

Barriers to Conducting Field Research in Construction

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Introduction

- Construction workers have the highest rate of work injuries of any sector
- Occupational health & safety studies in construction face many logistical barriers
- To study risks associated with work-related injuries collecting exposure data characterizing work activities is necessary
- Finding individual workers at field sites is extremely difficult and time consuming

Purpose

- To describe barriers to obtaining work exposure data from apprentice carpenters in a longitudinal study.



Methods: Overall Study

- Longitudinal study examining development of upper extremity disorders in newly hired workers (n= 1108 workers, 8 companies and 3 trade groups)
- Participant contacts
 - Baseline physical testing and survey
 - Repeated surveys (6, 18, 36 months)
 - 6 month worksite visit
- Approved by Carpenters Labor/Contractor Joint Apprenticeship Program

Methods: Carpenter Worksite Visit

■ Participant

- Request for approval at 6 months
- Contact apprentice at school or by phone
- Contractor contact information

Methods: Carpenter Worksite Visit

■ Contractor

- Assistance from carpenter employment counselor
 - Made initial contact with some contractors
 - Escort for some early worksite visits
 - Provided contact information for contractors
 - Made contacts with some hard to reach contractors
- Explanation for worksite visit and approval request
 - ~1 hour onsite (brief interview and videotape of work tasks)
- Schedule worksite visit

Analysis

■ Data collection

- Participant
 - Rate of approval and reason for refusal of worksite visit
- Contractor
 - Rate of approval and reason for refusal
 - Communication effort to schedule worksite visit
 - Time and frequency of contacts
- Worksite Visit
 - Physical effort to complete the worksite visit
 - Distance and time to travel

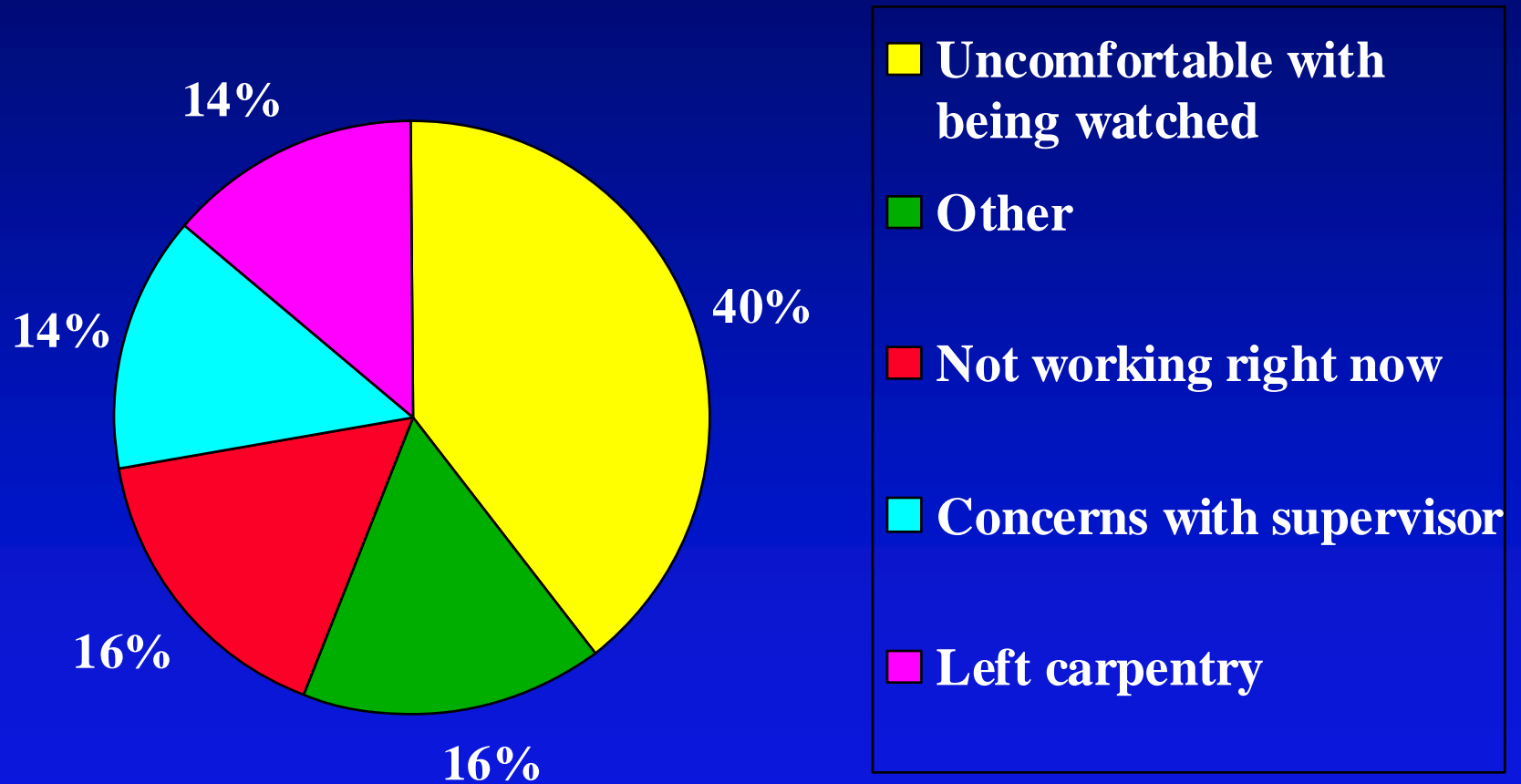
Results: Participant Barriers

- Number of carpenter apprentices (n =211)
- Contact apprentices at apprenticeship program or by phone
- Apprentices who agreed to worksite visit: n=164 (78%)

	Agreed (n= 164) mean (range)	Refused (n= 47) mean (range)
Age (years)	26 (18-49)	28 (18-50)
Transiency (# of contractors worked for annually)*	1.3 (1-5)	2.3 (1-14)

* p = 0.03

Results: Participant Refusals (N=47)



Communication with Contractors

- Call contractor office
 - Contractor rarely in office or available, left messages
 - Small contractors often work in the field
 - May relay information through receptionist
- Schedule worksite visit
 - Schedule often set early morning
 - Worker may be relocated to multiple jobsites in one day
 - Work dependent upon weather, supplies at worksite, rental equipment (crane, lift), other trades

Results: Contractor Barriers

- 87 different contractors employed the 164 apprentices
- Of contractors asked, 87% agreed to worksite visit (n= 58)
- Of contractors approved, completed 114 worksite visits

	Approved	Refused	Not asked
# of Contractors	58	8	21
# of Apprentices	129*	9	26**

* 15 apprentices: recently left program, not working, moved out of state, or trying to schedule with contractor

**apprentices recently left program, not working, moved out of state, W/C, secure work location, haven't reached contractor

Results: Contractor Refusals (N=8)

Safety/liability concerns	3
Fear of increased workers' compensation claims	1
Lack of interest in research	1
No reason provided	3

Communication Barriers with Contractor (n=114 completed worksites)

Effort to communicate with contractor*	Mean (range)
Number of attempted contacts	8 (1-20)
Time from 1st attempt to completed worksite visit (wks)	8 (<1-35)

*Represents 65 / 114 completed worksite visits

Similar effort required for subsequent worksite visits from same contractor

Differences in Physical Barriers for Residential and Commercial Worksites

Effort to complete worksite visit	Residential* Mean (range)	Commercial** Mean (range)
Time to drive (minutes)	42 (7-90)	35 (10-120)
Time onsite (minutes)	45 (25-105)	53 (20-100)
Two attempts to complete	7/38	1/21

* Represents 34/80 worksite visits

** Represents 18/24 worksite visits

Summary of Results

- Some early apprentices don't like to be singled out
- Strong union support in a highly unionized system enables willingness of contractors
- Communication with contractors is always difficult
- Residential workers change work locations frequently
- High cost in time and miles to complete a single worksite visit

Conclusions

- Collection of field data in longitudinal studies has a high cost in time and effort
- Short work cycle time and variability of work processes adds to the burden of locating worker
- Cultural norms and relationships matter
- Even with strong union/contractor support, individual follow-up is difficult
- Cross-sectional or group aggregate data might be preferable for this population