Adultspan Journal

Volume 8 | Issue 2 Article 4

10-1-2009

Perceived Early Childhood Family Influence, Perceived Pain Self-Efficacy, and Chronic Pain Disability: An Exploratory Study

Kate R M Walker

Richard E. Watts

Perceived Early Childhood Family Influence, Perceived Pain Self-Efficacy, and Chronic Pain Disability: An Exploratory Study

Keywords

early childhood family influence, pain self-efficacy, chronic pain disability

Perceived Early Childhood Family Influence, Perceived Pain Self-Efficacy, and Chronic Pain Disability: An Exploratory Study

Kate R. M. Walker and Richard E. Watts

The authors examined, with adult participants, the relationship between perceived early childhood family influence, pain self-efficacy beliefs, and pain-related disability. Perceived pain self-efficacy explained 37% of the variance in chronic pain disability, but perceived early childhood family influence was not a statistically significant predictor of chronic pain disability.

Chronic pain is an exponentially increasing issue for aging adults in the United States and has stretched the limits of technology and the ability of health care professionals to provide adequate care (Aronoff & Feldman, 2000; Gloth, 2001; Trunks, 2008). Chronic pain deprives individuals of their independence, confidence, quality of life, and often their primary support groups while leaving them with depression, anxiety, and uncertainty regarding a cure or a treatment for their pain condition (Dewar, White, Posade, & Dillon, 2003; Lame, Peters, Vlaeyen, Kleef, & Patijn, 2005; Paulson, Danielson, Larsson, & Norberg, 2001; Sullivan & Stanish, 2003).

When chronic pain leads to disability, individuals with such pain become dependent on others for their care (Dewar et al., 2003; Gloth, 2001; Paulson et al., 2001). Technologies exist to treat chronic pain; however, they are often expensive, and the low success rate and expensive follow-up care make the technologies helpful for only a few individuals who experience chronic pain (Pizzi et al., 2005). Research results have consistently indicated, however, that therapies dealing with the psychosocial issues of chronic pain patients as a part of a multidisciplinary program, including physical and medical modalities, are cost-effective and have been shown to (a) improve outcomes for individuals with a wide range of diagnoses, (b) reduce distress resulting from a chronic pain condition, (c) improve return-to-work status, and (d) decrease the individual's reliance on the medical and social services system (American Academy of Pain Medicine, 2005; Gatchel et al., 2003; Lemstra & Olszynski, 2005; Loeser, 1999; Pizzi et al., 2005; Sullivan & Stanish, 2003; Trunks, 2008; Turk, 2005). In particular, multidisciplinary programs that address self-efficacy have been associated with reductions in disability for patients with chronic pain (Arnstein, 2000; Flor & Turk, 1988; Keefe et al., 2000; Wells-Federman, Arnstein, & Caudill, 2002).

Kate R. M. Walker and Richard E. Watts, both at Center for Research and Doctoral Studies in Counselor Education, Sam Houston State University. Kate R. M. Walker is now in private practice, The Woodlands, Texas. Correspondence concerning this article should be addressed to Richard E. Watts, Center for Research and Doctoral Studies in Counselor Education, Sam Houston State University, PO Box 2119, Huntsville, TX 77341-2119 (e-mail: watts@shsu.edu).

PERCEIVED SELF-EFFICACY BELIEFS AND CHRONIC PAIN

As the emphasis on improving outcomes for individuals with pain shifted from a biomedical model to a biopsychosocial model, research concentrated on the influence of psychosocial factors, including self-efficacy beliefs, in the progression of acute pain to chronic pain and disability (Kongstvedt, 1987). Bandura (1989) postulated that self-efficacy beliefs and performance are highly correlated and that self-efficacy beliefs can be predictive of behavior. According to Bandura (1997), stronger perceptions of self-efficacy result in the individual setting higher personal goals and even cultivating healthy behaviors.

Data from chronic pain research indicate that the level of perceived self-efficacy is a significant contributor of the extent to which an individual is disabled by chronic pain (Arnstein, 2000). Individuals with chronic pain who have higher scores on perceived self-efficacy scales were more likely to cultivate health behaviors and less likely to become disabled because of their chronic pain (Arnstein, 2000; Bandura, 1997; Keefe, Rumble, Scipio, Giordano, & Perri, 2004; Novy, Nelson, Hetzel, Squitieri, & Kennington, 1997; Woby, Watson, Roach, & Urmston, 2005). These results were consistent regardless of diagnosis or location of the pain and are consistent with Bandura's (1986) definition of perceived self-efficacy as an individual's judgment of what he or she can do with his or her actual skills, rather than whether or not the skills exist.

PERCEIVED EARLY CHILDHOOD FAMILY INFLUENCE

Family factors influencing chronic pain and illness are also well-documented (Cano, Johansen, Leonard, & Hanawalt, 2005; Ehde, Holm, & Metzger, 1990; Rowat, 1984; Schanberg et al., 2001; Snelling, 1990; Turk, Rudy, & Flor, 1985). Families with an adult member who experiences chronic pain are less cohesive, are more prone to internal conflict, and experience more marital distress than families with healthy adult members (Cano et al., 2005; Smith & Friedemann, 1999; Snelling, 1990).

Traditionally, family constellation and family atmosphere have been discussed separately in Adlerian literature. Chandler (1986) noted, however, that the concepts of family constellation and family atmosphere are "closely related and interact by projecting the same kinds of influences on the individual" (p. 14). Consequently, in validating the Perceived Early Childhood Family Influence Scale (PECFIS; Chandler, 1986; Chandler & Willingham, 1986), Chandler used *family influence* as inclusive of components traditionally ascribed to both family constellation and family atmosphere. *Family constellation* addresses the notion that each family has its own unique configuration, and the role individuals choose to play in that configuration is primarily influenced by the way they perceive their place in the family. Thus, what matters most in the development of a child's personality is not so much the child's position in the family, but the child's interpretation of that position. Whereas the family constellation describes the interaction between members of the family, *family atmosphere* or climate describes the characteristic pattern established by parents and presented to their children as a standard for social living. This pattern also significantly influences the child's choice of role in the family (Carlson, Watts, & Maniacci, 2006; Dewey, 1971; Dreikurs & Soltz, 1964).

https://mds.marshall.edu/adsp/vol8/iss2/4
DOI: -

Key to understanding the meaning behind individual motivation and behavior is the Adlerian concept of early recollections (Ansbacher & Ansbacher, 1956, 1979; Carlson et al., 2006; Manaster & Corsini, 1982; Mosak & Maniacci, 1999; Oberst & Stewart, 2003; Sweeney, 1998). Rather than viewing memories as tools to assess factual information, Adlerians believe that individuals selectively attend to or suppress memories that support their present goal-directed behavior. Thus, it is the perception rather than actual recollections that Adlerians consider to be vital to assessment and treatment (Clark, 2002; Singer & Salovey, 1993). Research has demonstrated relationships between early childhood recollections and individual self-efficacy, current style of life, and coping styles (Chandler, 1986; Chandler & Willingham, 1986; Dinter, 2000; Kern, Gfroerer, Summers, Curlette, & Matheny, 1996; Trusty, Ng, & Watts, 2005). However, we could find no research addressing perceived early childhood family influence and chronic pain. Developmentally speaking, adult perceptions of early childhood family experiences are closely related to current personality functioning and coping abilities (Carlson et al., 2006), including early memories regarding how adult family members coped with chronic pain.

The assertion of our study was that perceived early childhood family influence has an impact on self-efficacy beliefs of individuals with chronic pain (pain self-efficacy), triggering a behavioral response (chronic pain disability). The purpose of our study, therefore, was to examine the relationship between perceived early childhood family influence, pain self-efficacy beliefs, and pain-related disability with adult participants.

METHOD

Participants

The persons in our study were participants in a chronic pain program administered by a large behavioral chronic pain company in the state of Texas. The multidisciplinary program included behavioral therapy, physical modalities, and medical modalities. Data were obtained from assessments completed by a purposive convenience sample of 35 adults with chronic pain, ages 18–65 years, in one of five pain and injury clinics offering the chronic pain program. Participants (a) met the requirements set by the Texas Worker's Compensation Guidelines and national standards for participation in a pain program and (b) were already participating in a chronic pain management program that consisted of 4 hours of cognitive behavioral therapy and 4 hours of physical therapy. All assessments were written in English, and participation was limited to individuals who self-reported attending a minimum of 6 years of school and who demonstrated proficiency in reading the English language.

After we excluded participants' scores that did not meet the requirements for participation, 30 individuals remained: 20 men and 10 women (maximum age = 65 years, minimum age = 25, mean age = 42.7). The sample consisted of 12 Caucasians, 12 African Americans, 5 Hispanic Americans, and 1 Asian American. Ten participants reported only one injury, and 20 reported two or more injuries. Self-reported back pain was the predominant diagnosis, with 21 cases. Knee, ankle, and hip pain accounted for 5 cases; shoulder pain was

reported by 6 participants; neck pain was reported by 3 participants; and face pain was reported by 1 participant.

Permission to conduct research on patients in a chronic pain program was obtained from the chronic pain company. If patients agreed to participate in the study, they were asked to sign a consent form that also explained that the status of their worker's compensation case would not be affected by their decision to participate in the study. Ethical clearance to conduct the study was obtained from the Internal Review Board for the Protection of Human Subjects at the second author's university affiliation.

Instruments

PECFIS. This 126-item self-report Likert-type instrument is designed to measure an individual's perceived early childhood family influence. The measure is based on the Adlerian hypothesis that an individual's positive or negative perception of early childhood family influence is a good indicator of present functioning (Ansbacher & Ansbacher, 1956, 1979; Carlson et al., 2006; Manaster & Corsini, 1982; Mosak & Maniacci, 1999; Oberst & Stewart, 2003; Sweeney, 1998). Participants in our study were asked to respond to items on the instrument regarding memories of childhood from about 10 years old and younger.

This instrument originally contained 175 items; however, the results of a factor analysis lowered the number to its present form containing 126 items (Chandler, 1986; Chandler & Willingham, 1986). The factors identified in the subscales are (a) Mother's Influence, (b) Father's Influence, (c) Parents' Influence, (d) Siblings' Influence (psychological birth order), and (e) Self-Influence (individual's view of psychological birth order). An approximately equal number of positively and negatively worded items are randomly distributed in the assessment. According to Chandler's scoring instructions, negatively worded items are recoded before they are scored; thus, higher scores reflect perceptions of a more positive early childhood family influence. Factorial and construct validity coefficients for this instrument range from .85 to .97 (Chandler & Willingham, 1986). The interitem scale reliability coefficient was .97, and the split-half reliability coefficient was .96. In accordance with these data, the PECFIS was determined to be both valid and reliable for accurately measuring participants' perceptions of early childhood family influence.

Pain Self-Efficacy Questionnaire (PSEQ; Nicholas, 2007). The PSEQ is a 10-item self-report Likert-type instrument designed to measure the participant's confidence in performing certain daily tasks, despite the pain experienced. Construct validity was demonstrated through a Pearson product–moment correlation of –.74 when the PSEQ was correlated with the Patient Behavior Questionnaire (Lewis, Scott, & Sugai, 1994), an instrument that measures self-efficacy beliefs and activity levels. Reliability was demonstrated through high internal consistency, with a Cronbach's alpha coefficient of .92 and a test–retest correlation of .79 (McCahon, Strong, Sharry, & Cramond, 2005; Nicholas, 2007). We used the PSEQ total score for covariance analysis.

Chronic Pain Grading Scale (CPGS; Von Korff, Ormel, Keefe, & Dworkin, 1992). The CPGS is a seven-item self-report Likert-type instrument designed to be a brief hierarchical assessment that grades individuals with chronic pain in terms of pain

intensity and disability. Validity was determined when the Guttman Scaling Model provided a good fit to the data for back pain (H = .43), headache (H = .49), and temporomandibular (TMD) pain (H = .60). (*Note*. H coefficient equals 1 minus the ratio of the observed number of discrepancies between two test items to the expected number of discrepancies if the items were statistically independent [Von Korff et al., 1992].) Reliability coefficients of the Guttman scales were .74, .73, and .80 for back pain, headache, and TMD pain, respectively. Using measures of internal consistency, Von Korff et al. found that the Cronbach's alpha coefficient was .74 for back pain, .67 for headache, and .71 for TMD pain.

The first three items on the CPGS measure characteristic pain intensity. The fourth item scores disability days by asking participants how many days during the last 6 months have they been prevented from doing regular activities such as work or school. The last three items provide a disability score. On the basis of their disability score, participants are assigned to one of five levels of disability: "0, no pain problem in the past six months; I, low disability–low pain intensity; II, low disability–high pain intensity; III, high disability–high pain intensity; IV, high disability–severely limiting" (Von Korff et al., 1992, p. 144). The authors of the CPGS reported that their data suggested that persons at Grade I show levels of psychological impairment, illness behavior, and disability that are within typical limits. Thus, only individuals who scored at a Grade II or higher were included in our study. According to the CPGS, 4 participants were scored as Grade II, 3 as Grade III, and 23 as Grade IV. For the correlational analysis, only disability scores were used because of their nature as continuous data.

Procedure

Thirty-five patients who had been referred to the chronic pain management program by their treating doctor were administered the PSEQ and the CPGS. Participants completed the assessments during the course of their chronic pain management program. Before completing the instruments, participants were asked to complete a demographic profile that elicited their age, date of injury, diagnosis, gender, and years of education.

The first step in the data analysis was to calculate means and standard deviations for all variables, including demographic variables. The categorical variables were gender, diagnosis, and CPGS grade. Next, a Pearson product–moment correlation coefficient matrix was formed by correlating continuous data including PECFIS total scores, PSEQ total scores, and disability scores from the CPGS as independent variables. The correlational matrix allowed us to examine the correlation between participant scores on the PECFIS and perception of pain self-efficacy (as measured by the PSEQ), as well as explore the relationship between the participant-perceived early childhood family influence and level of pain-related disability (as measured by scores on the CPGS). We then conducted a forced-entry multiple regression analysis, with the goal of predicting scores on the criterion variable through the analysis of linearly combined predictor variables. Our data included two independent predictor variables; consequently, we used forced entry to add each independent variable into the model (Field, 2005; Thompson, 2006). As noted earlier, only 30 participants met the criteria for inclusion in the study.

Our review of the literature indicated that there is a relationship between perceived self-efficacy beliefs and the development of chronic pain and

chronic pain disability (Arnstein, 2000; Bandura, 1997; Cioffi, 1991; Keefe et al., 2004; Novy et al., 1997; Woby et al., 2005). As such, the first step in the multiple regression analysis was to enter data from the PSEQ. The second step was to add data from the PECFIS. This resulted in the optimal regression equation to predict scores on the CPGS using the independent variables of scores on the PSEQ and scores on the PECFIS.

RESULTS

The mean age of participants in our study was 42.7 years; the youngest participant was 25 years old, and the oldest was 65 (*SD* = 10.23). Means (standard deviations are in parentheses) for scores on the PSEQ, disability scores on the CPGS, and characteristic pain intensity scores on the CPGS were 31.37 (17.30), 66.21 (26.26), and 70.89 (12.16), respectively (see Table 1).

Bivariate Correlation Analysis Results

Pearson product–moment correlation coefficients were calculated using a bivariate correlational analysis on the SPSS 15.0 statistical program to examine the relationships among the three independent variables, that is, PSEQ total scores, CPGS disability scores, and PECFIS total scores. By default, SPSS 15.0 sets the value of alpha at .05; thus, the default power calculation is at the .05 level, and the default level of the confidence intervals is 95%. There was a statistically significant negative correlation coefficient between disability scores on the CPGS and scores on the PSEQ ($r = -.61$, $p < .01$, two-tailed). There was no statistically significant correlation between disability scores on the CPGS and total scores on the PECFIS, and there was no statistically significant correlation between scores on the PECFIS and scores on the PSEQ (see Table 2).

The forced-entry multiple regression analysis procedure of SPSS 15.0 was used to explore whether measurements of perceived early childhood family influence and measures of pain self-efficacy might predict disability scores on the CPGS. The independent variable of pain self-efficacy was entered first, followed by perceived early childhood family influence. Model 1 indicated a significant regression equation ($F = 16.47$) and identified scores on the PSEQ as predicting 37% of variance in disability from chronic pain in this sample (see Table 3). Model 2 indicated that adding scores on the PECFIS explained an additional 6% ($R^2 = .43$, adjusted $R^2 = .38$) of the variance in the sample.

TABLE 1

Means and Standard Deviations of Continuous Variables

Variable	Range		*M*	*SD*
	Low	High		
Age	25	65	42.70	10.23
PSEQ	0	60	31.37	17.30
CPGS	0	100		
Disability score			66.21	26.26
Characteristic pain intensity	53.33	100	70.89	12.16

Note. *N* = 30. PSEQ = Pain Self-Efficacy Questionnaire; CPGS = Chronic Pain Grading Scale.

https://mds.marshall.edu/adsp/vol8/iss2/4
DOI: -

TABLE 2

Pearson Product–Moment Correlation Coefficients for the Three Independent Variables

Variable	1	2	3
1. Perceived Early Childhood Family Influence Scale	—	.27	–.06
2. Disability score on Chronic Pain Grading Scale		—	–.61**
3. Pain Self-Efficacy Questionnaire			—

Note. $N = 30$.
**$p < .01$ (two-tailed).

DISCUSSION

The goal of our study was to explore the relationships among perceived early childhood family influence (as measured by the PECFIS), perceived pain self-efficacy in individuals with chronic pain (as measured by the PSEQ), and perceived pain-related disability (as measured by the CPGS). On the basis of previous research, we expected that scores on the PECFIS would be highly correlated with scores on the PSEQ. This assertion was not supported in our study. Results of a correlational analysis of perceived early childhood family influence and perceived pain self-efficacy indicated there was no significant relationship between PSEQ total scores and PECFIS total scores at the .05 level. Likewise, we failed to find a significant correlation at the .05 level between perceived early childhood family influence and disability scores on the CPGS. This was surprising because Chandler (1986) found that high scores on the PECFIS correlated highly with measures of established lifestyle. Previous research has indicated that individuals who experience disabling chronic pain scored lower on measures of perceived self-efficacy and often exhibited a pattern of living habituated by negative coping skills and sedentary activities (Arnstein, 1997, 2000; Von Korff & Miglioretti, 2005). Research has also indicated that individuals having more positive recollections of their early childhood scored higher on measures of ability to cope with stress (Kern et al., 1996).

Pain research has shown that therapy addressing self-efficacy beliefs, or individuals' confidence in their ability to achieve a desired goal or outcome,

TABLE 3

Multiple Regression Analysis for Models 1 and 2

Variable	*B*	*SE B*	β
Model 1[a]			
Pain Self-Efficacy Questionnaire	–.92	.23	–.61
Model 2[b]			
Pain Self-Efficacy Questionnaire	–.90	.22	–.60
Perceived Early Childhood Family Influence Scale	.06	.04	.24

[a]$R^2 = .37$ and adjusted $R^2 = .35$. [b]$R^2 = .43$ and adjusted $R^2 = .38$.

was related to coping with or managing chronic pain (Arnstein, 1997, 2000; Cioffi, 1991; Novy et al., 1997; Prochaska & DiClemente, 1984). Perceived self-efficacy has been found to be a powerful mediator of personal resiliency (Bandura, 1986, 1989, 1997), success in adopting self-care regimens (Bandura, 2005; Benight & Bandura, 2004; Schwarzer, 2001), and ability to manage pain and use active coping skills (Arnstein, 2000; Bandura, 1997; Keefe et al., 2004; Novy et al., 1997; Woby et al., 2005). Our study supported previous research, showing that pain self-efficacy explained 37% of the variance in chronic pain disability in our participant sample. Although scores on the PECFIS explained an additional 6% of the variance in disability scores, perceived early childhood family influence was not a statistically significant predictor of variance in chronic pain disability.

Limitations

Several factors must be considered when interpreting the results of our study. The first factor is the small sample size. Onwuegbuzie and Leech (2003) found that for correlational research designs, a minimum sample size of 30 represents a statistical power of only .51 for one-tailed tests for detecting a moderate relationship (i.e., $r = .30$) between two variables at the .05 level of statistical significance, and a power of .38 for two-tailed tests of moderate relationships. The number of participants in our study ($N = 30$) posed a threat to the internal validity of our findings. The difficulty involved in attempting this type of research is in locating individuals participating in a pain program. Because of confidentiality issues related to laws regarding the Health Insurance Portability and Accountability Act of 1996, and because such programs are often considered a worker's compensation offering and not advertised in mainstream media, multidisciplinary pain programs may be difficult to locate. Also, individuals who are approved for the pain program are usually experiencing severe financial difficulties because they have not been able to work for a long time. Therefore, they may be difficult to contact because of such issues as disconnected telephones and lack of transportation.

Another limitation is that the participants used by Chandler (1986) to develop the PECFIS were somewhat different from our research population. The 681 individuals (488 women, 193 men) who participated in the development of the instrument were undergraduate and graduate students at Texas Tech University in Lubbock, Texas (Chandler, 1986). The difference between the sample in our study and the population used in developing the PECFIS may account for the surprising lack of significant findings in regard to the PECFIS. Nevertheless, the PECFIS was the best available instrument for assessing perceived early childhood memories.

Recommendations for Counseling Practice and Future Research

The role of perceived self-efficacy on the development of chronic pain has been explored extensively (Arnstein, 1997, 2000; Hazard, Haugh, Reid, Preble, & MacDonald, 1996; Novy et al., 1997). Bandura (1997) found that when low self-efficacy was identified, it could be enhanced through (a) skill mastery, (b) sharing vicarious experiences, (c) verbal persuasion, and (d) providing information about the individual's physiological and affective state. Multidimensional chronic

pain programs that use cognitive behavioral therapy address these areas and have been found to be a cost-effective alternative to more expensive and invasive approaches (Wells-Federman, Arnstein, & Caudill-Slosberg, 2003). In addition, the Adlerian *encouragement* process may be useful in helping build perceived self-efficacy with clients experiencing chronic pain. Clients presenting for counseling typically struggle from discouragement or demoralization. One of the key tasks for counselors is to "assist in restoring patterns of hope" (Littrell, 1998, p. 63). For Adlerians, this "restoring patterns of hope" is a key, fundamental aspect of the encouragement process in counseling. Regardless of one's theoretical orientation, the Adlerian understanding of encouragement may be usefully integrated into a counselor's approach to counseling. The assumptions, characteristics, and methods of encouragement help to create an optimistic, empowering, and growth-enhancing environment for clients. Encouragement is both an attitude and a way of being with clients. The process of encouragement helps build hope and the expectancy of success in clients by demonstrating concern, active listening, and empathy; communicating respect and confidence; focusing on strengths, assets, and resources; helping clients generate perceptual and behavioral alternatives; focusing on efforts and progress; and helping clients see the humor in life experiences (Carlson et al., 2006; Watts, 1998, 2003; Watts & Phillips, 2004; Watts & Pietrzak, 2000; Watts & Shulman, 2003).

In future research addressing perceived self-efficacy, family, and pain, it will be important to address two important issues. First, future research must consider ethnicity and gender differences. Linton and Hallden (1998) reported that in assessing individuals with chronic pain, difficulties arise because there is the possibility that the factors being assessed operate differently in specific populations and cultures. Likewise, the Biocultural Model of Pain Perception developed by Juarez, Ferrell, and Borneman (1998) suggests that individuals learn about their pain expectations, attitudes, meanings, and emotional expressions by observing the behavior of others in their cultural group.

REFERENCES

American Academy of Pain Medicine. (2005). Management of chronic pain syndromes: Issues and interventions. *Pain Medicine, 6,* S1–S21.

Ansbacher, H. L., & Ansbacher, R. R. (1956). *The individual psychology of Alfred Adler: A systematic presentation in selections from his writings*. New York: Harper & Row.

Ansbacher, H. L., & Ansbacher, R. R. (1979). *Superiority and social interest: A collection of later writings* (3rd ed.). New York: Norton.

Arnstein, P. (1997). Pain intensity and self-efficacy as predictors of disability and depression in chronic pain. *Dissertation Abstracts International, 58*(03), 1205B. (UMI No. 9725488)

Arnstein, P. (2000). The mediation of disability by self-efficacy in different samples of chronic pain patients. *Disability and Rehabilitation, 22,* 794–801.

Aronoff, G., & Feldman, J. (2000). Preventing disability from chronic pain: A review and reappraisal. *International Review of Psychiatry, 12,* 157–169.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44,* 1175–1184.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A. (2005). The primacy of self-regulation in health promotion. *Applied Psychology: An International Review, 54,* 245–254.

Benight, C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behavior Research and Therapy, 42,* 1129–1148.
Cano, A., Johansen, A., Leonard, M., & Hanawalt, J. (2005). What are the marital problems of patients with chronic pain? *Current Pain and Headache Reports 2005, 9,* 96–100.
Carlson, J., Watts, R. E., & Maniacci, M. (2006). *Adlerian therapy: Theory and practice*. Washington, DC: American Psychological Association.
Chandler, C. K. (1986). Validation of the Adlerian construct of perceived early childhood family influence. *Dissertation Abstracts International, 47*(05), 1654A.
Chandler, C. K., & Willingham, W. K. (1986). The relationship between perceived early childhood family influence and the established life-style. *Individual Psychology, 42,* 388–394.
Cioffi, D. (1991). Beyond attentional strategies: A cognitive-perceptual model of somatic interpretation. *Psychological Bulletin, 109,* 25–41.
Clark, A. (2002). *Early recollections: Theory and practice in counseling and psychotherapy*. New York: Brunner-Routledge.
Dewar, A., White, M., Posade, S., & Dillon, W. (2003). Using nominal group technique to assess chronic pain, patients' perceived challenges and needs in a community health region. *Health Expectations, 6,* 44–52.
Dewey, E. (1971). Family atmosphere. In A. G. Nikelly (Ed.), *Techniques for behavior change* (pp. 41–48). Springfield, IL: Charles C Thomas.
Dinter, L. (2000). The relationship between self-efficacy and lifestyle patterns. *Journal of Individual Psychology, 56,* 462–473.
Dreikurs, R., & Soltz, V. (1964). *Children: The challenge*. New York: Hawthorne.
Ehde, D. M., Holm, J. E., & Metzger, D. L. (1990). The role of family structure, functioning, and pain modeling in headache. *Headache, 31,* 35–40.
Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). London: Sage.
Flor, H., & Turk, D. (1988). Chronic pain and rheumatoid arthritis: Predicting pain and disability from cognitive variables. *Journal of Behavioral Medicine, 11,* 251–265.
Gatchel, R., Polatin, P., Noe, C., Gardea, M., Pulliam, C., & Thompson, J. (2003). Treatment and cost-effectiveness of early intervention for acute low back pain patients: A one-year prospective study. *Journal of Occupational Rehabilitation, 13,* 1–9.
Gloth, F. M. (2001). Pain management in older adults: Prevention and treatment. *Journal of the American Geriatrics Society, 49,* 188–199.
Hazard, R. G., Haugh, L. D., Reid, S., Preble, J. B., & MacDonald, L. (1996). Early prediction of chronic disability after occupational low back injury. *Spine, 21,* 945–951.
Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191 (1996).
Juarez, G., Ferrell, B., & Borneman, T. (1998). Influence of culture on cancer pain management in Hispanic patients. *Cancer Practice, 6,* 262–269.
Keefe, F. J., LeFebvre, J., Kerns, R., Rosenberg, R., Beaupret, P., Prochascka, J., et al. (2000). Understanding the adoption of arthritis self-management: Stages of change profiles among arthritis patients. *Pain, 87,* 303–313.
Keefe, F. J., Rumble, M. E., Scipio, C. D., Giordano, L. A., & Perri, L. M. (2004). Psychological aspects of persistent pain: Current state of the science. *The Journal of Pain, 5,* 195–211.
Kern, R., Gfroerer, K., Summers, Y., Curlette, W., & Matheny, K. (1996). Lifestyle, personality, and stress coping. *Individual Psychology, 52,* 42–53.
Kongstvedt, S. (1987). Cognitive approaches to pain control: Common factors underlying their effectiveness. *Journal of Counseling and Development, 65,* 538–540.
Lame, I., Peters, M., Vlaeyen, J., Kleef, M., & Patijn, J. (2005). Quality of life in chronic pain is more associated with beliefs about pain, than with pain intensity. *European Journal of Pain, 9,* 15–24.
Lemstra, M., & Olszynski, P. (2005). The effectiveness of multidisciplinary rehabilitation in the treatment of fibromyalgia. *Clinical Journal of Pain, 21,* 166–177.
Lewis, T. J., Scott, T. M., & Sugai, G. (1994). The Problem Behavior Questionnaire: A teacher-based instrument to develop functional hypotheses of problem behavior in general education classrooms. *Diagnostique, 19,* 103–115.
Linton, S., & Hallden, K. (1998). Can we screen for problematic back pain? A screening questionnaire for predicting outcome in acute and subacute back pain. *Clinical Journal of Pain, 14,* 209–215.
Littrell, J. M (1998). *Brief counseling in action.* New York: Norton.
Loeser, J. D. (1999). Economic implications of pain management. *Acta Anasthesiologica Scandinavica, 43,* 957–959.

Manaster, G. J., & Corsini, R. J. (1982). *Individual psychology: Theory and practice*. Itasca, IL: Peacock.
McCahon, S., Strong, J., Sharry, R., & Cramond, T. (2005). Self-report and pain behavior among patients with chronic pain. *Clinical Journal of Pain, 21,* 223–231.
Mosak, H. H., & Maniacci, M. (1999). *A primer of Adlerian psychology: The analytic-behavioral-cognitive psychology of Alfred Adler*. Philadelphia: Taylor & Francis.
Nicholas, M. (2007). The Pain Self-Efficacy Questionnaire: Taking pain into account. *European Journal of Pain, 11,* 153–163.
Novy, D. M., Nelson, D. V., Hetzel, R. D., Squitieri, P., & Kennington, M. (1997). Coping with chronic pain: Sources of intrinsic and contextual variability. *Journal of Behavioral Medicine, 21,* 19–34.
Oberst, U. E., & Stewart, A. E. (2003). *Adlerian psychotherapy: An advanced approach to individual psychology*. New York: Brunner-Routledge.
Onwuegbuzie, A. J., & Leech, N. L. (2003, October). *A typology of errors and myths perpetuated in educational research textbooks.* Paper presented at the annual meeting of the Northern Rocky Mountain Research Association, Jackson, WY.
Paulson, M., Danielson, E., Larsson, K., & Norberg, A. (2001). Men's descriptions of their experiences of nonmalignant pain of fibromyalgia type. *Scandinavian Journal of Caring Sciences, 15,* 54–59.
Pizzi, L., Carter, C., Howell, J., Vallow, S., Crawford, A., & Frank, E. (2005). Work loss, healthcare utilization and costs among U.S. employees with chronic pain. *DIS Manage Health Outcomes Journal, 13,* 201–208.
Prochascka, J. O., & DiClemente, C. C. (1984). *The transtheoretical approach: Towards a systemic eclectic framework.* Homewood, IL: Dow Jones Irwin.
Rowat, K. M. (1984). Assessing the "chronic pain family." *International Journal of Family Therapy, 7,* 284–296.
Schanberg, L., Anthony, K., Gil, K., Lefebvre, J., Kredich, D., & Macharoni, L. (2001). Family pain history predicts child health status in children with chronic rheumatic disease. *Pediatrics, 108*, 1–7. Retrieved September 12, 2005, from http://www.pediatrics.org/cgi/content/full/108/3/e47
Schwarzer, R. (2001). Social-cognitive factors in changing health-related behaviors. *Current Directions in Psychological Science, 10,* 47–51.
Singer, J. A., & Salovey, P. (1993). *The remembered self: Emotion and memory in personality*. New York: Free Press.
Smith, A., & Friedemann, M. (1999). Perceived family dynamics of persons with chronic pain. *Journal of Advanced Nursing, 30,* 543–551.
Snelling, J. (1990). The role of the family in relation to chronic pain: Review of the literature. *Journal of Advanced Nursing, 15,* 771–776.
Sullivan, M. J., & Stanish, W. D. (2003). Psychologically based occupational rehabilitation: The pain disability prevention program. *The Clinical Journal of Pain, 19,* 97–104.
Sweeney, T. J. (1998). *Adlerian counseling: A practitioner's approach* (4th ed.). Philadelphia: Taylor & Francis.
Thompson, B. (2006). *Foundations of behavioral statistics: An insight based approach*. New York: Guilford Press.
Trunks, E. R. (2008). Chronic pain and the psychiatrist. *Canadian Journal of Psychiatry, 53,* 211–212.
Trusty, J., Ng, K., & Watts, R. E. (2005). Model of effects of adult attachment on emotional empathy of counseling students. *Journal of Counseling & Development, 83,* 66–77.
Turk, D. C. (2005). The potential of treatment matching for subgroups of patients with chronic pain: Lumping versus splitting. *Clinical Journal of Pain, 21,* 44–55.
Turk, D., Rudy, T., & Flor, H. (1985). Why a family perspective for pain? *International Journal of Family Therapy, 7,* 223–234.
Von Korff, M., & Miglioretti, D. (2005). A prognostic approach to defining chronic pain. *Pain, 117,* 304–313.
Von Korff, M., Ormel, J., Keefe, F., & Dworkin, S. (1992). Grading the severity of chronic pain. *Pain, 50,* 133–149.
Watts, R. E. (1998). The remarkable similarity between Rogers's core conditions and Adler's social interest. *Journal of Individual Psychology, 54,* 4–9.
Watts, R. E. (2003). Adlerian therapy as a relational constructivist approach. *The Family Journal: Counseling and Therapy for Couples and Families, 11,* 139–147.
Watts, R. E., & Phillips, K. (2004). Adlerian psychology and psychotherapy: A relational constructivist approach. In J. D. Raskin & S. K. Bridges (Eds.), *Studies in meaning: Exploring constructivist psychology* (Vol. 2, pp. 267–289). New York: Pace University Press.

Watts, R. E., & Pietrzak, D. (2000). Adlerian "encouragement" and the therapeutic process of solution-focused brief therapy. *Journal of Counseling & Development, 78,* 442–447.

Watts, R. E., & Shulman, B. H. (2003). Integrating Adlerian and constructive therapies: An Adlerian perspective. In R. E. Watts (Ed.), *Adlerian, cognitive, and constructivist psychotherapies: An integrative dialogue* (pp. 9–37). New York: Springer.

Wells-Federman, C., Arnstein, P., & Caudill, M. (2002). Nurse-led pain management program: Effect on self-efficacy, pain intensity, pain-related disability, and depressive symptoms in chronic pain patients. *Pain Management Nursing, 3,* 131–140.

Wells-Federman, C., Arnstein, P., & Caudill-Slosberg, M. (2003). Comparing patients with fibromyalgia and chronic low back pain participating in an outpatient cognitive-behavioral treatment program. *Journal of Musculoskeletal Pain, 11,* 5–12.

Woby, S., Watson, P., Roach, N., & Urmston, M. (2005). Coping strategy use: Does it predict adjustment to chronic back pain after controlling for catastrophic thinking and self-efficacy for pain control? *Journal of Rehabilitative Medicine, 37,* 100–107.

https://mds.marshall.edu/adsp/vol8/iss2/4
DOI: -