

## Introduction

- Imposter phenomenon (IP) is the belief one does not deserve success. Individuals with IP fear they will be exposed and others will realize they do not belong.<sup>1</sup>
- Medical students, residents, and physicians experience IP at significant rates.<sup>2</sup>
- Women and minorities experience some of the highest rates of IP.<sup>3,4</sup>
- Burnout, anxiety, and depression have also been associated with IP.<sup>5</sup>
- Impact of IP on medical professionals is unclear, including effects, instances, rates, outcomes, and intervention efforts.<sup>2</sup> More is needed to determine how IP plays a role in professional development, burnout, and overall career satisfaction.<sup>6</sup>
- **Purpose:** to assess current literature and identify common factors and outcomes associated with IP for medical students, residents, and practicing physicians and to inform future research and guide medical educators towards possible interventions.

## Methods

- **Databases:** PubMed, PsycINFO, Cochrane Library, Embase, Scopus, Web of Science, Northern Lights Conference Abstracts, and Dissertations & Theses.
- We used various subject headings and keywords that related to imposter phenomenon and medical education.
- The PRISMA protocol was used during the screening process as depicted in Figure 1.<sup>7</sup>
- Extracted data from the included articles was tabulated to summarize characteristics and main findings from each study. Content analysis of this table identified major themes in the available literature.

### Inclusion Criteria:

- Studies that clearly examined IP in medical students, residents, and attending physicians.
- Study was in English.

### Exclusion Criteria:

- Studies that did not report methodology or results.
- Previous systematic or scoping reviews in order to include only primary data sources.

## Results

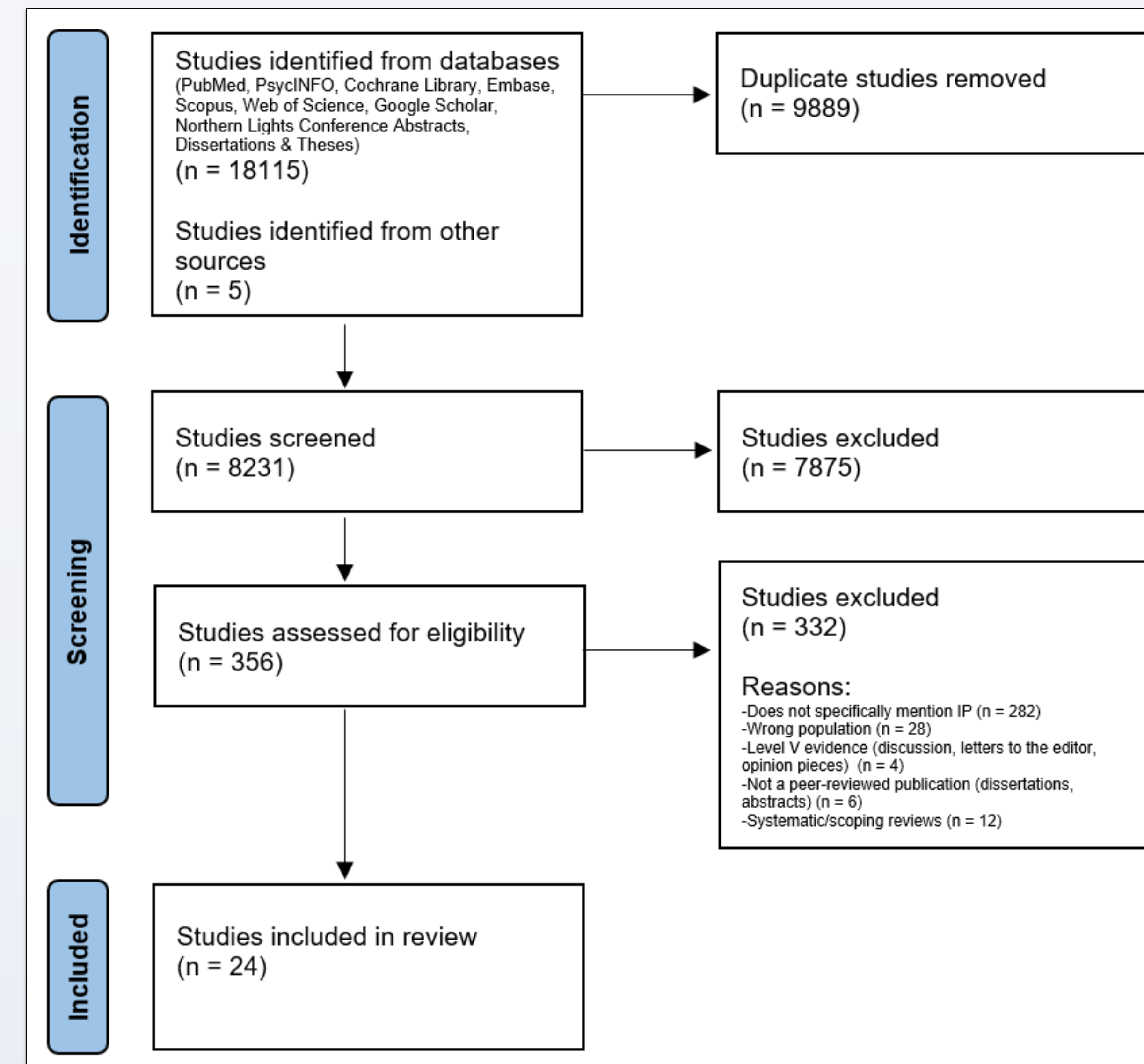


Figure 1: PRISMA Article Screening Diagram

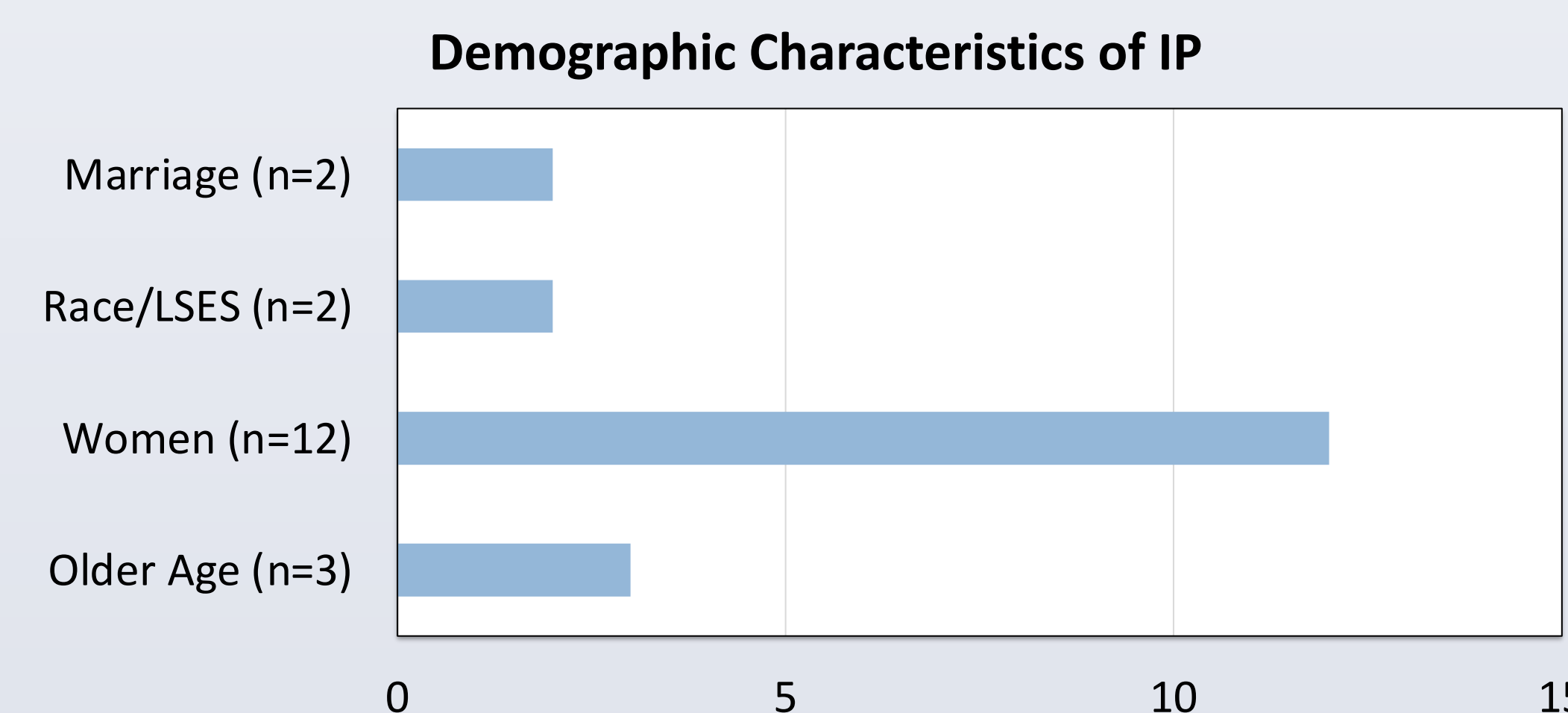


Figure 2: Studies Citing Demographic Characteristics of IP (n=14)

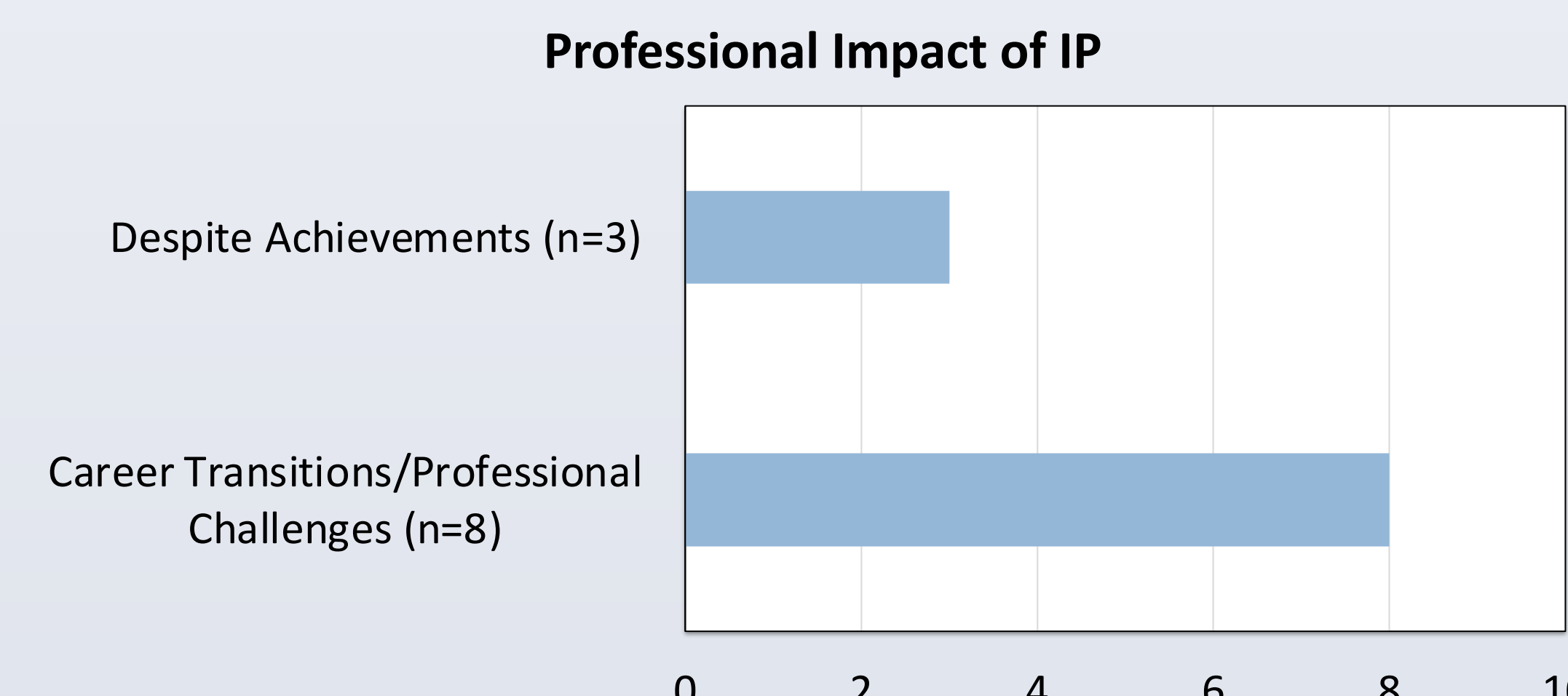


Figure 3: Studies Citing Professional Impact of IP (n=10)

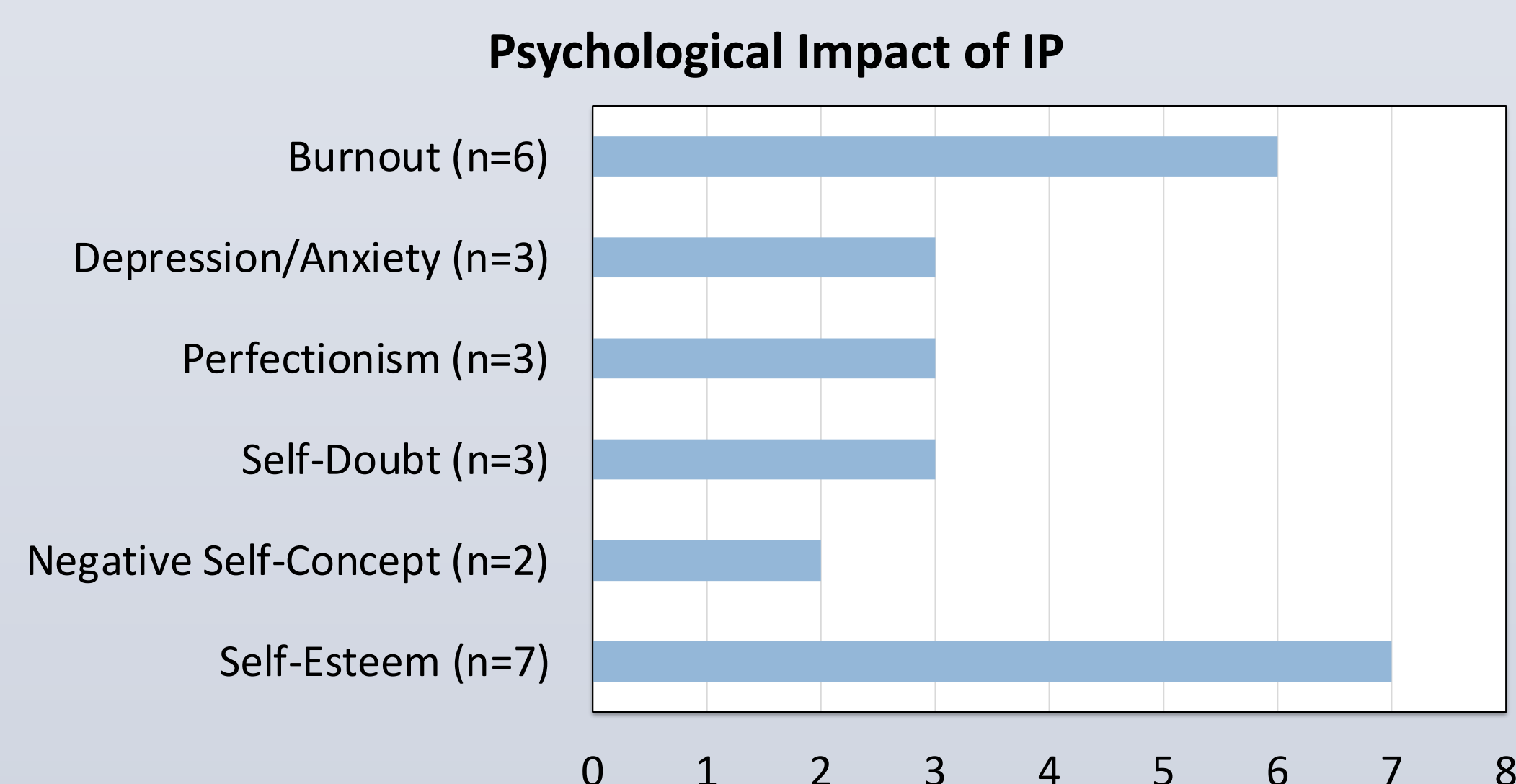


Figure 4: Studies Citing Psychological Impact of IP (n=17)

### Key Results

- Half of the 24 included studies cited that IP was more common amongst women (n=12).
- IP was cited as highest during career transitions and professional challenges (n=8).
- IP was associated most frequently with low self-esteem (n=7) and burnout (n=6).
- Depression and anxiety were heightened amongst those experiencing IP (n=3).

## Discussion

- IP differences in gender, age, marital status, cultural context, and race were noted and often significant.
- IP often surfaced during career transitions or new professional challenges.
- IP was seen to persist well into a physicians career despite numerous professional achievements.
- IP was associated with low self-esteem, a negative self-concept, perfectionism, and increased self-doubt.
- Anxiety, depression, and burnout heightened IP.
- Despite consequences current medical education needs improvement in IP education and prevention.<sup>2</sup>
- Medical educators may lessen the impact of IP by implementing mandatory classes on IP and mentoring opportunities<sup>6</sup>, access to counselling services<sup>8</sup>, and encouraging acceptance of talk therapy for IP.<sup>9,10</sup>
- Further research is needed to determine how IP relates to minorities' experiences and those with LSES and how this may contribute to lowered diversity in medicine.
- Future research may also look at whether IP impacts specialty choice and career satisfaction.

## Conclusion

- This scoping review reveals consequences of IP on one's success and wellbeing in medicine.
- Increased awareness of and engagement with IP in medical curriculums will benefit satisfaction, performance, and diversity across specialties.
- This could improve patient care as well as reduce burnout, anxiety, and depression. Thereby providing better educational experiences for medical learners and future careers for physicians.

## References

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