Factors of Empowerment for Women in Recovery from Substance Use

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Abstract

Empowerment is an interdisciplinary construct heavily grounded in the theories of community psychology. Although empowerment has a strong theoretical foundation, few context-specific quantitative measures have been designed to evaluate empowerment for specific populations. The present study explored the factor structure of a modified empowerment scale with a cross-sectional sample of 296 women in recovery from substance use who lived in recovery homes located throughout the United States. Results from an exploratory factor analysis identified three factors of psychological empowerment which were closely related to previous conceptualizations of psychological empowerment: self perception, resource knowledge and participation. Further analyses demonstrated a hierarchical relationship among the three factors, with resource knowledge predicting participation when controlling for self-perception. Finally, a correlational analysis demonstrated the initial construct validity of each factor, as each factor of empowerment was significantly and positively related to self-esteem. Implications for the application of psychological empowerment theory and research are discussed.

Keywords

Empowerment; Women; Substance Abuse; Recovery; Measurement; Oxford House; Factor Analysis

Research in community psychology demonstrated the importance of the construct of empowerment for understanding the development of individuals, communities, and organizations (Perkins & Zimmerman, 1995; Rappaport, 1984; Zimmerman, 1990). Many definitions of empowerment currently exist (cf., Keiffer, 1984; Rappaport, 1984; Zimmerman, 1995). Zimmerman (1995) defined individual or psychological empowerment through a nomological framework comprised of three factors: intrapersonal, interactional, and behavioral. The intrapersonal factor represented indicators of self-perception and included perceived control, self-efficacy, personal control, and competence. The interactional factor referred to people's self-awareness and relations with communities and consisted of understanding causal factors, skill development, and resource awareness. The behavioral factor represented taking action which was often demonstrated through participation in community and organizational activities.

Psychological empowerment theory suggested empowerment is related to but more encompassing than constructs such as self-esteem and competence (Zimmerman, 1995; 2000). Moreover, empowerment theorists highlighted the importance of attending to contextual factors that may impact empowerment with the understanding that empowerment

is a fluid and dynamic construct (Foster-Fishman, Salem, Chibnall, Legler & Yapchai, 1998; Perkins & Zimmerman, 1995; Riger, 1993; Zimmerman, 1995; Zimmerman, 2000). Given this dynamic nature, the relationships among the three components of psychological empowerment are not explicit. Several studies have found that participation in behavioral activities is related to intrapersonal empowerment (Speer, 2000; Zimmerman, 2000; Zimmerman & Rappaport, 1988; Zimmerman & Zahnizer, 1991). However, intrapersonal empowerment is not a prerequisite for behavioral empowerment (Zimmerman, 2000) or interactional empowerment and vice versa (Speer, 2000). Given the small amount of empirical evidence for the relationships among the intrapersonal, interactional, and behavioral components of empowerment, Zimmerman, Israel, Schulz and Checkoway's(1992) early call for additional research to explore the relationship among these components continues to resonate. An examination of the relations among the components of psychological empowerment is important to advance empowerment theory.

Although there has been some debate as to the value of measuring empowerment quantitatively rather than qualitatively (Crouch, Keys & Harper, 2009; Foster-Fishman, et al., 1998; Zimmerman, 1995), several psychometrically-sound, context-specific quantitative measures of empowerment have been developed. For example, empowerment measures have been created for mental health consumers (Empowerment Scale; Rogers, Chamberlain, Ellison & Crean, 1997), and women participating in feminist therapy (Personal Progress Scale-Revised; Johnson, Worrell & Chandler, 2005), among others. Specific instruments and methods have also been created to measure psychological empowerment according to Zimmerman's (1995) nomological framework. Intrapersonal empowerment has frequently been assessed by using multiple measures of perceived control (Zimmerman, Israel, Schulz & Checkoway, 1992; Zimmerman & Rappaport, 1988) or by administering the Socio-Political Control Scale (SPCS; Zimmerman & Zahniser, 1991). The SPCS consisted of two factors; leadership competence and policy control, and evaluated an individual's perceived ability to maneuver through social and political systems (Zimmerman & Zahniser, 1991). The SPCS was recently revised (SPCS-R) to re-word negatively stemmed items that had adversely affected scale psychometrics due to a methods effect. This change increased the validity of the scale (Peterson, Lowe, Highey, Reid, Zimmerman & Speer, 2006). Speer and Peterson (2000) developed a measure to assess interactional empowerment, and found a relationship between knowledge of how to exert power to create change (interactional) and intrapersonal empowerment. Behavioral empowerment has frequently been measured by participation in organizational and community activities, with specific attention to the frequency and duration of participation (Zimmerman, 2000). A few studies have also demonstrated the ability to measure components of psychological empowerment in a single scale, specifically for parents of children with disabilities (Akey, Marquis & Ross, 2000) and for community organizers (Speer & Peterson, 2000).

Given the interdisciplinary nature of empowerment, feminist theorists proposed models of empowerment in order to account for women's history of oppression in society and to document women's movement toward empowerment (Kabeer, 1999; Worrell & Remer, 2003). For example, Worrell and Remer (2003) articulated an empowerment model for women based on four principles: knowledge of personal and social identities, aware of gender-role stereotypes and oppression, comfortable expressing traditional feminine characteristics, and aware of the unequal power status between women and men (Johnson, et al., 2005; Worrell & Remer, 2003). Although empirical research with women is often empowerment-focused, only one measure of empowerment, the Personal Progress Scale-Revised (PPS-R; Johnson, et al., 2005) was constructed based on this framework of four principles (See Johnson, et al., 2005 for a detailed theoretical description of the measure development). The results yielded a one-factor measure of empowerment and the scale was

subsequently used as such. Given the one-factor structure, it is important to identify additional factors of empowerment for women.

Women and Substance Use

The broad nature and value of empowerment lends itself to the assumption that many underserved populations can benefit from empowerment-based interventions. One such population is women in recovery from substance use. It is well documented that many women need substance abuse treatment, but few ever receive it(Substance Abuse and Mental Health Services Administration [SAMHSA], 2007). Although women's prevalence rates of drug and alcohol use are less than those of men (SAMHSA, 2004), women tend to report more problems with and experience more health-related consequences of substance use than men (Green, 2006).

Women have historically been overlooked in the substance abuse treatment literature; however, women have unique needs that influence their pathways to and treatment for substance use (Ashley, Marsden & Brady, 2003; Greenfield, Brooks, Gordon, Green, Kropp, McHugh, et al., 2007). Women are at a greater risk for developing dependency on substances if they have a history of trauma/victimization, a partner or family member who abuses/d substances, and/or an affective, emotional, or other psychiatric disorder (Ashley, et al., 2003). Women's barriers to treatment entry include a lack of services and resources to address pregnancy and/or childcare, economic barriers, co-morbid psychological disorders, trauma histories, and a lack of social support from partner and/or family (Greenfield, et al., 2007). In addition, women frequently experience social stigma related to their substance use and difficulty maintaining sobriety upon completion of treatment (Greenfield, et al., 2007). Women who *do* enter treatment programs have needs related to these issues that are not often addressed during treatment. These may include needs for parenting skills/childcare, housing, assistance dealing with prior trauma/victimization, and other social services (Ashley, et al., 2003; Greenfield & Pirard, 2009).

Women's unique presentation of substance use led to treatment programs designed specifically for women, and most findings have supported their utility (Grella, Polinsky, Hser & Perry, 1999; Niv& Hser, 2007). For example, research has suggested that women-only treatment may be empowering for women, as research demonstrated that it allowed women to become more autonomous, increase their self-efficacy and make positive choices (LaFave, Desportes & McBride, 2009). Substance abuse aftercare following treatment completion has also been identified as important to recovery outcomes (Jason, Davis & Ferrari, 2007; Brown, Seraganian, Tremblay & Annis, 2002). Furthermore, social support has been shown to have a profound influence on successful recovery outcomes for women following substance abuse treatment (Ellis, Bernicon, Yu, Roberts & Herrell, 2004; Groh, Jason, Davis, Olson & Ferrari, 2007). Thus, participation in aftercare following substance abuse treatment may lead to positive recovery outcomes for women.

It is clear women face many challenges to recovery from substance use. Given women's unique barriers and pathways to substance use, it is important to identify specific factors of empowerment among women in recovery that promote their recovery process. As no measures of empowerment have been developed for this unique population, the research foci of the present study were to: 1) explore factors of empowerment for women in recovery from substance use by using a modified version of a scale developed for women in feminist therapy (PPS-R; Johnson, et al., 2005), 2) examine the relations among the identified factors of empowerment, and 3) test the relations among self esteem and the identified factors of empowerment.

METHOD

Participants

Participants were 296 women Oxford House members located throughout the United States. Oxford House is a non-profit, independently-run, democratic, single sex, sober living environment that encourages residents to become responsible members of their communities through communal living, abstinence from substance use, and desistance from crime (Jason, et al., 2007). Previous research suggested this model promotes recovery (Jason, et al., 2007) and self-efficacy (Majer, Jason, Ferrari, Venable & Olson, 2002), encourages social support (Davis & Jason, 2005; Groh, et al., 2007), and creates an empowering setting (Maton, 2008).

Participants represented 21 states, with most women residing in Washington (19.3%; 57), Oregon (16.6%; 49), Illinois (13.5%; 40), and North Carolina (13.2%; 39). Respondents completed the survey by mail (N = 173), through a local Oxford House recruiter (N = 36) and online (N = 54). Also, 33 women completed the survey at the Oxford House World Convention in September 2009. We mailed 1086 surveys to 158 Oxford Houses, and 173 surveys were returned for a 15.93% individual response rate, from 29.11% (N = 46) of the Oxford Houses.

Participants' average age was 39.31 years (*SD* = 10.28) and most were Caucasian (67.9%; N = 195) or African American (24.4%; N = 70). Other represented ethnic backgrounds included American Indian/Alaskan Native (6.3%; N = 18), Asian/Pacific Islander (0.7%; N = 2), and Latina (0.7%; N = 2). More than half of the women surveyed attended some college or had a college degree (58.5%; N = 172). Of the 296 participants, many had never been married (44.7%; N = 132) or were divorced (35.3%; N = 104); most had at least one child (74.2%; N = 219). When surveyed, most respondents were working (60.1%; N = 176). Participants reported a median time in recovery from substance use of 12 months (Mean = 23.69, *SD* = 31.94) and a median time residing in Oxford House of 6 months (Mean = 10.57, *SD* = 12.29).

Procedure

To recruit women from throughout the United States, all women's Oxford Houses in the United States listed in the Oxford House directory (*N* = 312) were contacted by phone to introduce the study and ask if house members were: 1) interested in participating and 2) preferred an online or paper-based survey. Residents were offered the opportunity to take part in a raffle for a $25 VISA gift card as an incentive to participate. The survey was easily accessed online through SurveyMonkey (www.surveymonkey.com, 2009), a secure web-based data collection tool. Subsequently, each house/individual respondent who indicated they had internet access in their house, wanted to participate in the online survey and provided an email address (individual or house) was emailed a link to the SurveyMonkey website for the study (*N* = 87).

Members of Oxford Houses who were not interested in completing the survey online were asked if they would be interested in completing the survey by mail. Each interested house was mailed a packet with copies of the instructions, the surveys and pre-paid postage return envelopes for the current number of women residents. Follow-up phone calls four to six weeks after survey distribution reminded house members to complete and mail back the surveys. In addition, women Oxford House members who attended the Oxford House World Convention in Washington DC in September 2009 were asked to participate in this study. Participants at the convention were given a candy bar for their participation in DePaul University research, and were not entered into the raffle. All participants were provided with

an IRB-approved information sheet to explain their rights as a research participant prior to survey completion.

Materials

The *Personal Progress Scale-Revised* (PPS-R) is a 28-item, 7-point Likert scale that yields an overall empowerment score while incorporating gendered and cultural empowerment throughout the measure (Johnson, et al., 2005). Questions were developed to specifically target these two themes in items such as "I am aware of my own strength as a woman" and "I understand how my cultural heritage has shaped who I am today." The original factor analysis of the scale resulted in one overarching factor of empowerment, and demonstrated adequate internal reliability (α=.88), as well as convergent and discriminant validity (Johnson, et al., 2005). To enhance the scale's relevance for women in recovery, 20 questions were added to the PPS-R. Five questions were added to measure knowledge of resources in the community (e.g., "I am aware of places in the community that will help me find jobs"), ten questions were added to measure participation in community activities and helping behavior (e.g., "I participate in activities to help other people like me improve the quality of their lives"), and five questions were added to assess leadership behaviors (e.g., "I act as a good role model") based on leadership characteristics identified among women in recovery (Davis, Dziekan, Horin, Jason, Ferrari & Olson, 2006). All answers were recorded on a seven-point Likert scale ranging from "Almost never" to "Almost always," with a high score suggesting high empowerment; 14 of the original 28 items and 3 of the 20 added items were reversed coded. See Table 1 for item means and standard deviations of the PPS-R including the 20 added questions.

The *Rosenberg Self-Esteem Scale* (RSE), a 10-item, four-point Likert scale (Strongly Agree to Strongly Disagree), measures a one's global feeling of self-worth (Rosenberg, 1989). Scores range from 10 to 40, with a high score indicating high self-esteem. Research with various populations (Sinclair, Blais, Gansler, Sandberg, Bistis & LoCicero, 2010) has found internal consistencies ranging from 0.77–0.88, test-retest reliabilities for one and two week intervals, and convergent and discriminant validity (Blascovich & Tomaka, 1991). In the present study, participants average self-esteem scores were high, (M = 30.63; SD = 5.88) and the RSE demonstrated excellent reliability, α = 0.89.

RESULTS

Data Reduction Strategy

Prior to conducting the exploratory factor analysis (EFA), the data were examined to identify items related to one another. First, the correlation matrix for the 48-item scale was examined to eliminate items that did not correlate at the 0.30–0.80 level with at least three additional items (Pett, Lackey & Sullivan, 2003). Subsequently, eight items (6, 8, 26, 27, 41, 42, 43, and 48) were removed from future analyses. One more item (47) was removed because it did not correlate with at least three additional items following the elimination of the eight items.

An important consideration for EFA is sample size. Although there is some disagreement on the sample size needed to conduct EFA, researchers have often recommended between five and ten participants per item (cf. Fabrigar, Wegener, MacCullum & Strahan, 1999). After removing the 9 items with low correlations, there were 39 items in the scale, for an average of 6.21 participants per item. Cases with missing data were excluded using the list wise deletion procedure which was chosen to reduce potential biases by estimating missing data (Croy & Novins, 2005). Because missing cases were deleted listwise, participants with one item missing from the total scale were dropped from each analysis. As a result, when each

item was removed from the analysis, the sample size subsequently increased to reflect the larger number of participants who answered the smaller number of items in that analysis.

Factor Analysis—An initial Principal Axis Factoring with Oblique (Direct Oblimin) rotation was performed with three factors specified on the data from 242 participants. Direct Oblimin rotation was chosen in order to allow the factors to correlate (Fabrigar, et al., 1999; Pett, et al., 2003). This initial analysis revealed all but one (item 40) of the negatively stemmed items loaded on one factor. Research has identified the possibility of method effects when responses to negatively worded questions which had been developed to evaluate different concepts load on the same factor(Schriesheim & Eisenbach, 1995). Furthermore, research has suggested that negatively stemmed items in self-report surveys can lead to measurement error (Schriesheim & Eisenbach, 1995), thus, a decision was made to remove all remaining negatively stemmed items ($N = 13$; Items 3, 9, 10, 11, 14, 15, 16, 18, 20, 21, 23, 24, and 40) from further analyses.

After removal of the negatively stemmed items, the scree plot indicated a three or four factor solution and three and four factor models were tested. The results from the scree plot, theoretical considerations, and low initial communalities of items on the fourth factor in the four factor model were considered. We also recognized the suggested criteria for retaining the number of factors based on the amount of variance explained by each factor (greater than 5%; Pett, et al., 2003). Based on these considerations, we determined the three factor model best fit the data.

Multiple EFA iterations with three factors specified were performed in order to determine the most parsimonious factor structure. Three items (1, 2, 22) with low initial communalities (< 0.30) were removed sequentially from analyses, due to the possibility that those items were not related to the other variables (Fabrigar, et al., 1999; MacCullum, Widaman, Preacher & Hong, 2001). In addition, one item (29) was removed from the analysis based on the lack of theoretical support for its factor loading (Smith & McCarthy, 1995) and two items (34, 35) were removed because they did not load at the 0.40 level for factor loadings (Pett, et al., 2003).

Principal Axis Factoring with Oblique (Direct Oblimin) rotation was performed with the remaining 20 items on data from 266 participants. Demographics for the 266 participant were examined, and did not differ from the full sample. In the final analysis, the data were factorable (Determinant = 0.0001; KMO = 0.87; Bartlett's Test of Sphericity x^2 (190) = 2301.57, $p < .0001$). Each individual Measure of Sampling Adequacy was> 0.70 and all of the initial communalities were > 0.30 (MacCullum, et al., 2001; Pett, et al., 2003). Factor 1 consisted of 12 items that measured participants' self-perceptions of empowerment, and was named the Self-Perception subscale. Factor 2 was comprised of 4 items that evaluated participation in community/organizational activities (Items 36, 37, 38, and 39) and was named the Participation subscale, and Factor 3 consisted of 4 items that assessed knowledge of community resources and was named the Resource Knowledge subscale. The three-factor structure explained a total of 46.91% of the variance, with Self-Perception accounting for 28.73% (Eigenvalue = 5.75), Participation accounting for 11.21% (Eigenvalue = 2.24), and Resource Knowledge accounting for 6.97% (Eigenvalue = 1.39) of the variance. Factor correlations indicated that Self-Perception was positively correlated with Participation ($r = 0.16$) and Resource Knowledge ($r = 0.46$). Participation and Resource Knowledge were also positively correlated ($r = 0.21$). The pattern matrix for the final EFA is presented in Table 2, with factor loadings below 0.10 suppressed. All three factors demonstrated excellent reliability, Self-Perception: α = 0.86; Participation: α = 0.86; and Resource Knowledge: α = 0.86.

Additional Analyses—Factor scores were created using the coarse method, which consists of creating a sum or an average of each factor and using the sum or average as the factor score (Grice, 2001). Thus, the means of the items comprising the Self-Perception (M = 5.53, SD = 0.90), Resource Knowledge (M = 5.32, SD = 1.61), and Participation (M = 3.37, SD = 1.76) were computed. A Pearson correlation analysis was performed in order to examine the relationships among the three factors of empowerment. The results suggested a moderate to strong relationship between Self-Perception and Resource Knowledge, $r(264)$ = 0.47, $p < 0.01$, a modest relationship between Self-Perception and Participation, $r(264)$ = 0.19, $p < 0.01$, and a modest relationship between Resource Knowledge and Participation, $r(264)$ = 0.24, $p < 0.01$.

Given the pattern of correlations among the three factors of empowerment and the continued call for research to investigate the relationships among the components of empowerment (Zimmerman, et al., 1992), we conducted an exploratory regression analysis to further examine this relationship. A hierarchical linear regression model was created to test if Resource Knowledge would predict Participation while controlling for Self-Perception. Self-Perception was entered into Step 1 of the model (See Table 3), and was a significant predictor of Participation, R^2 = 0.03, $F(1, 264)$ = 9.37, $p < 0.01$, such that a one standard deviation increase in Self-Perception scores (β = 0.185, $t(264)$ = 3.06, p <0.01, CI = 0.13–0.60) predicted a 0.19 standard deviation increase in Participation scores. Resource Knowledge scores (β = 0.193, $t(263)$ = 2.86, p <0.01, CI = 0.07–0.36) were entered in Step 2 of the model, R^2 = 0.06, $F(2, 263)$ = 8.89, $p < 0.01$, and significantly and positively predicted a 0.10 standard deviation increase in Participation scores while controlling for Self-Perception scores (β = 0.10, $t(263)$ = 1.40, p =0.16, CI = –0.08–0.45).

In order to investigate convergent validity, we examined the relationships among each factor of empowerment and self esteem scores as measured by the Rosenberg Self-Esteem Scale (Rosenberg, 1989). Each individual factor of empowerment positively correlated with self-esteem scores, with a strong relationship between Self-Esteem and Self-Perception ($r(264)$= 0.63, $p < 0.01$) a moderate relationship between Self-Esteem and Resource Knowledge ($r(264)$= 0.44, $p < 0.01$) and a weak, but significant, relationship between Self-Esteem and Participation ($r(264)$= 0.13, $p < 0.05$).

DISCUSSION

The present study explored the factor structure of items to develop a measure of empowerment for women in recovery, which resulted in the Women in Recovery Empowerment Scale (WIRES). The analyses yielded three factors consisting of 20 items that loaded onto a Self-Perception subscale (12 questions), a Resource Knowledge subscale (4 questions), and a Participation subscale (4 questions). The resulting model was parsimonious, as items loadings were high for each factor and each factor demonstrated sufficient reliability(Pett, et al., 2003). Zimmerman's framework (1995, 2000) for psychological empowerment proposed three components of empowerment: intrapersonal, interactional, and behavioral. The findings of the present study closely align with this psychological empowerment framework, as a three-factor structure was identified. The Self-Perception subscale may be related to previous conceptualizations of intrapersonal empowerment which consists of perceptions of self, including perceived control, efficacy, and competence. The questions that loaded on the Self-Perception subscale from the original PPS-R (Johnson, et al., 2005) evaluated perceptions of power and competence, autonomy, and self nurturance/resource access, interpersonal assertiveness, awareness of cultural discrimination and personal strength/social activism. Items developed to measure participation in leadership activities, such as acting as a good role model for other women, actively listening to other women to support them, and resolving conflicts without losing

control were grounded in previous research on leadership qualities with women in recovery from substance use (Davis, et al., 2006). Therefore, these qualities and characteristics may be important for women's recovery from substance use.

Empowerment theory suggested resource access is a major component of interactional empowerment because knowledge of and access to resources in the environment may exemplify an individual's critical understanding of his/her environment (Zimmerman, 2000). Research has frequently cited a lack of resource knowledge/access and availability as barriers for women in recovery (Greenfield, et al., 2007). Thus, as demonstrated by the items on the Resource Knowledge subscale, this information appears to be an integral component of empowerment for women in recovery from substance use. Although it is evident that knowledge of available community resources is important for women in recovery from substance use, there are additional components, such as skill building, and an understanding of causal agents that may also be important, and representative of interactional empowerment (Zimmerman, 1995). Prior research indicated that women who use substances often struggle in their relationships with others (Ashley, et al., 2003) and that social support is critical to their recovery process (Davis& Jason, 2005; Ellis, et al., 2004; Groh, et al., 2007). Thus, future research may usefully identify how social support and sense of community contribute to empowerment for this population. Further research is needed to assess these components to develop a more theoretically cohesive depiction of interactional empowerment for women in recovery from substance use.

The Participation subscale included items designed to measure participation in community/ organizational activities. This subscale also evaluated participation in helping behavior, such as volunteering with and participating in community organizations and neighborhoods, and participating in activities to give back to the community. Given the call for context-specific measurements of empowerment (Riger, 1993; Zimmerman, 1995; Zimmerman, 2000), it was surprising that items added to measure participation in Oxford House activities did not align with the other items on the subscale. One possible explanation for this may be that while participation in these activities was assessed and may serve as a proxy for behavioral empowerment, the duration and frequency of participation were not measured (Zimmerman, 2000). In order to develop a more accurate, context-specific measure of behavioral empowerment for women in recovery from substance use, future research may usefully both identify voluntary, specific behavioral indicators of empowerment for this population and assess their frequency and duration..

It should be noted that all of the negatively worded items had to be removed from the factor analysis because all but one negatively worded item originally loaded on one factor, indicating a method effect for such phrasing rather than factor loading by content area (Schriesheim & Eisenbach, 1995). Given the phrasings of the original items on the PPS-R (Johnson, et al., 2005), half of the 28 items were negatively worded and subsequent removal of those items greatly reduced the number of items in the scale. Although some research on scale construction recommends the use of negatively worded items in order to eliminate response bias (Nunnally, 1978), negatively worded items may not have accurately conveyed their intended meanings regarding empowerment. Similar findings were discussed by Peterson and colleagues (2006) in a confirmatory factor analysis of the Socio-Political Control Scale, which was subsequently revised to positively rephrase all items. This finding questions the utility of using negatively worded items to measure empowerment, as it may be difficult for participants to conceptualize empowerment in a negative way. Thus, researchers who measure empowerment may want to consider the influence of negatively worded items on their participants' responses.

The findings of this study also contribute to the debate on the measurement of empowerment. The analysis revealed that 3 of the 12 items which loaded on the Self-Perception subscale had previously been identified by women in recovery as important qualities for leadership (Davis, et al., 2006). In addition, five of the items on the Self-Perception subscale highlighted women's sense of personal competence and autonomy, both of which are promoted by the Oxford House model through shared responsibility for the living environment (Oxford House, Inc., 2008). Furthermore, all of the items on the Resource Knowledge subscale were previously identified in the literature as integral components to women's recovery process (Ashley, et al., 2003; Greenfield, et al., 2007). These findings indicate that a two-step approach to measuring empowerment may best represent empowerment for specific populations. Therefore, future researchers may consider first employing qualitative strategies to ask members of a population what variables or constructs might be empowering for them, and then utilizing that information to develop quantitative measures of empowerment.

Empowerment theory articulated that empowerment differs from constructs such as self-esteem (Zimmerman, 1995). The present findings support a relationship between empowerment and self-esteem, as each factor of empowerment correlated with self-esteem. Yet, given the strong to modest correlations among the factors of empowerment and self-esteem, our findings suggest the construct of empowerment is clearly broader than self-esteem alone. In addition, building on these findings that support the construct validity of the factors of empowerment, future research should examine divergent validity by contrasting the factors of empowerment with constructs negatively related to empowerment, such as psychological distress.

Additional analyses investigated the relationships among the three factors of empowerment. First, we examined the correlations among the three factors and found that all three factors were significantly positively correlated with each other. However, the pattern of the correlational analysis revealed that there was a stronger relationship between Self-Perception and Resource Knowledge than Participation as well as a stronger relationship between Participation and Resource Knowledge than Participation and Self-Perception. Thus, we conducted a hierarchical linear regression to examine if the Resource Knowledge subscale would predict Participation above and beyond Self-Perception. The results supported the hypothesis that Resource Knowledge predicted Participation while controlling for Self-Perception. This finding suggests that the separate components of empowerment may not occur in tandem, rather; they may occur in steps or stages, and that, for this population, knowledge of resources in the community subsumes self-perceptions of empowerment to predict participation in community activities. As far as we know, this is the first study to demonstrate this type of relationship among the three factors of empowerment. Although prior research found that participation in behavioral and organizational activities was predictive of intrapersonal empowerment (Rappaport & Zimmerman, 1988; Zimmerman & Zahnizer, 1991) and interactional empowerment (Speer, 2000), we did not test these relationships. Rather, this is the first study to identify a hierarchical relationship among the three components of psychological empowerment. Thus, more research is needed in order to identify the exact mechanisms by which these relationships operate. In addition, it should be noted that although the findings of this analysis were significant, the results should be interpreted with caution, as the study was cross-sectional in design and only a modest amount of the variance (6%) was explained by the final model.

The present study has several limitations to be addressed. First, this study utilized a convenience sample of women who lived in Oxford Houses throughout the United States and were asked to complete a self-report survey on women's empowerment. Participants varied demographically and in length of time lived in Oxford House. Nonetheless, it is

plausible that the women who chose to participate in this study were more empowered than women who chose not to participate, which might be reflected in the low individual response rate of 15.91%. In addition, the sample was not as diverse as originally expected, as most participants were White. Future research may fruitfully investigate empowerment for a more racially and ethnically diverse population of women in recovery.

The findings of this study are promising and support previous research and theory concerning empowerment (Rappaport, 1984; Zimmerman, 1995; Zimmerman, 2000). The scale was created for and tested on the specific population of women in recovery who live in Oxford House. Future research can usefully expand the participant pool to include women in other recovery programs in order to evaluate the factor structure of this empowerment scale. In addition, although the Self-Perception subscale resulted in questions that were specific to women, the Resource Knowledge and Behavioral subscales resulted in items that did not incorporate gender. To address this issue, the items on those subscales could be restated to anchor women's resource knowledge and participation in community activities compared to other women. Thus, future research should consider adapting existing questions on and/or adding questions to the Resource Knowledge and Participation subscales to integrate experiences specific to women in order to more accurately assess women's empowerment.

Empowerment theory postulated that there are at least three levels of empowerment: psychological, organizational, and community (Perkins & Zimmerman, 1995; Zimmerman, 1995; Zimmerman, 2000). In addition, empowerment has been criticized for neglecting to evaluate the different levels of empowerment and focusing solely on individual characteristics (Riger, 1993). Thus, a limitation in the present study is the lack of measurement of community, organizational, and other types of empowerment. Given the interrelatedness of the different levels of empowerment, future research may usefully focus on creating context specific approaches to measure empowerment at multiple levels.

In sum, the present study contributes to the literature on empowerment by modifying an existing measure of empowerment for women in recovery from substance use. Our findings provide support for the nomological framework of psychological empowerment (Zimmerman, 1995), the construct validity of empowerment, and document a significant relationship between Resource Knowledge and Participation while controlling for Self-Perception. Our results add to the debate on the merit of quantitatively evaluating empowerment and suggest a two-step qualitative-quantitative approach to best assess empowerment for specific populations. Furthermore, it is important to question the utility of measuring empowerment with negatively phrased items, as negative wording might be counterintuitive to the concept of empowerment. In conclusion, the dynamic nature of empowerment is often challenging to quantify; however, quantitative measures of empowerment for specific groups have the ability to build upon and validate existing empowerment theory and research.

Acknowledgments

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Table 1

Means and Standard Deviations for the PPS-R items and Oxford House items (N = 242)

Item	Mean	SD
1. I have equal relationships with important others in my life.	5.03	1.35
2. It is important to me to be financially independent.	6.15	1.16
3. It is difficult for me to be assertive with others when I need to be.®	4.38	1.78
4. I can speak up for my own needs instead of always taking care of other people's needs.	4.85	1.53
5. I feel prepared to deal with the discrimination I experience in today's society.	5.05	1.49
6. It is difficult for me to recognize when I am angry.®	5.25	1.71
7. I feel comfortable confronting my instructor/counselor/supervisor when we see things differently.	4.78	1.65
8. I now understand how my cultural heritage has shaped who I am today.	4.53	1.76
9. I give into others so as not to displease or anger them.®	4.55	1.73
10. I don't feel good about myself as a woman.®	5.17	1.79
11. When others criticize me, I do not trust myself to decide if they are right or if I should ignore their comments.®	4.92	1.70
12. I realize that given my current situation, I am coping the best I can.	5.73	1.35
13. I am feeling in control of my life.	5.04	1.61
14. In defining for myself what it means to be attractive, I depend on the opinions of others.®	4.56	1.86
15. I can't seem to make good decisions in my life.®	4.80	1.68
16. I do not feel competent to handle the situations that arise in my everyday life.®	5.53	1.55
17. I am determined to become a fully functioning person.	6.42	0.94
18. I do not believe there is anything I can do to make things better for women like me in today's society.®	5.77	1.65
19. I believe that a woman like me can succeed in any job or career that I choose.	5.95	1.50
20. When making decisions about my life, I do not trust my own experience.®	5.02	1.61
21. It is difficult for me to tell others when I feel angry.®	4.81	1.74
22. I am able to satisfy my own sexual needs in a relationship.	4.79	1.85
23. It is difficult for me to be good to myself.®	4.60	1.76
24. It is hard for me to ask for help or support from others when I need it.®	4.24	1.83
25. I want to help other women like me improve the quality of their lives.	5.89	1.41
26. I feel uncomfortable in confronting important others in my life when we see things differently.®	4.38	1.74
27. I want to feel more appreciated for my cultural background.®	4.38	1.86
28. I am aware of my own strengths as a woman.	5.41	1.55
29. I am aware of where to get substance abuse treatment in my community.	6.50	1.01
30. I am aware of where to go for housing assistance in my community.	5.51	1.83
31. I am aware of how to get help with parenting or childcare costs in my community.	4.85	2.25
32. I am aware of places in my community that will help me find jobs.	5.39	1.83
33. I am aware of places in my community that will help me get the education that I want.	5.47	1.74
34. I participate in activities to help other people like me improve the quality of their lives.	5.14	1.80
35. I participate in weekly house business meetings.	6.55	1.13
36. I am active in organizations in my community.	4.07	2.04
37. I currently volunteer with an organization in my community.	3.41	2.26
38. I participate in activities in my neighborhood.	2.54	1.94
39. I am active in activities to give back to my community.	3.44	2.19

Item	Mean	SD
40. It is too difficult for me to participate in activities in my community.®	4.89	1.97
41. I don't have the time to volunteer in my community.®	4.48	2.01
42. I participate in 12-step meetings outside my house.	6.14	1.50
43. I am not interested in holding an office position (president, vice-president, comptroller, etc) in my house.®	5.60	2.11
44. I believe I act as a good role model for other women.	5.59	1.47
45. I actively support other women by listening to them.	6.21	1.07
46. I am able to solve conflicts without losing my temper.	5.49	1.37
47. I currently have a leadership role in my house or chapter.	5.64	2.09
48. I have (or I am) a sponsor.	5.14	2.47

® = Reverse coded

Table 2

Pattern Matrix of Rotated Factor Loadings (Direct Oblimin) and Item Communalities for the Three Factor Model of the Women in Recovery Empowerment Scale (WIRES).[*]

| | Factor Loadings | | | |
Item	1	2	3	h^2
44. I believe I act as a good role model for other women.	**.79**	.19		.64
28. I am aware of my own strengths as a woman.	**.65**		.15	.54
13. I am feeling in control of my life.	**.63**			.44
25. I want to help women like me improve the quality of their lives.	**.62**		−.13	.32
45. I actively support other women by listening to them.	**.61**			.45
7. I feel comfortable confronting my instructor/counselor/supervisor when we see things differently.	**.56**			.29
5. I feel prepared to deal with the discrimination I experience in today's society.	**.56**			.30
4. I can speak up for my own needs instead of always taking care of other people's needs.	**.55**			.32
12. I realize that given my current situation, I am coping the best I can.	**.51**			.27
17. I am determined to become a fully functioning person.	**.51**	−.11	.10	.31
19. I believe that a woman like me can succeed in any job or career I choose.	**.51**			.29
46. I am able to solve conflicts without losing my temper.	**.46**		.10	.28
39. I am active in activities to give back to my community.		**.81**		.68
37. I currently volunteer with an organization in my community.	−.10	**.79**		.62
36. I am active in organizations in my community.		**.77**		.62
38. I participate in activities in my neighborhood.		**.71**		.51
32. I am aware of places in my community that will help me find jobs.			**.80**	.71
31. I am aware of how to get help with parenting or childcare costs in my community.			**.79**	.58
30. I am aware of where to go for housing assistance in my community.			**.77**	.61
33. I am aware of places in my community that will help me get the education that I want.	.20		**.66**	.59

[*]$N = 266$

Table 3

Hierarchical Linear Regression Model for Resource Knowledge Predicting Participation beyond Self-Perception (N = 266)

Variable	B	$SE\ B$	β
Step 1			
Self-Perception	0.36	0.12	0.19[*]
Step 2			
Self-Perception	0.19	0.13	0.10
Resource Knowledge	0.21	0.07	0.19[**]

[*] p<0.01.

[**] As with the three α's on page 13, both β weights appear to be identical, however; when reported to three decimal points, all are different values.