

Predicting Client Attendance at Further Treatment Following
Drug and Alcohol Detoxification: Theory of Planned Behavior and Implementation Intentions

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Key Words: Detoxification, The Salvation Army, Theory of Planned Behavior, Implementation
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Abstract

Despite clinical recommendations that further treatment is critical for successful recovery following drug and alcohol detoxification, a large proportion of clients fail to attend treatment after detoxification. In this study, individual factors and constructs based on motivational and volitional models of health behaviour were examined as predictors of post-detoxification treatment attendance. The sample consisted of 220 substance dependent individuals participating in short-term detoxification programs provided by The Australian Salvation Army. The Theory of Planned Behavior (TPB) and Implementation Intentions were used to predict attendance at subsequent treatment. Follow-up data was collected for 177 participants (81%), with 104 (80%) of those participants reporting that they had either attended further formal treatment (e.g. residential rehabilitation programs, outpatient counselling) or mutual support groups in the 2-weeks after leaving the detoxification program. Logistic regression examined the predictors of further treatment attendance. The full model accounted for 21% of the variance in treatment attendance, with Attitude and Implementation Intentions contributing significantly to the prediction. Findings from the present study may provide direction for detoxification service providers in terms of developing strategies to assist clients with the formation of specific treatment entry plans and to help clients build positive perceptions about subsequent treatment attendance.

Keywords: detoxification, treatment attendance, Theory of Planned Behavior, Implementation Intentions, The Salvation Army

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1. Introduction

Detoxification is an important component of substance abuse treatment and provides an opportunity for individuals to be medically supported through the withdrawal process (Teeson, Havard, Ross, & Darke, 2006). Typically detoxification programs last from 4 to 7 days and may help break the cycle of substance abuse by providing a pathway to further treatment (e.g. Broes, Giner, Dumont, & Mino, 2000; Chutuape, Jasinski, Fingerhood, & Stitzer, 2001; Gossop, Green, Phillips, & Bradley, 1989; Teeson, et al., 2006). Addiction treatment research has consistently demonstrated that the receipt of continued care following detoxification is more likely to result in abstinence (McCusker, Bigelow, Luippold, Zorn, & Lewis, 1995) and reductions in substance use (O'Farrell, Murphy, & Alter, 2007). However, research has consistently revealed a gap in the post-detoxification continuum of care. For example, in a 6-month follow-up of participants leaving residential detoxification, Chutuape et al. (2001) reported that 41% of participants accessed other formal treatment during this period and another 22-33% of participants accessed mutual support groups. Identifying factors that predict successful transition has an important bearing on the development of strategies to improve treatment entry following detoxification.

The Theory of Planned Behavior (TPB) is one of the most robust and empirically validated psychological models of human behaviour (Ajzen, 1991; Godin & Kok, 1996). The core component of the TPB is the individual's Intention to perform a given behaviour. Behavioural Intentions are assumed to represent the motivational factors that influence how hard a person is willing to try, and how much effort they are planning to exert in order to perform a given behaviour (Ajzen, 1991). Accordingly, Intention to perform behaviour is conceptualised as the most proximal and important predictor of behaviour. This critical construct is determined by three conceptually independent components: Attitudes, Subjective Norms and Perceived Behavioural Control (Ajzen, 1991).

Attitudes refer to the overall positive or negative judgements of the behaviour. Subjective Norms are conceptualised as the perceived pressure from significant others to perform the behaviour (Ajzen & Fishbein, 1980). Perceived Behavioural Control describes an individual's perception of the degree to which the behaviour is under their control (Ajzen, 1991). The perceived ease or difficulty in performing a given behaviour is weighted by the perceived influence of both internal and external control factors (Armitage, 2001). Since Perceived Behavioural Control has the capacity to account for factors outside of the individual's control, it has been suggested that it can affect behavioural Intentions over and above the effects of Attitudes and Subjective Norms (Armitage, 2001).

Few studies have explored the utility of the TPB in predicting post-detoxification treatment attendance. In the only study to use the TPB to predict long-term treatment utilization following detoxification, . post-detoxification treatment attendance was significantly predicted by intention to enter treatment, favourable beliefs regarding further treatment, and perceived behavioural control (Kleinman, Millery, Scimeca, & Polissar, 2002). Overall, these variables accounted for a total adjusted variance of 13%. Given the utility of all but one direct component of the TPB, the researchers concluded that the model was more efficacious than other models of health behaviour. However, methodological limitations of Kleinman et al.'s study may have resulted in an underestimation of the predictive potential of the TPB in this context. Specifically, the items used to measure the TPB were not developed inline with accepted practices, and Kleinman and colleagues (2002) conceded that it was debateable whether the measures used in the study were sufficiently reliable or valid.

Direct measures of the TPB we developed and used to predict 168 participants' Intentions to enter treatment following residential detoxification (Kelly, Deane, McCarthy & Crowe, 2011). Attitudinal and perceived behavioural control constructs accounted for a significant 32% of the variance in behavioural intentions to seek further treatment. However, the study did not assess actual treatment seeking behaviour. Nevertheless, the limited available evidence, appears to support

the utility of the TPB in predicting both Intentions to enter further treatment (2011) and actual attendance at treatment after leaving detoxification (Kleinman, et al., 2002).

A common criticism of the TPB is that while it explains moderate proportions of variance in Intentions, the model is a substantially weaker predictor of actual behaviour (Sheeran, 2002). This means that generally people form positive intentions to perform a given behaviour, but subsequently fail to act on them. This missing link between intention and behaviour has been labelled the *Intention-Behaviour gap* (Orbell & Sheeran, 1998). In an attempt to specify how intentions are translated into behaviour, Heckhausen and Gollwitzer (1997) developed a more comprehensive model of behavioural performance. This framework distinguishes between a motivational phase, which culminates in the intention to perform behaviour, and a subsequent volitional phase, which is characterized by the formation of plans, specifying *where* and *when* one will perform the intended behaviour. These plans, termed Implementation Intentions serve the purpose of translating intentions into action, and hence mediate the relationship between intentions and behavioural performance (Gollwitzer & Brandstatter, 1997). Based on this rationale, Implementation Intentions are more proximal to behaviour than Intentions. A host of experimental studies and meta-analytic reviews attest to the notion that forming Implementation Intentions increases the likelihood that a behavioural intention will be implemented (Gollwitzer & Brandstatter, 1997; Gollwitzer & Sheeran, 2006; Higgins & Conner, 2003; Jackson et al., 2005).

1.1 The current study

The aim of the current study was to examine the proportion of participants that attend further treatment following detoxification within the residential Salvation Army detoxification services. The study also aimed to examine the utility of using direct measures of the TPB, and Implementation Intentions, to predict participant's attendance at further treatment following detoxification. It was theorised that recently detoxified participants would benefit from specifying where and when they will enter further treatment and it was hypothesized that the components of the TPB (Attitudes, Subjective Norms, Perceived Behavioural Control and Intentions) would

significantly predict behaviour, with Implementation Intentions accounting for an additional amount of the variance.

2. Method

2.1 Participants

Participants were attending Australian Salvation Army detoxification services located in Sydney, New South Wales (10 beds) or Brisbane, Queensland (12 beds). During the study, 467 people accessed these detoxification services (Brisbane = 283; Sydney = 184) with 47% ($n = 220$) agreeing to participate in the study ($n = 139$, Brisbane; $n = 82$, Sydney). Previous research has indicated that approximately 54% of people attending The Salvation Army detoxification programs screen positive for co-occurring mental illnesses (Vella, Deane, & Kelly, In press). Clients who were deemed too unwell by detoxification staff (3%) or who were discharged before reaching medical stabilisation (6%) were not included in the study. No information was collected on clients who declined to participate in the study (36%). Table 1 provides demographic and background information for the participants.

Insert Table 1 about here

2.2 Measures

Background information. Participant demographics and medical history included: age, place of usual residence, historical psychiatric diagnoses, substance use in the 12 months prior to detoxification, primary substance of misuse, years of substance misuse, previous substance misuse treatments, and type of treatment(s) planned for the future (taken from clinical records).

The Theory of Planned Behaviour. The self-report TPB measure used was taken directly from Kelly et al. (2011). It consisted of 18-items divided into four subscales: Attitude (e.g. “For me to utilise further drug/alcohol services after detoxification is valuable/invaluable”), Subjective Norm (e.g. “Most of the people who are in important in my life would think I should attend further drug/alcohol services after detoxification”), Perceived Behavioural Control (e.g. “All things considered, if I wanted to I could easily utilise further drug/alcohol services after detoxification”),

and Intention (e.g. “I intend to use further drug/alcohol services after detoxification”). Cronbach’s alphas for all the subscales were satisfactory (see Table 2.). The internal consistency for the Subjective Norms subscale was found to be unacceptably low ($\alpha = .48$), by removal of an item addressing social pressure to utilise treatment services (Item 8) the internal consistency of this subscale was improved ($\alpha = .66$). For all subscales, the participants’ responses were summed and the average was taken as a measure for the corresponding construct (Kelly, et al., 2011).

Drug Taking Confidence Questionnaire (DTCQ; Sklar & Turner, 1999). This eight item self-report questionnaire measured self-efficacy to cope with high-risk situations for substance abuse (Sklar, 1997; Sklar & Turner, 1999). Self-efficacy has previously been identified as a predictor of relapse following treatment for substance abuse problems (see Forcehimes & Tonigan, 2008). The internal consistency for this scale was high ($\alpha = .90$).

Implementation Intentions. The measure of Implementation Intentions was based on previous research (Gollwitzer & Brandstatter, 1997; Rise, Thompson, & Verplanken, 2003) and used data from participants’ on-site medical record to complete two dimensions of intention: (1) When and (2) Where the participant will attend further treatment. If either the date or time had been recorded on the file for a future appointment, the participant was considered to have formed a commitment to when he or she would attend further treatment (When). If a service or organisation name was recorded in the file, the participant was considered to have formed a commitment to where he or she would attend further treatment (Where). If the participant had identified both components of the measure (i.e. When and Where), then he or she was considered to have formed an Implementation Intention (Gollwitzer & Brandstatter, 1997; Rise, et al., 2003). The Cronbach’s alpha for this measure was satisfactory ($\alpha = .68$).

Follow-up interviews with clients and staff at the referral agency. A five-minute telephone interview was completed with participants 2-weeks after they had left the detoxification facility. The name and type of post-detoxification treatment accessed was obtained, as were reasons for not entering and/or intending to access further post-detoxification treatments. A five-minute telephone

interview was also held with staff at the service the person was referred to, in order to determine whether the participant had followed through on their post-detoxification treatment plans. Based on both the response of the participant and the referral service, a dichotomised variable was calculated that identified if the participant had attended further treatment, including mutual support groups, following detoxification (“No further treatment” or “Yes, attended further treatment”). As the study was focused on participants who were progressing beyond acute management, accessing further detoxification programs was not considered further treatment and thus was not included in the analyses.

2.3 Procedures

Staff members were instructed to continue to use the organisations standard referral procedures. This typically involved a staff member from The Salvation Army working with the client to identify potential referral options. The client was then encouraged to telephone potential referral agencies or schedule attendance at mutual support groups in their local region.

To recruit participants to the study, staff approached clients once they were medically stabilised. On average this occurred on day 4 of their admission. Clients were provided with a Participant Information Sheet and a Participation Consent Form and invited to participate. Those consenting to participate were provided with the baseline survey. Information on continuity of care plans was included in a discharge survey that staff completed when the participant exited the detoxification unit. Two weeks after discharge, research assistants based at the University of Wollongong or University of Newcastle completed telephone interviews with the participant and referral agency. Participants who completed the follow-up interview were compensated with a \$20 gift certificate. The research protocols received ethical review and approval by the Newcastle University Human Research Ethics Committee and the University of Wollongong Human Ethics Committee.

3. Results

3.1 Treatment completion, referral for further treatment and Implementation Intentions

At baseline participants were asked to indicate which services they intended to access following completion of the detoxification program. One hundred and thirty one participants reported they would attend residential rehabilitation (59.5%), 118 reported mutual support groups (53.6%), 74 reported outpatient counselling (33.6%) and 19 participants reported ‘other’ services (8.6%). A file audit conducted by The Salvation Army staff following the participants’ discharge from the detoxification program indicated that a referral to further treatment was not made for 53 participants (24.1%). Where participants were referred to further treatment, the large majority were referred to residential rehabilitation or therapeutic community facilities (52.7%). The remaining participants were primarily referred to mutual support groups (13.6%), crisis accommodation (4.1%), a general practitioner (2.7%), or outpatient counselling (2.7%). File notes indicated that 71% of the participants made telephone or face-to-face contact with potential treatment services during their stay, with residential rehabilitation being the most commonly contacted service (57%). One hundred and seven participants (48.3%) had formed an implementation intention to attend further treatment. Of the 220 people who participated in the study, 182 were deemed by The Salvation Army staff to have completed detoxification (83%).

3.2 Predicting Intention to Enter Further Treatment

Table 2 presents the correlations between the predictor variables and Intention to enter further treatment. The TPB Intention subscale was negatively skewed. Transformations did not improve the distribution and the scale was dichotomized. All responses from 1 to 6 were labelled as “Low Intent” ($n = 82$), and all responses that were 7 were labelled as “High Intent” ($n = 138$). A hierarchical binary logistic regression was conducted to identify the predictors of Intention while controlling for baseline characteristics. Baseline characteristics of age, years of drug use and self-efficacy (DTCQ) were entered as the first block. This model R^2 explained 8% of the variance ($\chi^2(3) = 13.10, p = .004$). The model had a prediction accuracy rate of 60.5%. It predicted Low Intentions 20.5% of the time, and High Intentions 84.1% of the time. Attitude and Subjective Norms were entered in the second block. This model R^2 explained 25% of the variance ($\chi^2(5) = 42.42, p = .000$).

The model had a prediction accuracy rate of 72.4%. It predicted Low Intentions 42.3% of the time, and High Intentions 90.2% of the time. Perceived Behavioural Control was entered into the final block. This model R^2 explained 41% of the variance ($\chi^2(6) = 74.40, p = .000$). The model had a prediction accuracy rate of 76.2%. It predicted Low Intentions 59.0% of the time, and High Intentions 86.4% of the time (see Table 3).

Insert Tables 2 and 3 about here.

3.3 Attendance at Further Treatment

Follow-up data was collected for 177 participants (81%). One hundred and thirty (59%) participants were directly contacted during the follow-up period, while 140 (64%) of the referral services were directly contacted. Of the participants who could be directly contacted at follow-up, 80% ($n = 104$) reported attending further treatment in the two weeks after leaving detoxification. Follow-up data collected directly from the referred services ($n = 140$) indicated that 65.7% ($n = 92$) of participants attended further treatment after leaving detoxification. The high proportion of participants reporting further treatment reflects relatively high rates of those reporting attendance at mutual support groups only (which could not be verified).

3.5 Predicting Attendance at Further Treatment Services Following Detoxification

Participants were considered to have accessed further treatment if either the participant confirmed attendance or the referral service confirmed attendance ($n = 177$). A hierarchical binary logistic regression was used to determine the characteristics predictive of Attendance. Baseline characteristics of age, years of drug use and self-efficacy (DTCQ) were entered as the first block. This model R^2 explained 6% of the variance and was not statistically significant ($\chi^2(3) = 6.93, p = .074$). The model had a prediction accuracy rate of 74.4%. It predicted Attendance 99.2% of the time, and no attendance 2.3% of the time. The components of the TPB were entered into the second block. This model R^2 explained 15% of the variance ($\chi^2(7) = 17.44, p = .015$). It had a prediction accuracy rate of 76.8%, predicting Attendance 96.8% of the time, and no attendance 18.6% of the time. Implementation Intentions were entered in the final block. This model R^2 explained 21% of

the variance ($\chi^2(8) = 25.31, p = .001$). The full model had a prediction accuracy rate of 80.4%. It predicted Attendance 96.8% of the time, and no attendance 32.6% of the time.

3.6 Testing the Mediating Effect of Implementation Intentions

To test the hypothesis that forming Implementation Intentions mediates the relationship between Intention and treatment attendance, separate regression analyses were performed for each of the behavioural domains (Baron & Kenny, 1986); however, the conditions necessary to establish a mediation effect were not met. Intention significantly predicted Implementation Intentions ($\beta = .70, p = .014$) and Attendance ($\beta = .72, p = .038$), but the prediction of Attendance from Implementation Intentions only approached significance ($\beta = .69, p = .051$). The mediator model demonstrated in Figure 1 provides the standardized coefficients (β) for each path.

4. Discussion

Intention to enter further treatment following detoxification was predicted by Attitudes, Subjective Norms, and Perceived Behavioural Control, with the Perceived Behavioural Control component accounting for the largest amount of variance. Overall, 42% of the variance in Intention to enter post-detoxification treatment was accounted for by the direct measures of the TPB. The successful prediction of Intentions to enter further treatment is consistent with previous research (Kelly, et al., 2011) and is also inline with the broader research focused on the TPB (Armitage, 2001; Conner & Norman, 1996; Godin & Kok, 1996).

Attendance at further treatment was also successfully predicted, with predictors accounting for 21% of the variance in attendance. However, positive attitudes toward attending further treatment and having formed explicit plans to enter further treatment were the only significant predictors in the final model. The fact that neither Intentions nor Perceived Behavioural Control predicted the behaviour was inconsistent with previous theory (Ajzen, 1991; Ajzen & Madden, 1986). Firstly, the failure of Perceived Behavioural Control to significantly predict Attendance at further treatment suggests that although participants' perceived control over subsequent treatment utilization were generally high, their evaluations might have been unrealistically high (Ajzen,

1991). There is some evidence to suggest that an unrealistically high sense of control over making health behaviour changes is associated with a lower likelihood of actually making those changes (Fishbein, Hennessy, Yzer, & Douglas, 2003). Sutton (1998) proposed that this might be when Intention is distally measured with respect to the behaviour, as is the case for the present study (i.e. there was literally a “gap” between intention and behaviour). This interval leaves open the possibility that unforeseen events will occur, which in turn, may increase the likelihood that intention will change. Alternatively, it is also plausible that whilst completing the TPB questionnaire, many of the participants were not engaging in real decision-making; rather their expressed intentions were merely hypothetical or provisional. As Gollwitzer (1993) pointed out, intentions, which are poorly specified, are unlikely to result in behavioural performance. Generation of Implementation Intentions can provide a simple and effective solution to these problems.

As expected, the formation of Implementation Intentions accounted for additional variance in Attendance, over and above the direct measures of the TPB. Thus, it can be said that having formed specific plans that included the time and location for further treatment, successfully predicted Attendance after detoxification, despite Intention not being a salient predictor. The results of the mediational analysis indicated that Implementation Intentions did not account for the relationship between Intention and Attendance. It is noteworthy that the findings of the analysis approached statistical significance ($p = .051$). It is therefore not unreasonable to suggest that given a larger sample, a mediating effect could have been established.

There are several limitations to this study. Foremost was the substantial proportion of people who declined to participate limiting the findings to the characteristics of participants who agreed to participate. We were not able to obtain information on those who declined to participate. Additionally, although it was emphasised that the information provided by participants would not affect their experience at the detoxification unit, there was still the possibility of social-desirable responding. Likewise, staff members were aware of the aims and objectives of the study. It is possible that this influenced their referral practices during the study period (e.g. they might have

been more conscientious in their referral practices). In the future having dedicated onsite research assistants to recruit and collect data may increase participation rates and reduce the potential for socially desirable responses.

The pattern of results in the present study suggest that clinicians should actively assist and encourage clients to form specific plans regarding where and when they will attend treatment after they complete detoxification. Collaborative planning interventions may help clients foster a more accurate sense of control that, in turn, may help to overcome the volitional problems associated with subsequent treatment utilization. Similarly, strengths-based case management has shown potential in helping people with substance abuse problems to negotiate both individual and system barriers to treatment entry, as well as improving subsequent treatment engagement (Gardner et al., 2005; Rapp et al., 2006; Siegal, Rapp, Li, Saha, & Kirk, 1997). The results also suggest that clinicians should employ strategies that help promote positive client attitudes toward attending further treatment. Previous studies have shown that motivational interviewing can enhance readiness for change by helping clients to resolve ambivalence surrounding substance use and treatment seeking (Hettema, Steele, & Miller). Moreover, it has been reported that clients who received motivational interviewing participated more fully in subsequent treatment and showed significantly lower alcohol consumption at follow-up (Harris, McKella, Moos, Schaefer, & Cronkite, 2006). Finally, the present findings indicated that although many participants perceived high control over their capacity to utilize further treatment, this construct was a poor predictor of behaviour. According to Ajzen (1991) the Perceived Behavioural Control subscale may not be particularly realistic when a person has relatively little information about the behaviour or when requirements of the behaviour are not known to them. By implication, then, clients may benefit from having access to information about a range of different treatment options, as opposed to being routinely referred to residential rehabilitation facilities linked with the detoxification units. Similarly, other researchers have found it useful to provide participants with a paragraph explaining the benefits of planning to carry out the given behaviour (Gollwitzer & Brandstatter, 1997; Verplanken & Faes, 1999).

The results of the present study suggest that, in order to predict attendance at further treatment among people leaving detoxification, it is not sufficient to rely on motivational factors. The inclusion of Implementation Intentions provided a more complete understanding of the psychological processes by which motivation is translated into action. The critical point to be drawn from this investigation is that Intentions to attend further treatment may need to be supplemented by volitional processes to increase the likelihood of actual post-detoxification attendance. Since specific plans and positive attitudes appear to contribute significantly to the prediction of treatment attendance after detoxification, these factors have important implications for the development of strategies aimed at improving the transition from detoxification to subsequent treatment.

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Table 1

Baseline demographic information and substance use histories (N = 220)

Characteristics	<i>n</i>	%	<i>M</i>	<i>SD</i>
Gender				
Male	182	83%		
Female	38	17%		
Age (years)			36.99	10.64
Primary substance(s) of abuse				
Alcohol	149	67.7%		
Cannabis	32	14.5%		
Heroin	18	8.2%		
Amphetamines	16	7.3%		
Other	5	2.3%		
Usual place of residence				
Rented house or flat	101	45.9%		
Homeless/no usual residence	56	25.5%		
Privately owned house	42	19.1%		
Other or not known	21	9.5%		
Previously diagnosed mental disorder				
Yes	114	51.8%		
No	106	48.2%		
Previously Attended D&A treatment				
Yes	181	82.3%		
No	39	17.7%		

Table 2

Cronbach Alpha, means, standard deviations and correlations between the predictor variables

	α	Mean	SD	1	2	3	4	5	6	7	8
(1) Age	-	36.99	10.64	-							
(2) Years drug use	-	17.15	8.85	.61**	-						
(3) DTCQ	0.90	47.77	26.19	.05	-.15	-					
(4) Attitude	0.97	6.38	1.47	.23**	.21**	.02	-				
(5) Subjective norms	0.66	6.23	1.15	.12	.11	.07	.39**	-			
(6) PBC	0.68	5.94	1.02	.09	.00	.30**	.30**	.26**	-		
(7) Intention	0.90	6.38	1.81	.15*	.14*	.16*	.47**	.38**	.48**	-	
(8) Imp Intentions	0.78	0.49	0.50	-.06	-.02	.45	.02	.03	.15	.16*	-
(9) Attendance	-	-	-	.02	.16*	-.14	.25**	.19	.09	.17*	.17*

Note. α = Cronbach Alpha. SD = Standard Deviation. DTCQ = Drug Taking Confidence Questionnaire. PBC = Perceived behavioural control. * p <0.05 (two-tailed), ** p <0.01 (two-tailed).

Table 3

Hierarchical binary logistic regression analysis for predicting Intention to enter Further treatment (n = 210)

	β	Wald χ^2	<i>d.f.</i>	<i>p</i>	OR
Block 1					
Years of substance use	.05	7.22	1	.007**	1.05
Drug taking confidence questionnaire	.02	6.92	1	.009**	1.02
Block 2					
Years of substance use	.04	4.67	1	.031*	1.04
Drug taking confidence questionnaire	.01	4.40	1	.036*	1.02
Attitude	.36	7.28	1	.007**	1.43
Subjective Norms	.47	9.81	1	.002**	1.61
Block 3					
Years of substance use	.04	3.96	1	.047*	1.04
Drug taking confidence questionnaire	.01	.51	1	.477	1.01
Attitude	.30	5.19	1	.023*	1.35
Subjective Norms	.43	7.87	1	.005**	1.53
Perceived Behavioural Control	1.00	26.41	1	.000**	2.71

Note. * $p < 0.05$ (two-tailed), ** $p < 0.01$ (two-tailed).

Table 4

Hierarchical binary logistic regression analysis for predicting Attendance at further treatment ($n = 168$)

	β	Wald χ^2	<i>d.f.</i>	<i>p</i>	OR
Block 1					
Age	-.01	.31	1	.58	.99
Years of substance use	.04	.03	1	.12	1.04
Drug taking confidence questionnaire	-.01	2.33	1	0.13	.99
Service Type		4.71	4	.32	
No service	-20.30	.00	1	1.0	.00
Residential substance	-19.69	.00	1	1.0	.00
Mutual support groups	-20.67	.00	1	1.0	.00
Crisis accommodation	-20.66	.00	1	1.0	.00
Block 2					
Age	-.02	.91	1	.34	.98
Years of substance use	.04	2.02	1	1.56	1.04
Drug taking confidence questionnaire	-.02	3.98	1	.05	.98
Service Type		2.24	4	.69	
No service	-20.18	.00	1	1.0	.00
Residential substance	-19.69	.00	1	1.0	.00
Mutual support groups	-20.45	.00	1	1.0	.00
Crisis accommodation	-20.45	.00	1	1.0	.00
Attitudes	.24	3.01	1	.08	1.27
Social Norms	-.02	.01	1	.92	.98
Perceived Behavioural Control	.25	1.43	1	.23	1.28
Intentions	.09	.16	1	.69	1.10

Block 3

Age	-.02	.68	1	.41	.98
Years of substance use	.04	2.07	1	.15	1.04
Drug taking confidence questionnaire	-.02	4.09	1	.04	.98
Service Type		1.92	4	.75	
No service	-19.60	.00	1	1.0	.00
Residential substance	-19.89	.00	1	1.0	.00
Mutual support groups	-20.59	.00	1	1.0	.00
Crisis accommodation	-20.32	.00	1	1.0	.00
Attitudes	.30	4.34	1	.04*	1.35
Social Norms	-.02	.01	1	.91	.98
Perceived Behavioural Control	.29	1.85	1	.17	1.34
Intentions	.03	.01	1	.91	1.03
Implementation Intention	-1.28	7.33	1	.01*	.28

Note. * $p < 0.05$ (two-tailed).

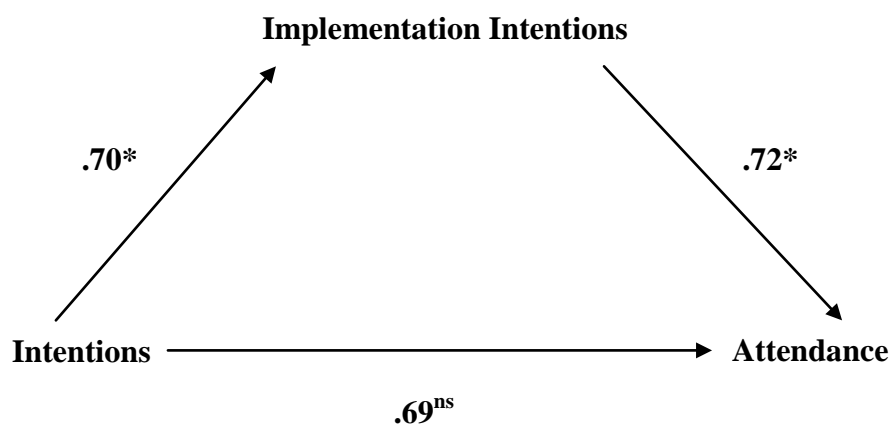


Figure 1. Mediation model for associations between Intentions and Attendance as mediated by Implementation Intentions.

Note. * = $p < 0.05$; ns = non-significant .