

Measuring the Natural History of

- Empathy
- Cynicism
- Burnout
- Stress
- Cohesion
- Psychological Safety
- Learning Environment
- Quality of Life
- Residency Preference

of Medical Students

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Background

Proposed model of causes and consequences of student distress includes stress, burnout, cynicism, decline in empathy, workload, institutional culture, decline in physical health, impaired academic performance, influence of specialty choice, etc. (Dyrbye, 2005)

Problems:

- Medical school is stressful for students: distress, burnout, cynicism, poor academic performance, etc.
- Are there factors that enhance students' QOL?
- Limited prospective longitudinal studies looking at stress, burnout, QOL, etc. throughout medical school

Purpose:

Longitudinal assessment

- Empathy
- Cynicism
- Burnout
- Stress
- Learning Environment
- Quality of Life
- Cohesion
- Psychological Safety
- Residency Preference

of students throughout medical school.

Methods:

- Solicit on-line (SurveyMonkey) assessments of OSU medical students using end-of-year (EOY) surveys and at initial entry
- Use assessment instruments with previously demonstrated reliability and validity
- Data collected: Two years of data from three classes at OSU

Instruments

- **Interpersonal Reactivity Index (Davis, 1980)**
- **Maslach Burnout Inventory Student Survey (Schaufeli, et al. 2002)**
- **Learning Environment Questionnaire (Moore-West, et al 1989) evolved from (Marshall's Medical School Environment Survey, 1978)**
- **Perceived Stress Scale (Cohen & Williamson, 1988)**

Instruments cont

- **Quality of Life** (typically patients assessment but also used by physicians to rate; Shanafelt, et al, 2005)
- **Perceived Cohesion Scale** (Bollen and Hoyle (1990) adapted and validated (Chin et al, 1999)
- **Learning Community Perceptions (Psychological Safety)** Edmondson (1999)
- **Residency Choices** (top three residency choices of Top 27 residency types likely to be selected plus “Other”: student-entered)

Interpersonal Reactivity Index

- **Perspective Taking**
- **Empathic Concern**
- **Personal Distress**
- **Cognitive Fantasy**

Maslach Burnout Inventory Student Survey

- **Exhaustion**
- **Cynicism**
- **Professional Efficacy**

Learning Environment

- **Emotional Climate**
- **Nurturance**
- **Student-Student Interaction**
- **Meaningful Learning Experience**
- **Flexibility**

Quality of Life

- Overall
- Physical
- Emotional
- Social
- Spiritual
- Intellectual
- Support (from family and friends)
- Fatigue
- Financial Concerns
- Legal Concerns

Other Instruments

- **Perceived Stress Scale**

- (7-point scale from “Never” to “Very Often”)
- Extent to which situations in an individual’s life are assessed as stressful during the past month

- **Psychological Safety**

- (5-point scale from “Never” to “Very Often”)
- Belief that the team/group is safe for interpersonal risk taking.

- **Residency Choices**

- Current top three residency choices
- Degree of confidence (5-point scale: “Not Confident” to “Very Confident”) that they will select this residency after they graduate medical school

Perceived Cohesion Scale

- **Sense of Belonging**
- **Feelings of Morale**

7-point scales

“Strongly Disagree” to “Strongly Agree”

Separate Targets:

- 1) Learning Community Group**
- 2) OSU Medical School Class**
- 3) OSU Medical School**

Comparisons of Consented (Data Collected) by Class and Year

	2007-08	2008-09	Both
Enter 2009		178 (200) Baseline	
Enter 2008	158 (178) Baseline	113 (171) End of 1st	97 (166)
Enter 2007	124 (138) End of 1st	98 (157) End of 2nd	66 (108)
Enter 2006	76 (99) End of 2nd	98 (140) End of 3rd	46 (78)
Enter 2005	76 (99) End of 3rd		

Men vs. Women Class Comparisons 2007-08

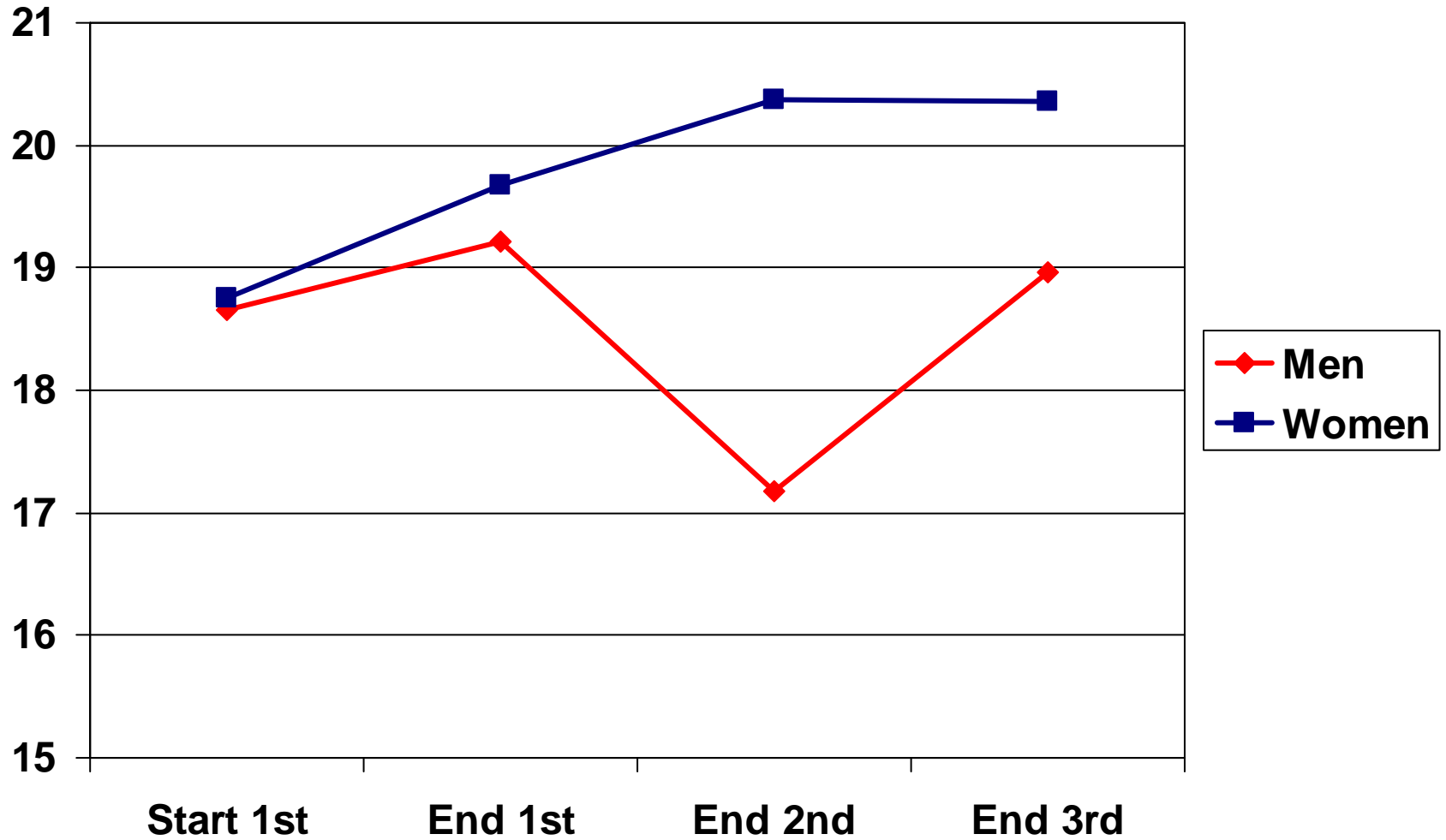
Baseline 1st

End of 1st

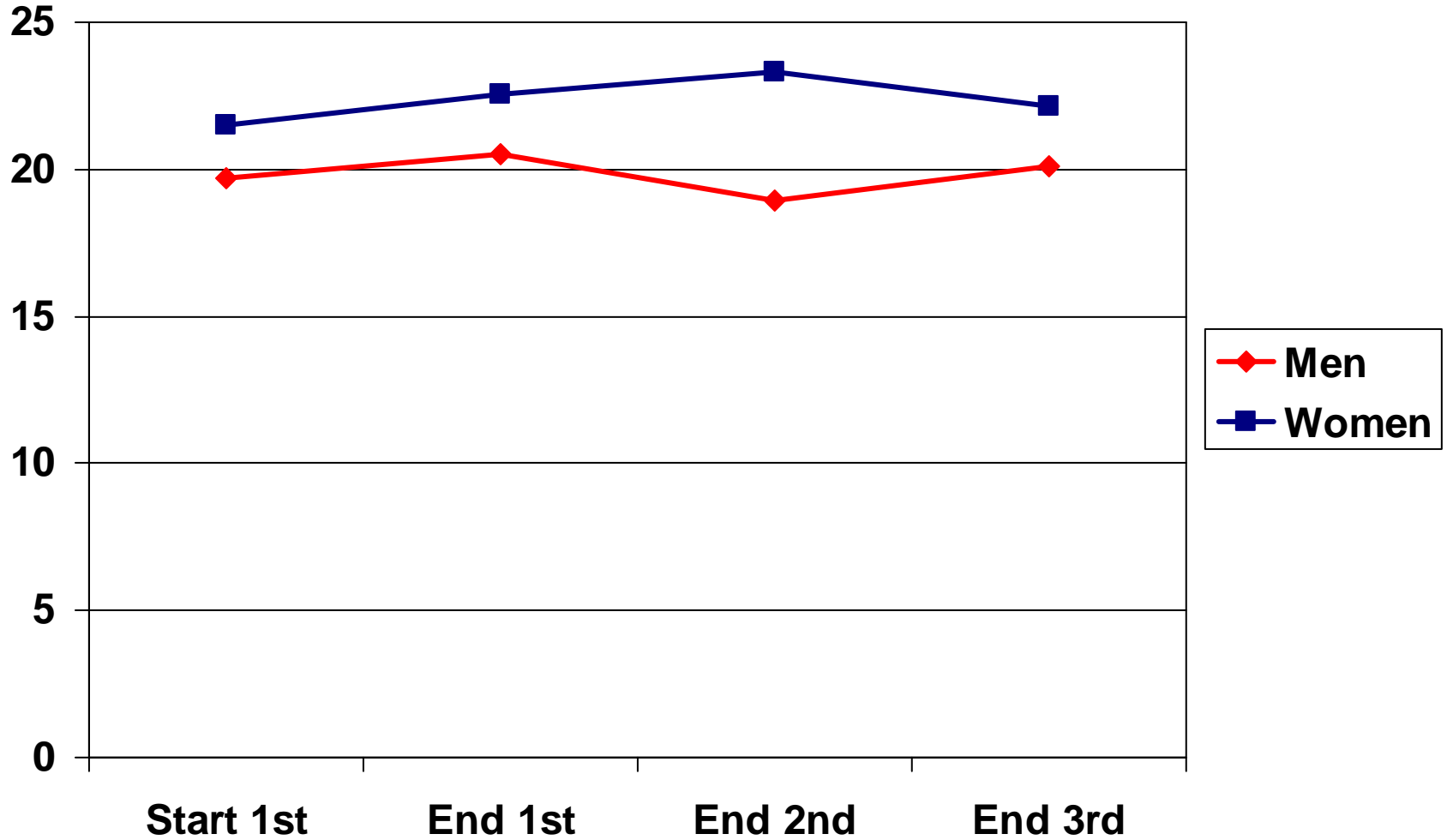
End of 2nd

End of 3rd

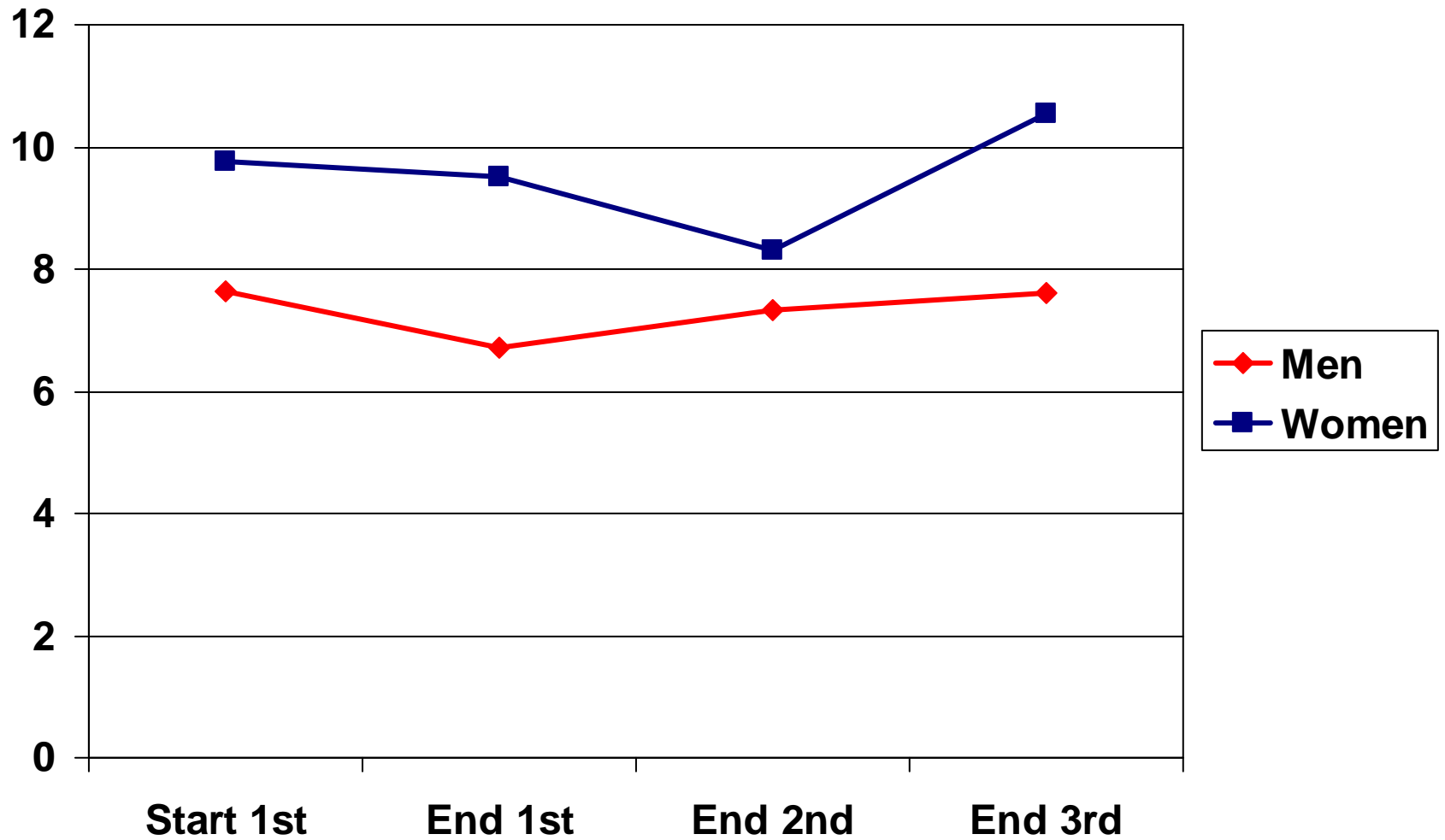
Perspective Taking



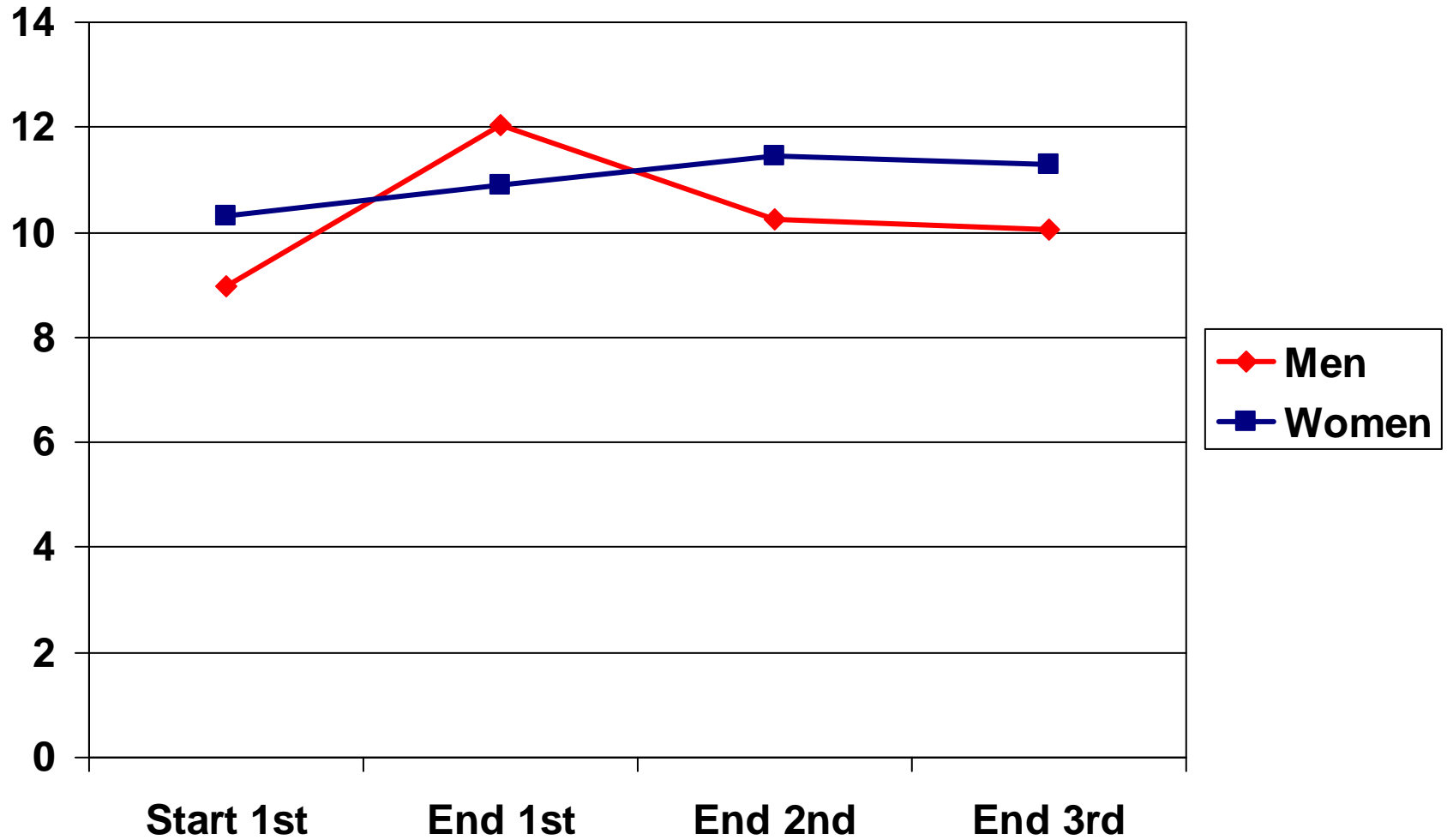
Empathic Concern



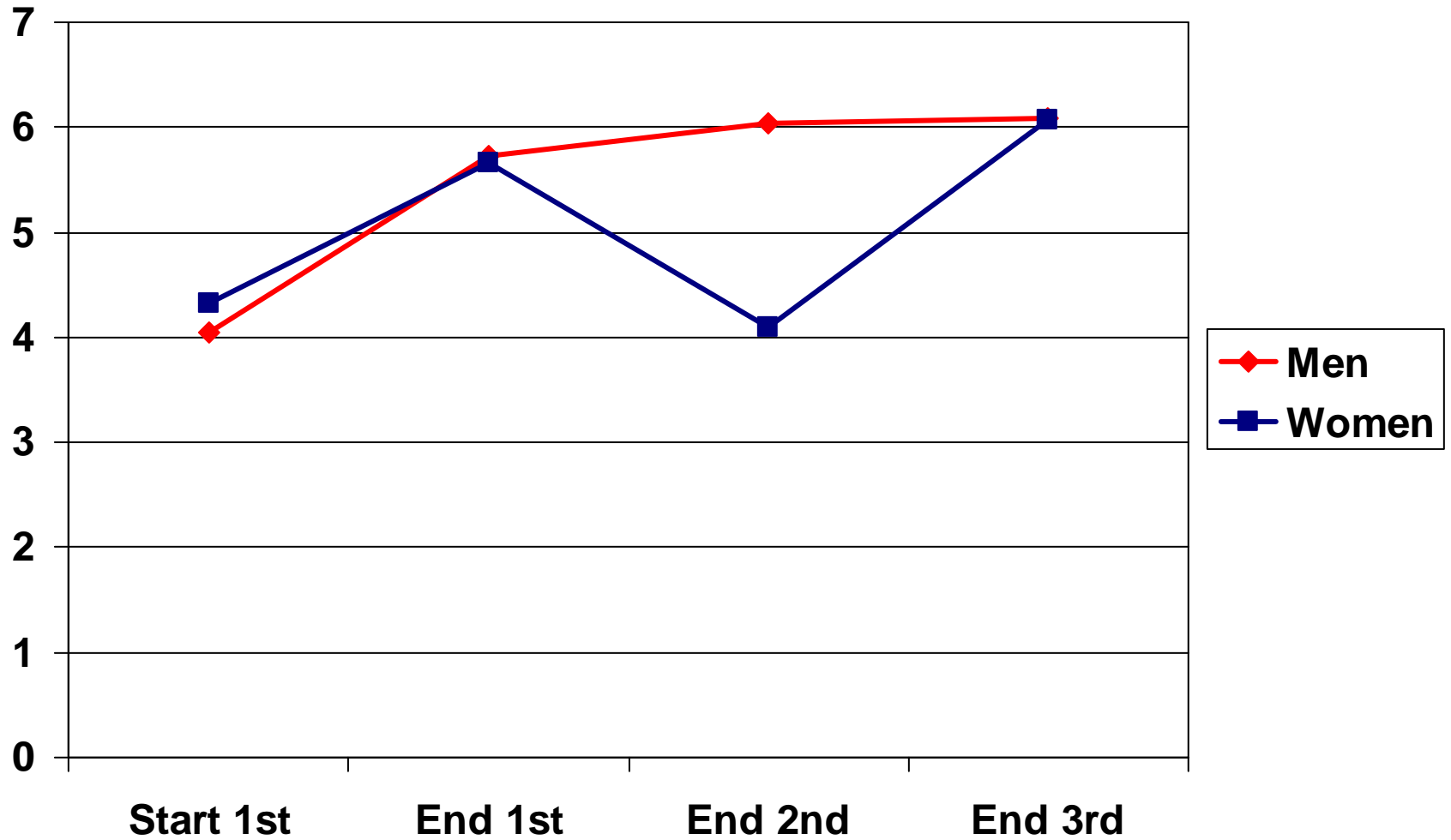
Personal Distress



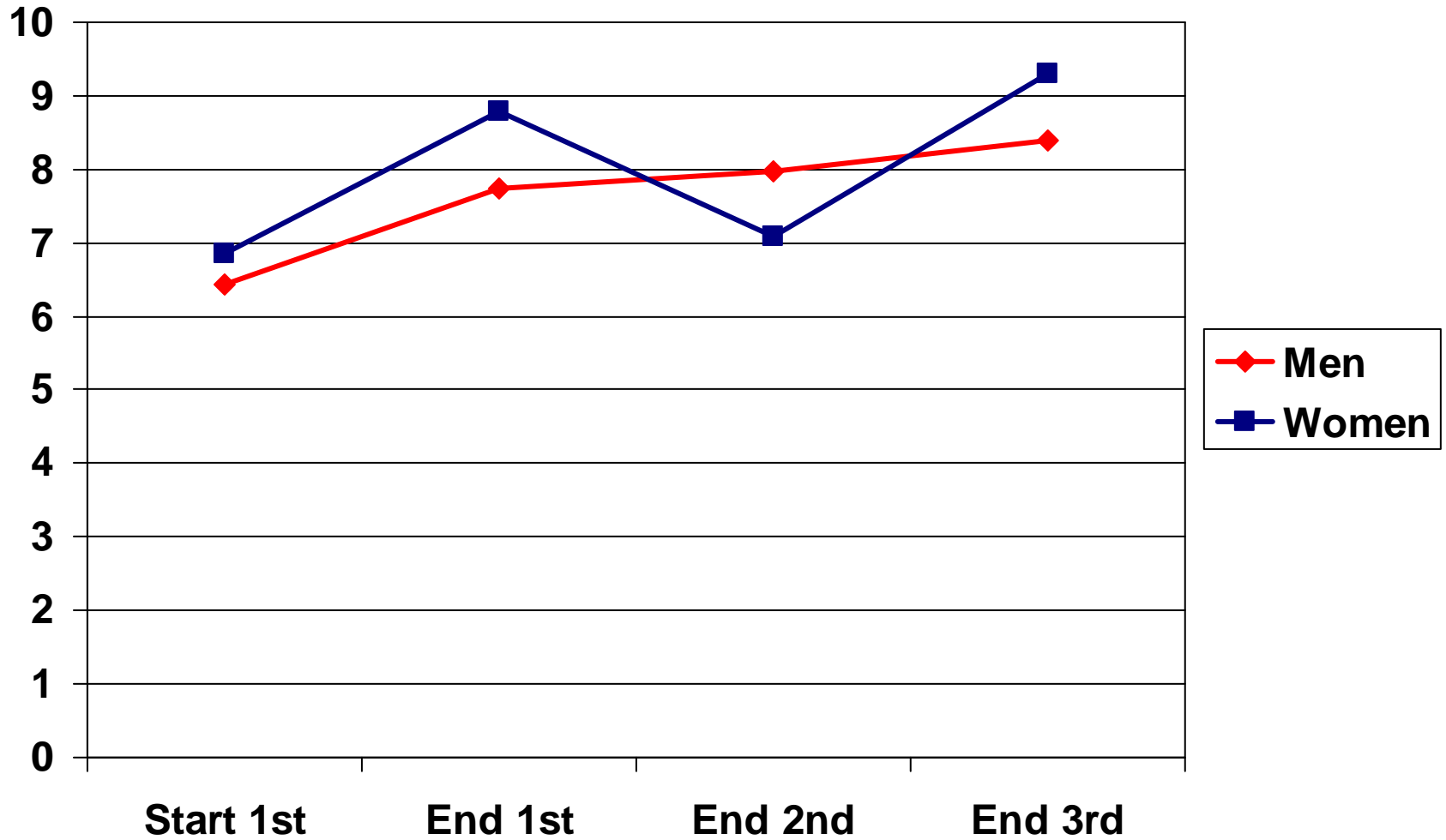
Professional Efficacy



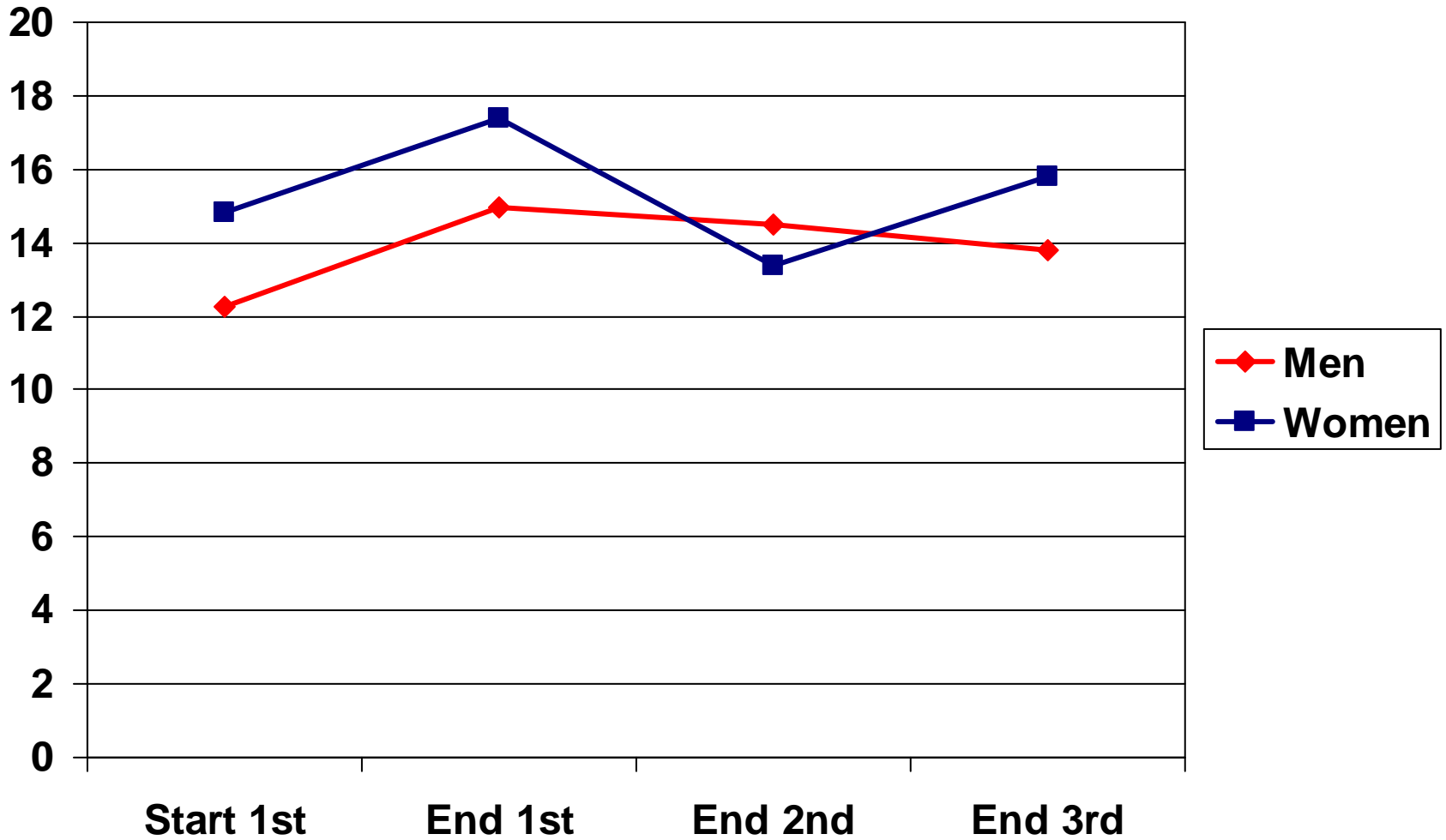
Cynicism



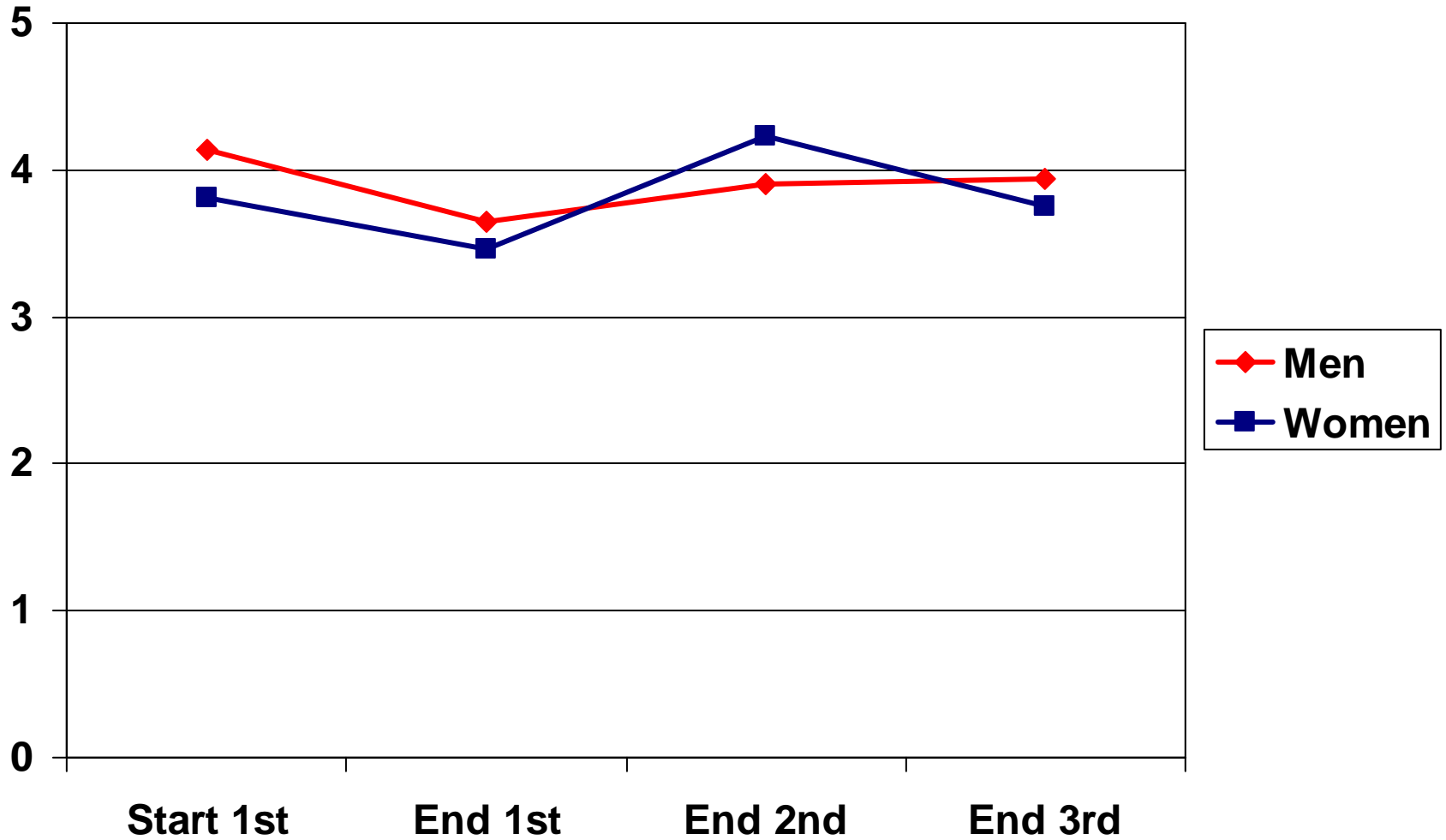
Emotional Exhaustion



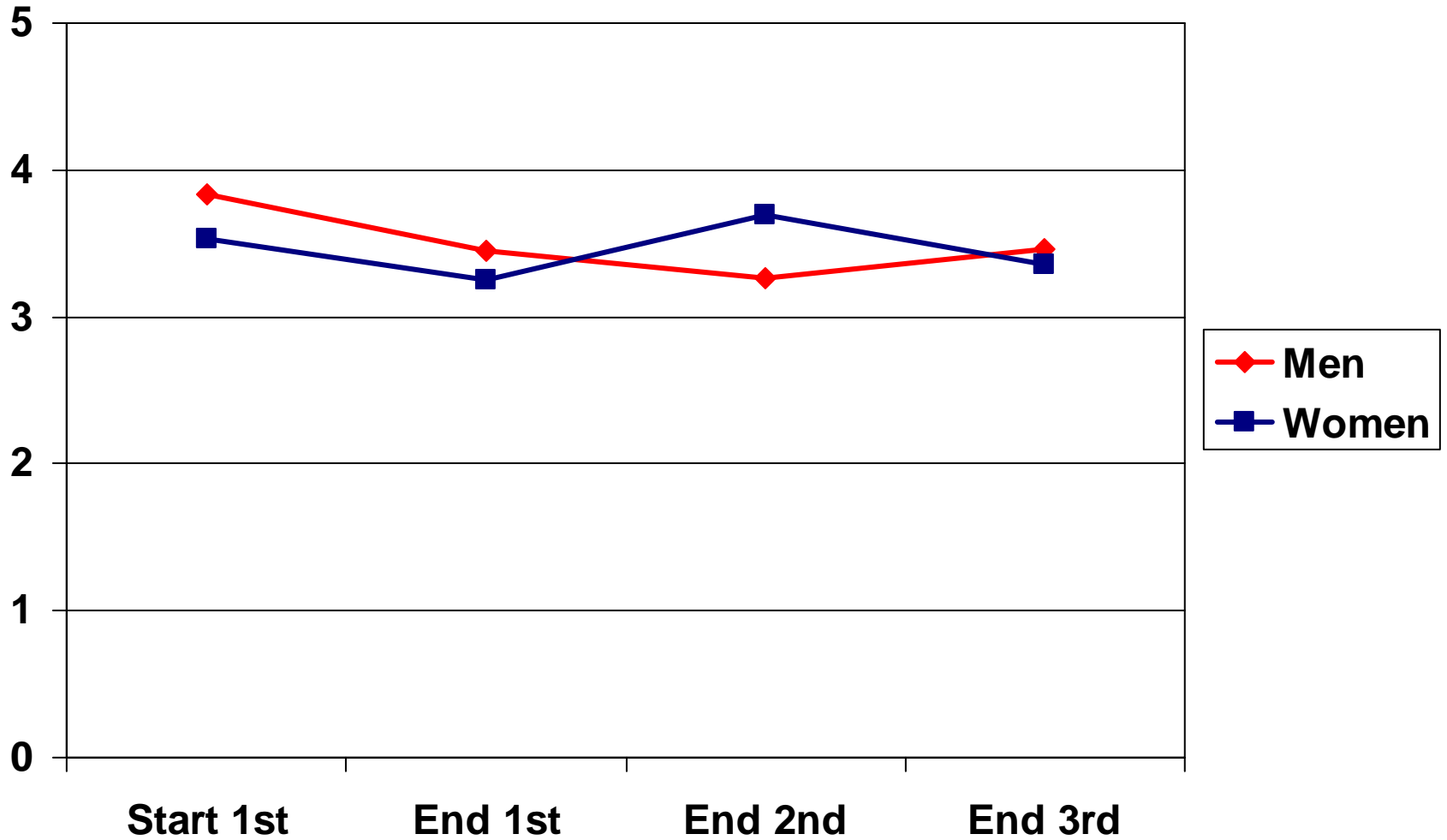
Perceived Stress



Overall Well-being

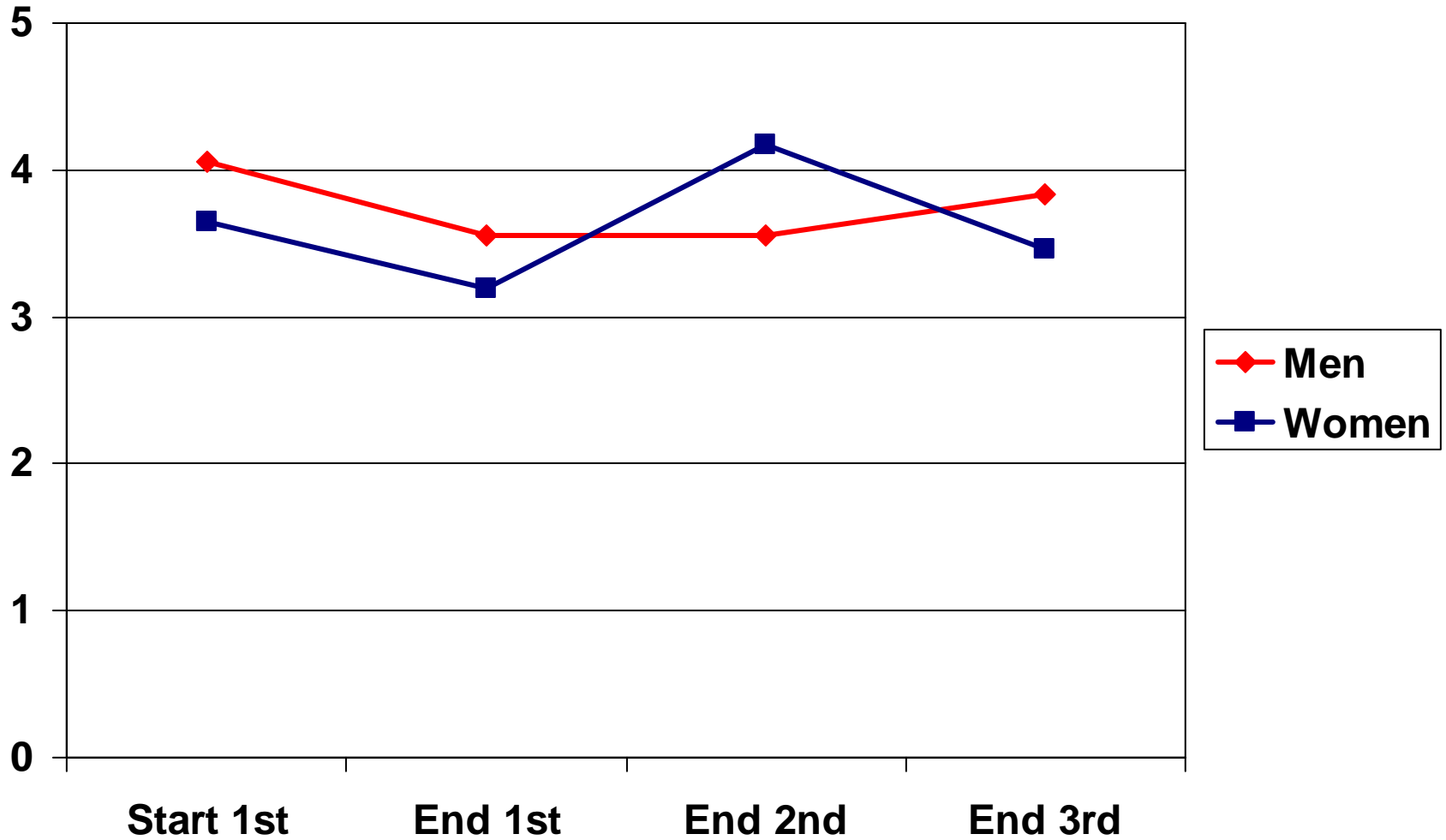


Physical Well-being



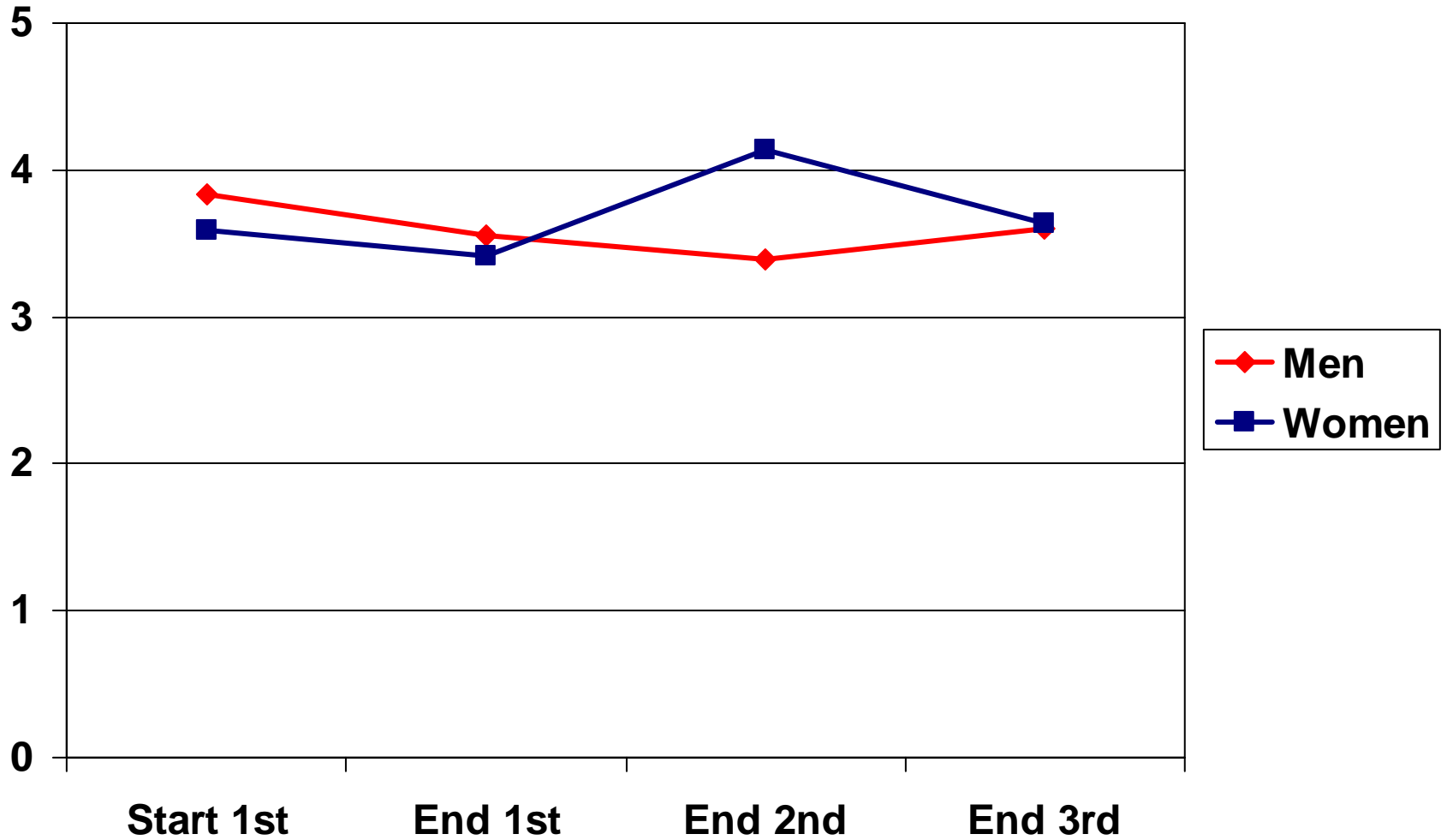


Emotional Well-being



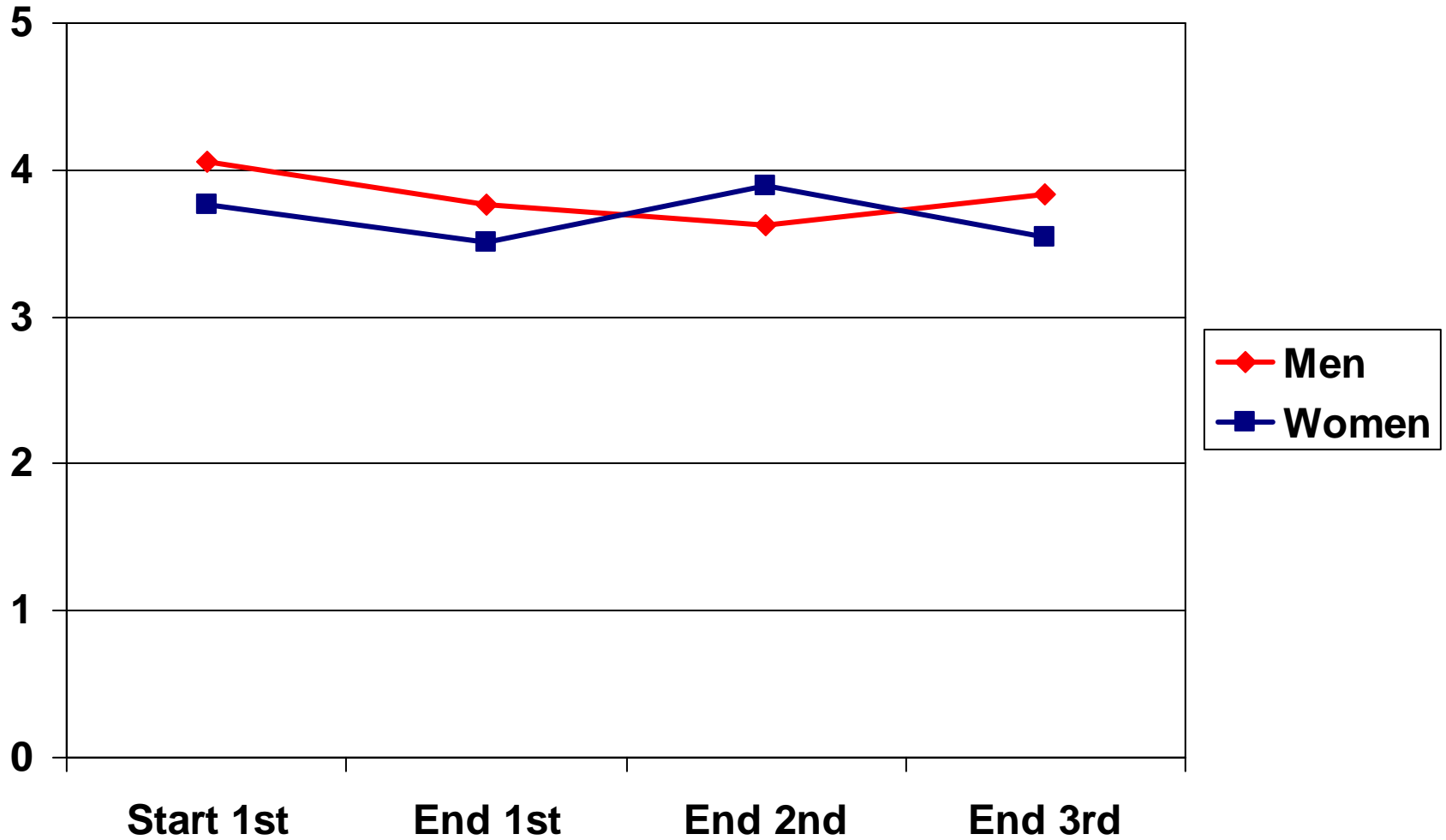


Spiritual Well-being

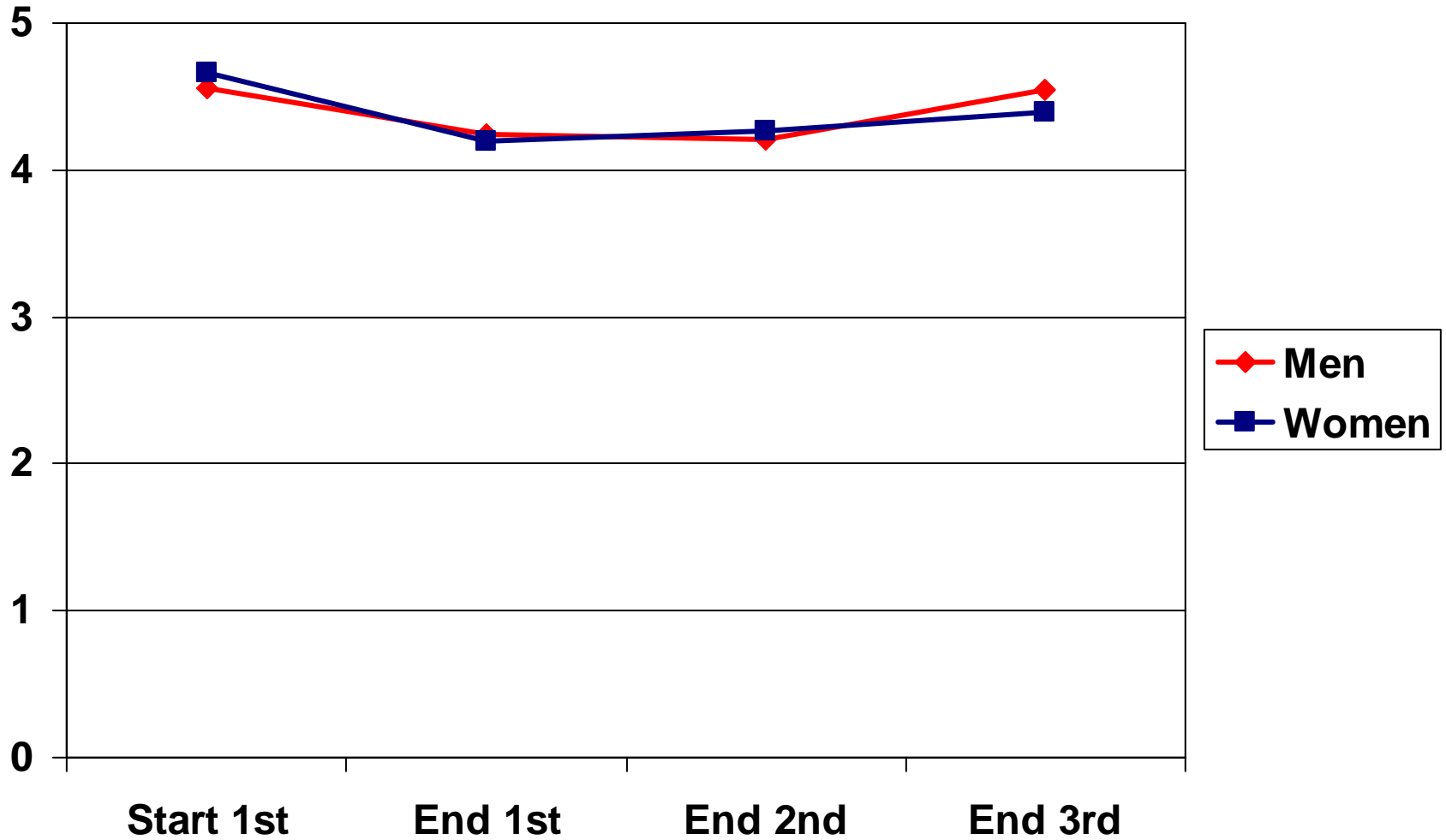




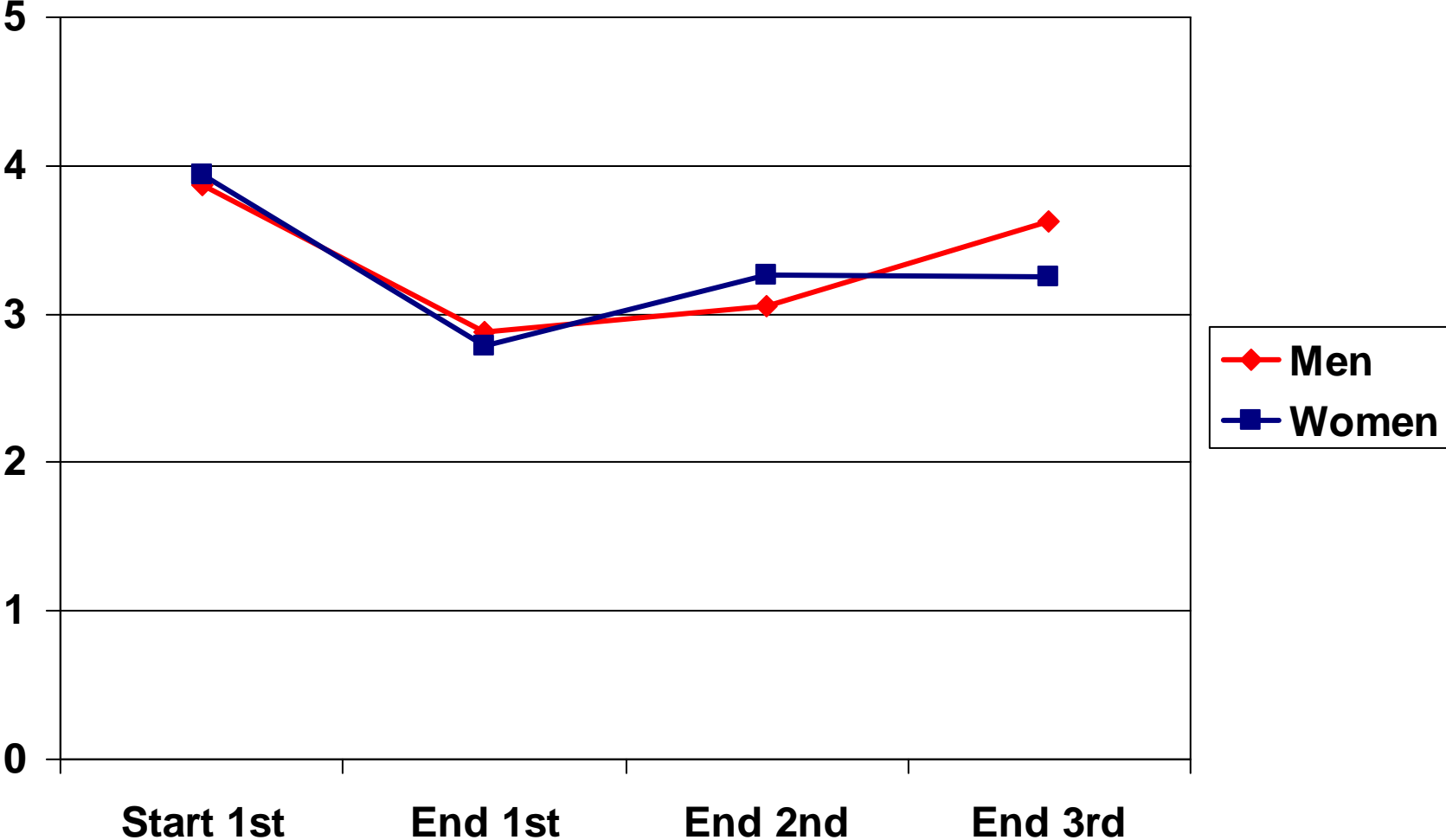
Intellectual Well-being



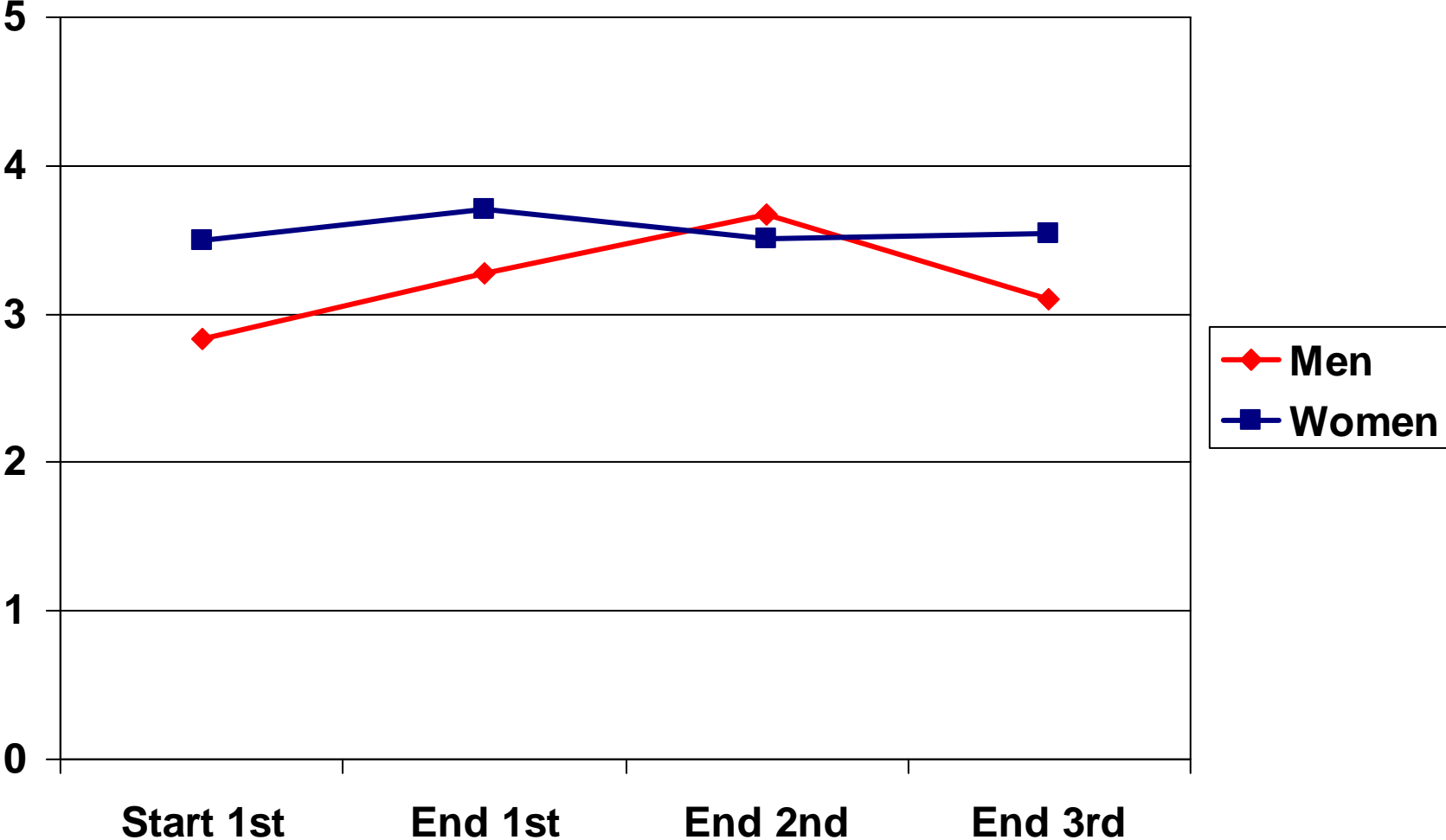
Level of Support from Family and Friends



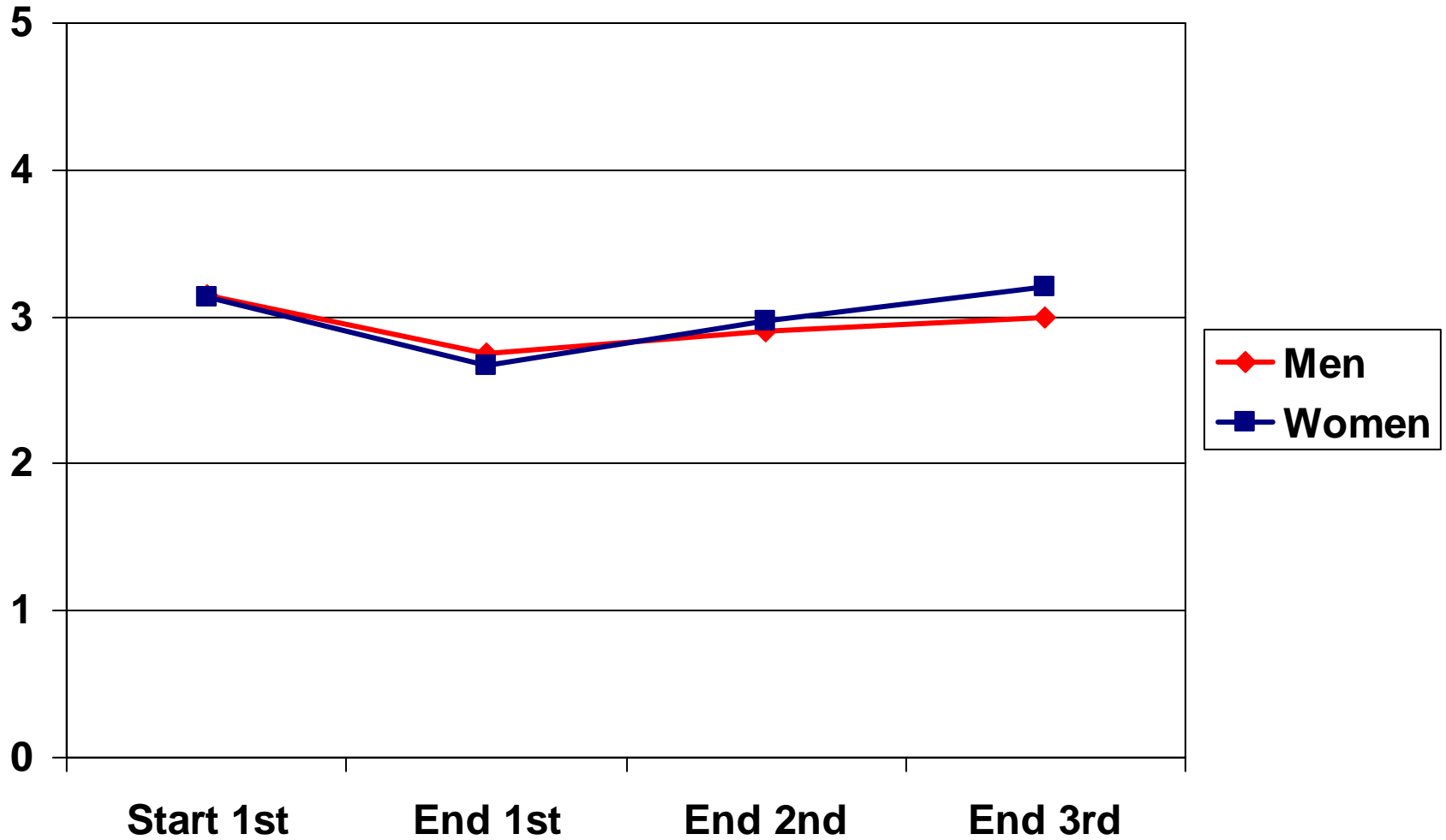
Level of Social Activity



Level of Fatigue

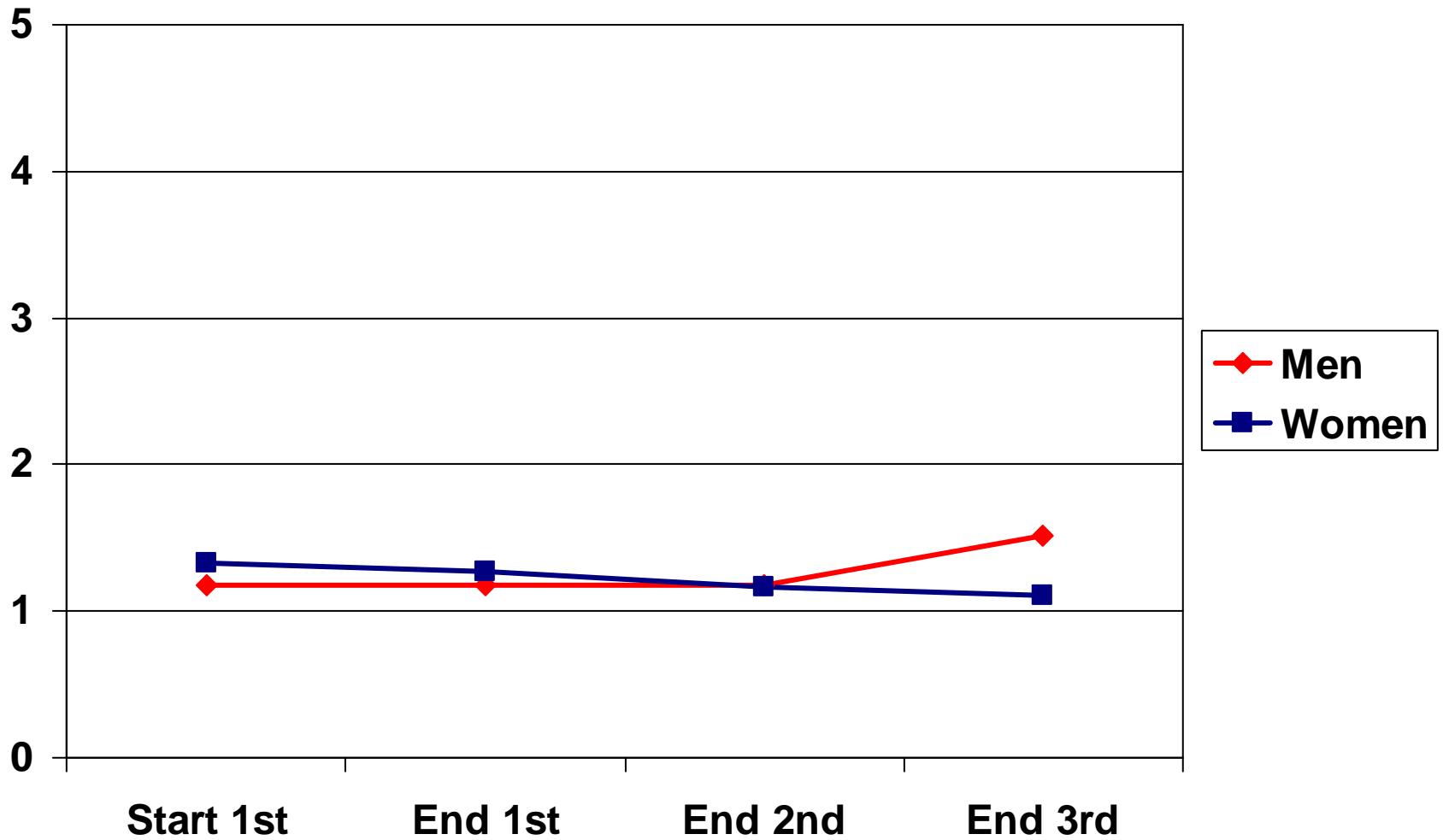


Degree of Financial Concerns





Degree of Legal Concerns



Discussion

- Very Preliminary Results: one year and 3 classes - Differences between gender and/or classes
- Plans to integrate grades, MCAT, USMLEs; 4th year students
- Future: Longitudinal data collection to assess effects of implementing student learning communities; curricular change
- Model testing over time

