Development and Validation of an Instrument to Measure Perceived Coercion to Enter

Treatment for Substance Abuse

Stefanie Klag, Peter Creed and Frances O'Callaghan

Abstract

The present study involved three phases that led to the development and initial validation of the Perceived Coercion Questionnaire (PCQ), a scale to measures perceptions of coercion to enter drug and alcohol treatment. In Phase 1, focus groups were used to generate 48 pilot items. In Phase 2, the items were administered to a sample of 158 drug and alcohol users who were in residential treatment within a therapeutic community setting. Item and exploratory factor analysis reduced the number of items to 32, which represented six homogenous and internally reliable subscales. In Phase 3, the PCQ was administered to a second sample of 362 drug/alcohol users. Confirmatory factor analysis led to a final scale of 30 items across six subscales that demonstrated satisfactory consistency and validity. Implications for research and practice are highlighted.

Legal coercion to ensure that people with an addiction problem receive treatment is not a new phenomenon, but has been employed by the American legal system for over six decades (Brecht, Anglin, & Wang, 1993) and the Australian legal system for nearly 30 years (Carney, 1987). Coerced treatment has been one of the most fiercely debated issues in the addiction field (Wild, Newton-Taylor, & Alletto, 1998). Critics of legal coercion argue that forced treatment must not supplant basic civil rights (e.g., Bersoff, 1992), and that autonomy should be safeguarded as the perception of free will itself presents psychological benefits and therapeutic effects (Anderer, 1992; Wexler, 1993). Others argue against coerced treatment, maintaining that it can be effective only if the person is motivated and willing to change (Miller, 1989), and that substance users have to hit "rock-bottom" before they are able to acknowledge its benefits (Farabee, Prendergast, & Anglin, 1998). In contrast, some clinicians reason that few chronic substance users will enter and remain in treatment unless coerced and that professionals should have the authority to exercise discretionary power over citizens (Marlowe et al., 1996). Still others highlight the *parens patriae* (parental surrogate) duty of governments to intervene on behalf of impaired citizens, presuming that individuals once recovered, will be grateful for the intervention (Gardner & Lidz, 2001; Marlowe et al., 1996).

Is Coerced Treatment Effective?

The critical question underlying the debate is whether coerced treatment is effective. Numerous studies have concluded that legal pressure represents a strong and effective external motivator in terms of treatment entry, retention and outcomes (Berkowitz, Brindis, Clayson, & Peterson, 1996; Brecht et al., 1993; Collins & Allison, 1983; Peters, Hass, & Hunt, 2001; Pompi & Resnick, 1987; Watson, Brown, Tilleskjor, Jacobs, & Pucel, 1988). Increasingly, however, researchers have started to question the value of coercion after examining the research base. This reveals a mixed and inconclusive pattern of results and

draws attention to the fact that empirical evaluations of the nature and efficacy of legal coercion have been seriously impeded by a number of factors. One of the most serious concerns involves the assumption made by most researchers that coercion can be directly inferred from the referral source (i.e., a legal mandate from the criminal justice system) (Wild et al., 1998; Wild, 1999). In other words, coercion into substance abuse treatment is commonly equated with a legal mandate, viewing clients who are referred to treatment by the legal system as coerced and entering against their will, while the remaining individuals are seen as "voluntary" clients.

Distinguishing clients in such an oversimplistic manner ignores the complexity of the coercion construct (Young, 2002) and has significantly impeded the accurate measurement of the effects of coercion into treatment among substance users. In support of this argument, the majority of researchers until now have failed to consider that individuals with drug and alcohol problems are typically subjected to a broad array of pressures to enter treatment that are not necessarily of a legal nature, including pressure from family, friends, and/or employers (Wild, Roberts, & Cooper, 2002). Clients who appear to enter treatment voluntarily may in fact join treatment programs to escape external pressure from non-legal sources (Condelli, 1989). For example, evidence suggests that some substance users view their legal mandate as significantly less influential in their decision to quit their drug habit and to seek treatment compared to pressure from their social networks (Liepman, Nirenberg, & Begin, 1989; Platt, 1995) and factors including interpersonal/social conflicts or employment problems (Bardsley & Beckman, 1988; Weisner, 1993). Moreover, a recent study revealed that 37% of individuals who reported an ultimatum from the criminal justice system to enter treatment also reported an ultimatum from at least one other source, including family and friends (Polcin & Weisner, 1999). Similarly, 50% of inmates in a study of 1030 male offenders in Texas reported that they would be interested in participating in a substance

abuse treatment program. Of those, half expressed willingness to participate in an in-prison treatment program even if it meant extending their prison stay for an additional three months (Farabee, 1995), indicating that these offenders would be likely to enter treatment voluntarily.

By assuming that coercion and referral source (i.e., a legal mandate from the criminal justice system) are interchangeable concepts, researchers have ignored the influence of individuals' perceptions of pressure (Wild et al., 1998; Wild et al., 2002). In fact, research has revealed a considerable heterogeneity among legally mandated and so-called voluntary clients with respect to the extent to which individuals feel coerced into treatment (see Marlowe et al., 1996; Maxwell, 2000; Wild et al., 1998). For example, Wild and colleagues (1998) showed that both legally mandated and non-mandated clients reported that they felt coerced into treatment, with more than one third of individuals who claimed to be self-referred expressing that they felt pressured. Similarly, Maxwell (2000) found that legal status and self-reported legal pressure exerted independent effects on treatment retention. In addition, a study by Marlowe and colleagues (1996) revealed that one third of participants reported feeling coerced into entering treatment by multiple psychosocial spheres, including family, social, legal, medical, psychological, financial and religious domains. Interestingly, pressures were predominantly perceived as coming from all but the legal and religious domains, indicating that extra-legal and informal influences may exert substantially more influence on treatment entry compared to legal pressures.

These findings suggest that the vast majority of studies that group clients according to referral source (i.e., legally mandated versus non-mandated clients) are likely to have yielded questionable results, as there is no guarantee that court referred clients feel coerced into treatment, while those who are self-referred do not. These results underscore the need to examine different sources of pressure and their effect on substance users' perceptions of

coercion to enter treatment (Wild et al., 1998), leading to the next issue, which involves the lack of an appropriate instrument to measure such a construct.

Critique of Existing Coercion Scales

The limited research exploring individuals' perceptions of coercion to enter drug/alcohol treatment has been impeded by the lack of well-designed and comprehensive instruments to assess the construct. There are limited measures to assess coercion to enter treatment, particularly in relation to individuals seeking treatment for substance abuse. Measures employed so far include the five-item true/false subscale of the 15-item MacArthur Admission Experience Interview (Gardner et al., 1993), which was originally designed to assess psychiatric patients' global perceptions of their involuntary hospitalisation. The scale has been found to be a psychometrically sound measure of patients' perceptions of coercion in hospital admission (Hiday, Swartz, & Swanson, 1997; Nicholson, Ekenstam, & Norwood, 1996). However, being a global measure of coercion, the scale fails to distinguish among different sources of treatment entry pressures that clients typically experience. Moreover, being specifically designed for psychiatric patients within a hospital setting, the scale may not be suitable to assess perceptions of pressures to enter drug/alcohol treatment among substance users.

The Circumstances, Motivation, Readiness and Suitability Scale (De Leon, Melnick, Kressel, & Jainchill, 1994) measures conditions that influence individuals to enter substance abuse treatment, including legal, familial, and financial pressures. However, the scale fails to score the different sources of pressure separately, and presents a limited range of perceived treatment entry pressures to which substance users are typically subjected (Marlowe et al., 1996).

Young and Belenko (2002) developed the Perception of Legal Pressure Questionnaire, which assesses the extent to which drug court clients feel pressured to enter treatment. Although a comprehensive instrument, the questionnaire is specific to drug court clients and, with the exception of family members and friends, focuses on assessing various legal pressures that play a part in clients entering treatment. Moreover, the scale fails to score legal pressures separately from those coming from family and friends.

Anglin, Brecht, and Maddahian (1989) developed an index of legal coercion to test whether substance users who entered treatment because of legal coercion could be differentiated from those who entered for other reasons. The index was created from three variables on which clients indicate (a) their legal status at admission (i.e., whether the client is on probation or parole), (b) if criminal justice authorities are monitoring results from urine drug tests, and (c) if legal causes are a primary or secondary reason for entering treatment. This information is used to divide clients into high (yes on all three variables), moderate (yes on legal status and possibly either, but not both, urine testing or perceived coercion), and low legal coercion groups (no legal status or urine testing, but either yes or no on perceived coercion). Of particular concern is the "low legal coercion" category that combines individuals who have no legal involvement with those who have little legal involvement, thereby suggesting that they are the same. Moreover, the instrument cannot be used to explore extra-legal sources of pressure that may have contributed to substance users entering treatment.

Studies by Marlowe and colleagues (1996, 2001a, 2001b) represent the most comprehensive attempt thus far to assess substance users' perceptions of coercion into treatment. These authors used client interviews to create multidimensional profiles of participants' perceived treatment entry pressures that originated from psychological, financial, social, familial, medical, and legal domains. Within each of these domains,

treatment entry pressures are categorised in terms of (a) their positive and negative consequences and contingencies, and (b) whether or not another person or entity is seen as being in control of the consequences and contingencies. This approach to the study of coercion allows comparisons of clients based on multiple dimensions, thereby providing greater predictive utility relating to subsequent performance in substance abuse treatment. However, there is a concern about the reliance on interview data where substance users may have difficulty remembering, identifying or verbalising the factors that contributed to their treatment entry. Moreover, this approach is limited to assessing the prevalence of different coercive sources. Finally, the approach is time-consuming, cumbersome and expensive, requiring a number of researchers to conduct interviews and establish inter-rater reliability estimates.

The Present Study

The above review of existing coercion scales highlights the need for a comprehensive and easily administered measure of substance users' perceptions of coercion into drug/alcohol treatment. There are further reasons that warrant the development of such a scale. First, valid, reliable and easily administered measurement of the effects of coercion can assist practitioners and researchers (a) to more fully understand the role that coercion plays among substance users seeking treatment, (b) to clarify why many individuals prematurely terminate, in particular residential treatment programs, while others complete the entire therapeutic regime, and (c) to help explain and predict treatment outcomes among substance users more accurately. Second, no theoretical explanation has been provided thus far to account for the role and effects of coercion in a drug/alcohol treatment context. The development of a reliable instrument to measure the coercion construct will allow researchers to test theories that explore and explain the role and effects of coercion in drug and alcohol treatment.

Finally, a standardised and easily accessible measure employed by future research will allow reliable comparisons of results across studies.

Specifically, the present study involved the development and validation of a comprehensive, easily administered and reasonably short measure of substance users' perceptions of coercion to enter drug/alcohol treatment arising from a number of different sources. It was anticipated that the final instrument, named the Perceived Coercion Questionnaire, would consist of a manageable number of items for each content domain. For the purpose of this study, perceived coercion was defined as an individual's perception of being pressured to enter drug/alcohol treatment arising from sources that were external and internal to the person. We adopted the standard psychometric procedures for scale development recommended by Hinkin (1998).

Phases 1 and 2 of the Present Study

The project consisted of three distinct phases, with the first informing the second. In Phase 1, focus groups were conducted with the intention of identifying the dimensions of the coercion construct and to generate questionnaire items to represent these constructs. Fourteen substance users undergoing treatment within a residential therapeutic community setting in southeast Queensland (Australia) participated in focus group discussions. A content analysis of the focus group data revealed six distinct sources of pressures, including five distinct external sources of pressure deriving from (a) family members, (b) the legal system, (c) work, (d) the financial domain, and (e) the area of health, and (g) an internal source, that is, pressures originating from the individuals themselves. Next, questionnaire items were generated for each of the six domains, resulting in a 48-item instrument that employed a response format from 1 (*strongly disagree*) to 5 (*strongly agree*). The questionnaire was administered to 158 substance users from four therapeutic communities who volunteered to

take part in the study. The survey data were subjected to an item analysis with the aim of reducing the scale to five items per subscale. Three criteria were used to eliminate items: items were required to reveal acceptable inter-item correlations (from .25 but below a score of .80; Nunnally & Bernstein, 1994), and to have acceptable corrected item-total correlations (equal to or greater than .32; Hair, Anderson, Tatham, & Black, 1998). Finally, an item was deleted if the inclusion of that item resulted in a lowering of Cronbach's alpha (Walsh & Betz, 1985). The resulting 30-item scale was then subjected to a principle axis factor analysis, revealing a six-factor solution. All items loaded on their respective factors, although the Health scale revealed cross-loadings that were greater than .40. In an attempt to improve the internal consistency and factor structure of the Health scale, an additional two health-related items were created, resulting in a 32-item instrument (i.e., five items each for the Self, Family, Legal, Work, and Finance subscales and seven items for the Health scale). Evidence in support of the convergent validity of the scale was obtained by correlating the instrument with a theoretically similar construct, the MacArthur Perceived Coercion Scale (Gardner et al., 1993), which is a reliable and valid measure of perceptions of coercion into hospital admission among psychiatric patients. Results of the testing showed that the MacArthur Perceived Coercion Scale was significantly correlated with the Total PCQ ($r = .32$, $p < .01$) and correlated in the expected direction with all six subscales with correlations ranging between .11 and .49.

Phase 3: Confirmatory Factor Analysis

Phase 1 and Phase 2 resulted in the development of a 32-item instrument that consisted of six subscales. All subscales consisted of five items each, with two extra items created for the Health subscale from information gathered in the focus groups. The purpose of Phase 3 was threefold. The first goal was to refine the health dimension of the PCQ by identifying the

most suitable items to be retained for use in the final instrument. The second goal was to confirm the factor structure by conducting a confirmatory factor analysis using a second sample of participants. Third, the divergent validity and the test-retest reliability of the scale was to be investigated.

Method

Participants. A second sample of 363 drug and alcohol users from six TCs in Queensland (4), New South Wales (1), and Victoria (1) volunteered to take part in the study. After removal of one multivariate outlier, the final sample consisted of 362 individuals. Participants were between 18 and 65 years of age, with a mean age of 31.35 years ($SD = 8.87$). Two hundred and fifty-eight (71.3%) of the participants were male and 104 (28.7%) were female. Fifty-eight (16%) individuals were dependent on alcohol, 183 (50.6%) were dependent on illicit drugs, and 121 (33.4%) were dependent on both illicit drugs and alcohol. Eighty-eight (24.3%) of the 362 participants had never been in treatment for their substance abuse, while 172 had undertaken some form of treatment, with 102 of the participants reporting extensive treatment experience, including detoxification regimes, outclient treatment, residential programs, and pharmacological interventions. Sixty-six (18.2%) of the participants had entered treatment as a result of a court order. Finally, 114 (31.5%) of the participants reported a co-existing psychiatric condition, such as depression, schizophrenia, bi-polar disorder, and borderline personality disorder.

Materials. Participants were asked to complete the 32-item PCQ. To establish the divergent validity of the scale, participants were also asked to complete the 8-item Spiritual Transcendence Index (Seidlitz et al., 2002), which was considered to be unrelated to the coercion construct. This scale has demonstrated satisfactory psychometric properties across a number of samples and studies (Seidlitz et al., 2002).

Procedure. Procedures were identical for all six TCs. On a fortnightly basis, an announcement was made by a staff member of the TC for all new admissions, who were eighteen years of age and deemed psychological stable enough to complete the assessment pack, to gather in a designated room. The moderator, a doctoral student (in the case of the Victorian TC a staff member) introduced the study to the TC clients. Individuals who volunteered to participate in the research were asked to read and sign a consent form, while those who decided not to take part were asked to leave the room. The volunteers were handed a copy of the questionnaire and asked to answer all questions as honestly as possible without discussing their answers with other participants. As a sign of appreciation for their participation, clients received a small chocolate while completing the survey.

Results

The data met the assumptions of multivariate normality, linearity, or homoscedasticity. Calculation of Mahalanobis distance scores revealed one multivariate outlier. This was removed from the analysis, resulting in a sample size of 362 participants. A series of ANOVAs found no significant differences in coercion scores (i.e., scores of the subscales and Total scale) among participants from the six different TCs, allowing for the data to be analysed as a whole. For descriptive data see Table 1.

Table 1

Means and standard deviation scores of Phase 3 data for the Perceived Coercion
Questionnaire scores and the Spirituality Transcendence Index (N = 362).

Name of Variable	Mean	SD
Self subscale	21.68	2.98
Family subscale	18.04	5.60
Legal subscale	10.71	6.18
Finance subscale	14.28	5.54
Health subscale	17.78	4.46
Work subscale	12.37	5.50
Total PCQ	90.13	18.53
Spirituality Transcendence Index	27.45	8.99

Confirmatory Factor Analysis. A CFA was conducted to facilitate the identification of the five best items of the seven-item Health subscale and to provide further evidence for the six-factor model of the PCQ, using the AMOS statistical package.

To achieve these goals, a number of indices was used to assess the goodness of fit of the PCQ. First, fit was assessed using the chi-square statistic. This statistic is a function of the difference between the model examined and a saturated model (with a perfect fit) consisting of all possible sources of variance and covariance among the variables. However, since the chi-square statistic is sensitive to sample size (the larger the number of participants, the higher the chi-square value), the value is usually inflated (Jöreskog & Sorbom, 1989). Given this problematic aspect, an increasing number of researchers recommend that the chi-square statistic be used with caution (Medsker, Williams, & Holahan, 1994). Carmines and McIver (1981), for example, suggest that a chi-square two to three times larger than the degrees of

freedom is acceptable. Other goodness of fit indices reported are: (a) the Normal Fit Index (NFI, Bentler & Bonnett, 1980), (b) the Incremental Fit Index (IFI, Hair, Anderson, Tatham, & Black, 1998), (c) the Tucker-Lewis Index (TLI, Tucker & Lewis, 1973), (d) the Comparative Fit Index (CFI; Bentler, 1990), (e) the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990), and (f) the Probability of Close Fit Index (PCLOSE, Browne & Cudeck, 1993). Estimates for the NFI, IFI, TLI, and CFI range from 0 to 1, with values of .9 or above indicating acceptable values of fit (Byrne, 2001). The RMSEA index has a lower bound of 0 with values less than .08 indicating an acceptable error of approximation and values of less than .05 indicating a close fit of the model (Browne & Cudeck, 1993). Finally, the PCLOSE value indicates that the RMSEA is "good" in the population, with a probability of $p > .50$ suggesting a good fit of the model (Byrne, 2001).

The chi-square value of the initial measurement model did not reach statistical non-significance, $\chi^2(450) = 1049.05$, $p = .001$. However, with a ratio of chi-square to degrees of freedom of 2.33, the result was acceptable (Carmines & McIver, 1981). To identify the five best items of the seven-item health scale, the standardised regression weights for the subscale were explored. The two items with the lowest factor loadings were removed from the analysis, resulting in a significant improvement in model fit, $\chi^2(58) = 148.70$, $p = .001$. Factor loadings for the Self, Family, Legal, Finance, and Work dimensions were satisfactory, resulting in a 30-item instrument consisting of six subscales that were represented by five items per subscale.

Modification indices were examined for possible improvement to the fit of the hypothesised factor structure of the PCQ. As a result, correlations between five pairs of measured-variable residuals were added to the model. In line with Byrne (2001), modifications were made one at a time, evaluating the resultant fit and modification indices at each step. The chi-square difference test revealed that the improvement in fit was significant,

$\chi^2(5) = 191.32$, $p = .001$. The NFI, IFI, TLI, and CFI values for the final measurement model indicated a satisfactory fit for the six-factor structure of the PCQ, although statistical significance was reached, $\chi^2 (387) = 709.03$, $p = .001$. In addition, an RMSEA value of .05 within a narrow 90 percent confidence interval ranging from .042 to .054, and a probability value for the test of closeness of fit equal to .72, provided further evidence that the hypothesised six-factor model was a viable representation of the data. Subjective indices of fit are reported in Table 2. For a copy of the 30-item PCQ, refer to Table 3.

Dimensionality of the PCQ

    Correlational Analysis. With the exception of the Self subscale, correlational analysis of the 30-items of the scale yielded a pattern of significant relationships among the different subscales of the PCQ, which was consistent with that obtained in Phase 2. The Legal subscale correlated significantly with all subscales except the Health and Self subscale. For correlations among subscales and Cronbach alpha values for each of the subscales and the total PCQ score, refer to Table 4.

Table 2

Goodness of fit indices for model of the six-factor Perceived Coercion Questionnaire for Phase 3 data (n = 362).

df	X^2	X^2/df	NFI	IFI	TLI	CFI	RMSEA	Lower 90% Confidence Interval	Higher 90% Confidence Interval	PCLOSE
387	709.03***	1.83	.85	.93	.92	.93	.05	.042	.054	.716

*** significant at .000

Table 3
30-Item Perceived Coercion Questionnaire.

I felt pressured to enter this drug/alcohol treatment program because…

1. I know that I'm an addict/alcoholic and that I need rehab to get off drugs/alcohol
2. Entering this program is my last and only hope
3. I don't know where else to go and what else to do
4. I feel horrified and ashamed of the person I have turned into
5. My family kept telling me what a bad person I have turned into and how messed up I am
6. I'm sick and tired of losing everything (e.g., things, people etc.) to drugs/alcohol
7. My family was constantly on my back, telling me that I have a drug/alcohol problem
8. My family made me feel guilty by telling me how much I hurt them
9. I was told that I am destroying my family through my behaviour
10. Members of my family got upset all the time about my drug/alcohol use (crying, screaming etc.)
11. I was legally required
12. I had the choice between jail and rehab
13. People from the legal system (e.g., police) kept knocking on my door, threatening me with jail
14. People in the legal system forced me to do this
15. I didn't want to do time in jail
16. I'm up to my ears in financial problems and don't know what to do
17. I wanted to escape people/institutions that are after me for money
18. I have lost all financial support (e.g., from family, banks, government departments etc.)
19. I have no money to support myself
20. I'm sick and tired of being in debt
21. of my bad health
22. I have had enough of being sick all the time
23. I am scared of the negative consequences on my health if I don't stop using/drinking
24. Health care professionals (e.g., doctors, psychologists etc.) kept telling me that I need rehab
25. People kept telling me how sick I look
26. I lost my job due to my substance use
27. My employer threatened to sack me
28. My colleagues at work kept telling me that I need rehab
29. My work colleagues complained about me
30. I got into a lot of trouble at work because of my substance abuse

Table 4

Cronbach alphas, inter-factor correlations, and correlations among the subscales and the total Perceived Coercion Questionnaire with age and spirituality for Phase 3 data (N = 362).

	Factor	Alpha	1	2	3	4	5	6	7
1	Work subscale	.84	-	.27**	.27**	.33**	.43**	.15**	.70**
2	Legal subscale	.86		-	.23**	.08	.26**	-.05	.57**
3	Family subscale	.87			-	.28**	.26**	.25**	.64**
4	Health subscale	.74				-	.32**	.31**	.59**
5	Finance subscale	.82					-	.21**	.69**
6	Self subscale	.66						-	.36**
7	Total PCQ	.87							-
	Spirituality		-.05	-.06	.10	.09	-.03	.23**	.04
	Age		-.12*	-.26**	-.13*	-.01	-.16**	.07	-.20**

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

Divergent Validity

We expected to find a weak or negligible relationship between the PCQ and another, presumably unrelated measure (i.e., a measure of spirituality). A non-significant correlation between these measures was found ($r = .04$). Correlations between the subscales and the Spirituality Transcendence Index were also non-significant (r-values ranging between .03 and .10), with the exception of a weak but significant relationship between the Self subscale and the spirituality measure (.23), providing evidence for the divergent validity of the PCQ. Refer to Table 4 for correlations.

Test-Retest Reliability

In order to test the temporal stability of the PCQ, the scale was re-administered two months after the first assessment to 49 of the 362 substance users. Participants were between 21 and 54 years of age, with a mean age of 34.0 years ($SD = 8.16$). Thirty-one (63.3%) of the participants were male and 18 (36.7%) were female. Nine (18.4%) of the 49 participants were alcohol dependent, 28 (57.1%) were illicit drug users, and 12 (24.5%) abused both drugs and alcohol. As can be seen from Table 5, results provided evidence for the reliability of the PCQ scores across time, as indicated by satisfactory test-retest correlation coefficients.

Table 5

Test-retest correlation coefficients for PCQ subscales
and the total scale within a two-months interval (N = 49).

Variable Pairs	Correlations
Self (T1) & Self (T2)	.37**
Family (T1) & Family (T2)	.80**
Legal (T1) & Legal (T2)	.85**
Finance (T1) & Finance (T2)	.60**
Health (T1) & Health (T2)	.61**
Work (T1) & Work (T2)	.58**
Total Coercion (T1) & Total Coercion (T2)	.68**

Influence of Demographic Variables

Consistent with the results obtained in Phase 2, t-tests revealed that men experienced significantly more legal, $t(360) = 6.7$, $p < .001$, financial, $t(360) = 2.20$, $p = .028$, and work-related pressures, $t(360) = 2.02$, $p = .04$, compared to women. Correlational analysis showed age to have a low but significant and negative relationship with family, legal, financial, and work-related pressures, indicating that with increasing age, perceived pressures from these sources diminish. Finally, a series of ANOVAs was conducted to test differences in responses relating to clients' drug of choice, distinguishing between individuals who were alcohol dependent, illegal drug users and individuals who abused both illegal drugs and alcohol. Alcohol users reported significantly less legal pressure, compared to illicit drug users, $F(2,359) = 17.42$, $p < .001$, and those abusing both drugs and alcohol, $F(2,359) = 17.42$, $p = .002$. Overall, individuals who were alcohol dependent reported significantly lower levels of pressure compared to illicit drug users, $F(2,359) = 7.50$, $p < .001$, and individuals with both drug and alcohol problems, $F(2,359) = 7.50$, $p = .005$.

Discussion

Results of Phase 3 yielded a 30-item instrument, consisting of five items for each of the six subscales. With respect to the reliability and validity of the PCQ, results are encouraging for at least three reasons. First, internal consistency of all subscales and the total scale was satisfactory, ranging from .74 to .87, with the exception of the Self subscale, which yielded a slightly lower but acceptable Cronbach's alpha value of .66. Second, results from the CFA supported the six-factor structure of the scale, thereby confirming results of the preceding exploratory factor analysis. Finally, correlational analysis demonstrated that the components of the PCQ are related, indicating that each of the subscales represents an aspect of the construct the PCQ is designed to assess. The Legal subscale failed to significantly correlate with the Health and Self subscales, suggesting that the Legal dimension may measure a somewhat more independent aspect of the coercion construct.

General Discussion

This study addressed a void in the literature by developing a comprehensive multi-dimensional scale that measured substance users' perceptions of coercion to enter treatment resulting from a number of different internal and external sources. Scale development followed the procedure outlined by Hinkins (1998): item generation, scale development, and scale evaluation. Phase 1 involved item generation and development. Phase 2 involved initial item reduction through item analysis and exploratory factor analysis, and tested the convergent validity of the PCQ. Finally, Phase 3 employed a separate sample of new admissions to a number of TCs in an attempt to further refine the PCQ and to provide evidence for the factor structure and validity of the scale. Results of the three phases revealed a final scale that consisted of six subscales and 30 items. Support for the reliability of the scale was provided. The measure was also found to satisfy convergent and discriminant

validity requirements in that the PCQ correlated significantly with the MacArthur Perceived Coercion Scale and was not correlated with a measure of spirituality, the divergent measure.

The findings from this study demonstrated that drug and alcohol users experienced an array of different pressures, supporting the usefulness of the PCQ for differentiating between pressures that are internal and external in nature. The development of the PCQ has implications for both theory and practice. The favourable psychometric properties of the PCQ, as well as the flexibility allowed through its multidimensional structure, make the instrument useful for systematic and theory-driven research in drug and alcohol treatment settings. For example, the PCQ will be helpful in assessing the extent to which individuals feel coerced into drug and alcohol treatment, and the effects of these pressures individually, and in combination, on factors such as client characteristics (e.g., motivation), treatment process (e.g., treatment engagement and retention) and treatment outcome variables (e.g., drug use). An additional advantage of the PCQ is that it can be modified to suit a range of treatment modalities. Recent studies indicate that substance users' perceptions of coercion may influence their motivation for treatment, which in turn has been found to influence clients' perseverance with treatment and treatment outcomes. Thus, the PCQ is anticipated to provide insight into the relationship between coercion, client- and treatment-related variables.

Besides the realm of research, understanding the coercive forces that contribute to clients entering treatment offers valuable insight for improving treatment and individuals' overall rehabilitation process. The information obtained has potential value for addressing multiple purposes to the treatment provider, the legal system, and policy makers alike. For therapists, for example, the importance lies in treatment planning and the monitoring of clients' progress. Clients who feel highly pressured by external sources to be in treatment could receive interventions that alleviate such pressures, thereby possibly increasing intrinsic motivation and willingness to engage in treatment. It is therefore anticipated that the PCQ

will be a useful instrument for treatment providers to implement as part of their regular assessment.

Understanding the influence that legal as well as extra-legal sources of coercion has on clients' recovery could also be useful in guiding the actions of people in the legal system (e.g., judges) when exerting such pressures. Moreover, knowledge of the effects of perceived coercion is likely to prove useful for policy makers in the development of effective and appropriate social policies concerning drug and alcohol treatment.   Although the results of this study indicate that the PCQ is a reliable and valid measure of substance users' perceptions of coercion to enter treatment, the findings should be viewed as preliminary in nature due to a number of limitations of the present study. Future research should focus on refining the self-dimension of the PCQ, as indicated by the lower reliability of the Self subscale when compared to the other five subscales. Given the complexity and multitude of pressures that substance users experience, it is reasonable to assume that further sub-categorisation of the Self subscale might result in a more reliable and valid measure of the internal pressures that contribute to drug and alcohol users seeking treatment. Results also revealed that the legal dimension was not significantly related to either the health nor the self dimensions, suggesting that legal coercion may represent a more independent aspect of the coercion construct. More research is needed to provide evidence for this notion. A strong point of the study was that it employed a large sample and that it used data from six TCs for the evaluation of the PCQ, thereby enhancing the generalisability of the findings and the applicability of the instrument to therapeutic communities in general. However, further research needs to be carried out that demonstrates the generalisability of the PCQ across different treatment settings, including outpatient and methadone clients. Besides, the generalisability and applicability of the PCQ to other countries and cultural settings remains to be investigated. The predictive validity of the PCQ also remains unknown. Future research

needs to determine to what extent substance users' perceptions of coercion impact on factors such as treatment motivation, retention, post-treatment abstinence and relapse, and other treatment outcomes (e.g., wellbeing, employment, recidivism).

In summary, the present research has provided a potentially useful instrument for testing substance users' perceptions of coercion to enter treatment that originate from internal and external sources. The PCQ is anticipated to be useful for research and treatment purposes by providing valuable insight into the effects of perceived coercion on the rehabilitation process of substance users.

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