

PSYCHOSOCIAL INSTRUMENTS INCLUDED IN THE PIN3 STUDY

The following are psychosocial scales included in the PIN3 Study, organized by the instrument in which they were administered. A brief description of each is provided below the table.

| Instrument | Section | Description |
|-------------------|----------------|--|
| SAQ1 | A. | MOS Social Support Scale (Sherbourne & Stewart) |
| SAQ1 | B. | State-Trait Anxiety Inventory (STAI) (Spielberger) |
| SAQ1 | C. | CES-D Depression Scale (Radloff) |
| SAQ1 | D. | Pregnancy-related Anxiety (Orr et al.) |
| SAQ1 | E. | Self Esteem Scale (Rosenberg) |
| SAQ1 | F. | Mastery Scale (Pearlin) |
| SAQ1 | G. | IPC Locus of Control (Levenson) |
| SAQ1 | H. | Fetal Health Locus of Control (Labs & Wurtele) |
| PI1 | C.1. | Life Experiences Survey (Sarason) |
| PI1 | C.2. | Perceived Stress Scale, 14-item version (Cohen) |
| PI1 | D. | Religion and spirituality |
| PI1 | E. | Karasek Job Control Questionnaire (subset) |
| SAQ2 | A. | John Henryism Coping Scale (James et al.) |
| SAQ2 | B. | CES-D Depression Scale (<i>second administration</i>) |
| SAQ2 | C. | State Anxiety Inventory (STAI, state only) (<i>second administration</i>) |
| SAQ2 | D. | Emotional and Physical Abuse (Revised Conflict Tactics Scales 2) |
| SAQ2 | E. | Pregnancy-related Anxiety (<i>second administration</i>) |
| SAQ2 | F. | Life Experiences Survey, update (Sarason) (<i>second administration</i>) |
| SAQ2 | F. | Sleep quality (Jenkins) |
| PI2 | F.1. | Perceived Stress Scale, 10-item version (Cohen) (<i>second administration</i>) |
| PI2 | F.2. | Pregnancy-related Anxiety (Rini et al.) |
| PI2 | F.3. | Father's and another close friend/relative's support of the pregnancy |
| PI2 | J. | Racial Discrimination (Vines et al.) |
| PI2 | J. | Gender Discrimination (Vines et al.) |
| PI2 | K. | Perceptions of neighborhood safety (Hertz-Picciotto) |
| PI2 | K. | Perceptions of neighborhood (Coulton et al.) |

- SAQ #1 = Self-administered questionnaire, completed at <20 weeks gestation
- PI #1 = Phone interview, completed at 17-22 weeks gestation
- SAQ #2 = Self-administered questionnaire, completed at 24-29 weeks gestation
- PI #2 = Phone interview, completed at 27-30 weeks gestation

The **MOS Social Support Scale** allows an examination of mediation of the events and other stressors by assessing the availability of perceived social support in four categories. The instrument's developers selected response items based on current theory about the most important dimensions of social support, primarily the perceived availability, if needed, of functional support (Sherbourne & Stewart 1991). The self-administered scale does not include identification of specific sources of support. It uses a five-category Likert response for each of 19 items. One change made to the original instrument was to separate the question of how many close friends and close relatives the woman had into two questions to see if her support network was more family based or friend based. The instrument focuses on perceived support because report of received support can be confounded by the need for support, and as a result might not reflect the amount of support available in times of need (Sherbourne & Stewart, 1991). Reliability measures for 14 definitions of health concepts were in the 0.74 to 0.93 range using Cronbach's alpha (Sherbourne & Stewart, 1991). The 19 items are scaled into an overall score and into four subscales: tangible or instrumental support; affectionate; positive social interaction, including companionship in leisure and other recreational activities; and a combination category of emotional/informational support, including love and empathy, and providing feedback and guidance. [PIN3: ADMINISTERED AT SAQ #1]

The **State-Trait Anxiety Inventory** (Spielberger's STAI) was used to assess state and trait anxiety during pregnancy. This scale has been used extensively in health research and includes a 20-item trait anxiety scale and a 20-item state anxiety scale. The trait-anxiety scale measures general perception of stressful situations that may involve danger or threats to the individual and reflects how often and intensely an individual responds with anxiety (Spielberger, 1983). Because it is designed to be a stable measure of anxiety, the trait-anxiety scale can be administered only once. The 20-item state-anxiety scale asks about immediate feelings ("right now") and because responses can vary over time, it can be administered repeatedly to assess changes in anxiety. Both scales use a 4-point response and a composite score is generated after reverse scoring appropriate items. Alpha coefficients reported by Spielberger (1983) range from .90 to .94 for the State scale and .89 to .92 for the Trait scale. [PIN3: STATE AND TRAIT ADMINISTERED AT SAQ #1; STATE ONLY ADMINISTERED AT SAQ #2]

The **CES-D (Center for Epidemiological Studies-Depression) Scale** (Radloff 1977) assesses psychological disposition or generalized distress in the general population. Although it does not provide a clinical basis for assessing depression, it is based on symptoms of depression as seen in clinical cases and is considered a useful screening test for depression in community health surveys (Roberts & Vernon 1983). The CES-D was designed as a short, structured self-administered instrument. The 20-item scale has Likert response categories assessing feelings and activities the respondent experienced during the past week. A composite score is calculated by reverse coding appropriate items and summing resulting responses with a range of 0-60. Neugebauer et al. (1992) indicated in their study of depression and miscarriage that the CES-D correlates well with other depressive symptoms measures using self report, can identify clinically depressed patients, and has been used in other studies of pregnant women.

Furthermore, internal consistency reliability measures, using Cronbach's alpha were excellent, ranging from .83 to .92. Neugebauer et al. (1992) found that two-thirds of women with scores of 30 or more would be expected to meet diagnostic criteria for major depressive disorders. Orr and Miller (1995) suggested that significant levels of depressive symptoms exist with a score of 16 or above; however, they used the upper 10% in their study of pregnant women to define exposed (the associated CES-D score was not reported). [PIN3: ADMINISTERED AT SAQ #1 and SAQ #2]

Pregnancy-related anxiety (Orr et al., 1992) is based on the Prenatal Social Environment Inventory which was developed to collect information on exposure to stressors in the context of chronic stressful conditions that pregnant women experience. This scale of 41 items had overlapping events that were included in the Life Experiences Survey. As a result, six items that focused on anxiety about the pregnancy and becoming a parent were used in PIN3, augmented by 4 questions related to the pregnancy. The format for these questions was the same as for the LES, however these items were scaled separately, using count and impact. [PIN3: ADMINISTERED AT SAQ #1 and SAQ #2]

The **Self Esteem Scale** (Rosenberg, 1965) has been used to assess self esteem which is an individual's sense of self worth or the favorable or unfavorable attitude toward self. It has been used in many health status and health-related behaviors studies. The scale assesses a positive or negative orientation toward oneself. Self esteem is only one component of the self concept, which Rosenberg defines as "totality of the individuals' thoughts and feelings with reference to himself as an object" The scale includes ten items using a four-point agree-disagree format and is considered a stable measure across time. The scale has high reliability with test-retest correlations in the .82 to .88 range and Cronbach's alpha ranging from .77 to .88 (Blascovich & Tomaka, 1991). [PIN3: ADMINISTERED AT PI #1]

The **Mastery Scale** (Pearlin et al., 1981) is a 7-item scale that uses a four-point agree-disagree format to measure personal mastery. The scale has been used to assess control of one's life ranging from having self control to fatalistically ruled (Robinson et al. 1991) and it has been widely used in health research. One aspect of mastery is that it can blunt the impact of persistent problems. [PIN3: ADMINISTERED AT PI #1]

The **IPC Locus of Control** (Levenson, 1981) is a 24-item questionnaire that has three subscales: (1) the Internality Scale which measures the extent to which people believe that they have control over their own lives where a high score indicates a belief of having a high level of control; (2) the Powerful Others Scale which concerns the belief that other persons control the events in one's life where a high score indicates this belief in others' control; and (3) the Chances Scale which indicates the respondent believes that chance affects his or her experiences or outcomes where a high score indicates a stronger belief in chance. [PIN3: ADMINISTERED AT PI #1]

Fetal Health Locus of Control (Labs & Wurtele, 1986) is an 18-item questionnaire with three components (1) the Internality Scale which measures the extent to which a woman believes that her behaviors influence the health of her fetus where a high score indicates a belief of having a high level of control; (2) the Powerful Others Scale which concerns the belief that other persons (mostly health professionals) control/influence the health of her fetus where a high score indicates this belief in others' control; and (3) the Chances Scale which indicates the respondent believes that chance or fate affects the health of her fetus where a high score indicates a

stronger belief in chance. [PIN3: ADMINISTERED AT PI #1]

The **Life Experiences Survey** (Sarason et al., 1978) examines acute and chronic life stresses. The LES provides a composite score of life events and the impact of those events. Women are asked if events occurred since the start of pregnancy and if so, they are asked to report the impact of each item as positive (+1 to +3), negative (-1 to -3), or no impact (0). Incorporating the impact eliminates the use of a preconceived assessment on the part of the researcher or expert panel of what is a positive or negative life event, since some events can be positive or negative based on the contexts (e.g., stopping work may be wanted or unwanted). This allows calculation of a composite impact score of positive events, negative events, or all events using absolute values. Information on the month or months during pregnancy when events occurred allows an analysis of whether several events cluster in time or occur sequentially, and distinguishes between chronic lower-level stress and acute episodes or crises with cumulative events. The LES was modified by eliminating the item asking whether the respondent experienced a pregnancy, and combining husband and boyfriend (details of marital status, cohabitation, and relation with the father of the baby are obtained elsewhere), resulting in 39 items from the original 57 in the LES. A woman can report up to two more events she felt were important. Test-retest reliability studies were conducted with reliability coefficients of .53 for the positive impact score, .88 for the negative impact score, and .64 for the total score (Behnke & Eyster, 1997). [PIN3: ADMINISTERED AT PI #1, UPDATES AT SAQ #2]

The **Perceived Stress Scale** (Cohen & Williamson, 1988) was developed to address the link between the occurrence of stressful events and the perception by the respondent regarding how threatening or demanding such an event was, and is a measure of the "degree to which situations in one's life are appraised as stressful." This scale can provide an index of chronic stress or strain, and coping with these stresses. Each item is rated on a 5-point scale ranging from never (0) to almost always (4). Positively worded items are reverse scored, and the ratings are summed, with higher scores indicating more perceived stress. Internal consistency of the PSS as assessed by Cronbach's alpha was 0.85 in three samples tested by Cohen et al. (1983). [PIN 3: 14-ITEM VERSION ADMINISTERED AT PI #1, 10-ITEM VERSION ADMINISTERED AT PI #2]

Karasek's Job Content Questionnaire (Karasek & Theorell, 1990) is a 42-item instrument that assesses job strain-decision latitude by measuring skill discretion, such as learning new skills or repetition in the job, and decision authority, such as freedom to make decisions; and psychological job demands, including having to work hard or fast. The JCQ is scaled to place jobs in four categories of high versus low demand and high versus low control. For PIN3, a subset of 18 items were included to construct three subscales: skill discretion, decision authority, and psychological job demands. [PIN3: ADMINISTERED AT PI #1]

Religion and spirituality. Three questions assessed attendance at religious services and importance of religion or spirituality. [PIN3: ADMINISTERED AT PI #1]

The **John Henryism Active Coping Scale** (James, 1994) is a 12-item scale to originally designed to assess coping in African Americans in conjunction with hypertension. The 5-point response categories allow summing across items, resulting in a continuous measure with high scores (e.g., above the median) indicating mental and physical vigor, tenacity, and strong sense of personal efficacy when confronting psychosocial environmental stressors. The developers recommend considering the role of socioeconomic status when interpreting any observed

effects of John Henryism on health outcomes. A high score indicate strongly predisposed to cope actively with psychosocial stressors, and the developers hypothesized that this group would have high mean blood pressure levels based on a strong sympathetic nervous system arousal. [PIN3: ADMINISTERED AT SAQ #2]

Emotional and Physical Abuse (Straus et al., 1996) A subset of questions from the **Revised Conflict Tactics Scales 2** was included in PIN3 to assess psychological aggression, physical assault, and injury. The CTS2 measures “psychological and physical attacks on a partner in a marital, cohabiting, or dating relationship, and also use of negotiation.” Included in the PIN3 administration are the four “minor” items for the Psychological Aggression Scale and the five “minor” items for the Physical Assault Scale. These items were selected because they are the most pertinent to a general population and will yield an adequate prevalence to examine these areas of abuse in the PIN population. [PIN3: ADMINISTERED AT SAQ #2]

Sleep Quality (Jenkins et al., 1988) Six items were included to assess the quality of sleep in the past month and the average number of hours the woman usually slept. [PIN3: ADMINISTERED AT SAQ #2]

Pregnancy-related Anxiety (Rini et al. 1999). Ten items were included to assess anxiety about the pregnancy and expectations about labor, delivery, and the health of and caring for the baby. [PIN3: ADMINISTERED AT PI #2]

Father’s and another close friend/relative’s support of the pregnancy. Questions were developed to assess the perceived degree of social support obtained from the father and another close friend. [PIN3: ADMINISTERED AT PI #2]

Racial and Gender Discrimination (Vines et al. 2001). Discrimination, including racial and gender based, was assessed using a discrimination scale developed to focus on African Americans. This scale was developed based on work by McNeill for a study of uterine fibroids. There were some problems with it in the PIN study re. study participants feeling uncomfortable with the items about racial discrimination so the first seven questions were dropped mid-way through the study. [PIN3: ADMINISTERED AT PI #2]

Perceptions of Neighborhood Safety (developed by Irva Hertz-Picciotto, described in Stancil et al., 2000). Seven questions to assess the woman's perception of safety in and stress from living in her neighborhood were developed for use in a study of birth outcome. These questions provided a subjective assessment of the respondent’s contextual environment and will be used as a proxy of how stressful she perceives that environment to be. [PIN3: ADMINISTERED AT PI #2].

Perceptions of Neighborhood (Coulton et al., 1996). Another set of questions about neighborhood perceptions focusing on disorder and victimization. [PIN3: ADMINISTERED AT PI #2].

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