</sup> ( $\bar{x}$ SD: range)
Prison X	507	439	24.9 (9.9: 15-76)
Prison Y	249	196	31.1 (8.7: 21-63)
Prison X+Y	756	635	26.8 (9.9: 15-76)

<sup>1</sup>Years and months

**Table 2**

Prevalence of mental health 'casesness' (n=756).

	Casesness <sup>1</sup> n(%)	Non-casesness <sup>1</sup> n(%)
Prison X	201 (39.6)	306 (60.4)
Prison Y	104 (41.8)	145 (58.2)
Total	305 (40.3)	451 (59.7)

<sup>1</sup>GHQ score  $\geq 3$

**Table 3**

Classification accuracy using predictive model for all cases with complete data (n=635).

		Predicted		Percentage Correct
		Caseness	Non caseness	
Observed	Caseness	176	81	68.5
	Non caseness	68	310	82.0
				76.5 (Overall)

**Table 4.**

Binary logistic regression analysis between imported factors and the dependent variable mental health casesness (GHQ-12).

**\*95%**

	<b><i>B</i></b>	<b><i>S.E.</i></b>	<b><i>Wald</i></b>	<b><i>P</i></b>	<b><i>Odds Ratio (CI)*</i></b>
Previous prison sentence	-.79	.22	12.66	.000	.45 (.29-.70)
Used of illegal substances prior to prison	-.26	.30	.77	.379	.77 (.43-1.38)
Unemployed prior to prison	-.39	.22	3.14	.076	.68 (.44-1.04)
Sexually abused in youth	1.04	.37	8.00	.005	2.84 (1.38-5.85)
Cared for by the State as a child	.31	.23	1.88	.170	1.36 (.88-2.11)
Learning difficulties at school	.69	.21	11.31	.001	2.00 (1.33-2.97)
Self-harmed prior to prison	.68	.25	7.28	.007	1.98 (1.21-3.26)
Worrier	1.83	.22	70.83	.000	6.21 (4.06-9.49)
Difficulties in getting on with people	1.26	.47	7.15	.007	3.52 (1.40-8.85)
Impulsive	.61	.20	9.19	.002	1.84 (1.24-2.72)
Constant	-8.37	1.25	44.93	.000	.000

Note.  $R^2 = .394$  (Nagelkerke)  $.255$  (Kosmer & Lemeshow)  $.292$  (Cox & Snell). Model

$\chi^2(10)=219.01, p <.0001$