

Research and Workplace Innovation Program
Project Update



**UNIVERSITY OF
CALGARY**

Safety Knowledge Sharing in the Culinary Trades

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Workers Compensation Board of Manitoba

Winnipeg, Manitoba



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Project Purpose

- To investigate
 - how seasoned workers and trainees share safety-related knowledge in the culinary environment
 - the receptivity towards and learning of safety-related knowledge among trainees in the culinary trades

Study Context



Study Context



Study Context





Study Context



Study Methodology

- Two studies:
 - Study 1
 - 22 one-on-one interviews with students enrolled in different (e.g., culinary, baking, meat cutting) apprenticeship program instructors, and chefs in industry, all affiliated with Red River College (Winnipeg) and NAIT (Edmonton) culinary programs
 - Study 2:
 - 2-wave study with 73 students at Red River College
 - 6-wave study with 94 students and 13 instructors at NAIT

Example schedule of six-wave survey design

	Wave 1 - Oct 6		Wave 2 - Oct 20		Wave 3 - Nov 17		Wave 4 - Jan 19		Wave 5 - Mar 2		Wave 6 - Apr 6	
Culinary Arts Class Name	Block 1		Block 2		Block 3		Block 4		Block 5		Block 6	
	Start Date	End Date	Start Date	End Date	Start Date	End Date	Start Date	End Date	Start Date	End Date	Start Date	End Date
Soup and Vegetables	Sept. 9	Oct. 9	Oct. 10	Nov. 10	Nov. 12	Dec. 12	Jan. 13	Feb. 12	Feb. 23	Mar. 24	Mar. 25	Apr. 24
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Contemporary Cuisine	Sept. 2	Oct. 3	Oct. 7	Nov. 7	Nov. 12	Dec. 12	Jan. 6	Feb. 6	Fe. 10	Mar. 20	Mar. 24	Apr. 24
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International Food and Culture	Sept. 2	Oct. 3	Oct. 7	Nov. 7	Nov. 12	Dec. 12	Jan. 6	Feb. 6	Fe. 10	Mar. 20	Mar. 24	Apr. 24
Evening Dining	Sept. 2	Oct. 3	Oct. 7	Nov. 7	Nov. 12	Dec. 12	Jan. 6	Feb. 6	Fe. 10	Mar. 20	Mar. 24	Apr. 24

Over the six waves, **305** student responses were obtained from **94** individual students.

Instructors Rated Students Across Waves

First and Last Name	Observation 1: Has sought safety information from you.			Observation 2: Has sought safety information from fellow students.			Observation 3: Has voiced safety concerns to you.			Observation 4: Has voiced safety concerns to fellow students.			Observation 5: Has engaged in safe and / or unsafe behaviours.		
	Not at all	Sometimes	Quite Often	Not at all	Sometimes	A lot	Not at all	Once	More than Once	Not at all	Once	More than Once	Safe	Neither Safe nor Unsafe	Unsafe
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13 instructors provided **505** students with ratings over 6 waves.

We matched responses between students who participated in the survey who were also rated on multiple aspects of safety performance by instructors.



Study 1

What is Safety Knowledge Sharing?

- Safety as *socially constructed* and a *practical accomplishment*
- Learning about *safe working practices*; this happens through *socialization* and *participation* in a *community of practice*

Safety Knowledge Sharing as Learning Safe Work Practices

(Gherardi, 2006)

- Highlighting
 - Understanding *knowledge pointers*: being able to watch, look, see, and listen to others as they “carry out meaningful activities”
- Shaping aesthetic feelings:
 - Repeated “exposure to clues and sensory experiences,” as well as the language used to make safety embodied
- Talking *in* practice and *about* practice
 - Talking while doing, or talking about doing
- Integrating the social and the material
 - Social world mediated by artefacts (manuals, posters, tools) that support learning
- Enactment of a new identity
 - Practices considered appropriate reinforced by other practitioners

Theme 1:
School and Work Differ

School and Work Differ (1)

“I see a difference where especially in the first year apprentices that come in, right away if they cut themselves or let’s say they get a little burn they think they’re dying. So right away they need to get medical attention immediately. Being in school I would say, ‘Yes, go ahead. Go see the nurse and get it set up’ and then they would come back with a bandage all the way around their arm because they burned themselves on the tip of their finger. But in industry, it doesn’t work that way. In industry, if it’s really severe then yes, we’re taking you to the hospital because we don’t have a nurse on staff there, we’re taking you to medical attention immediately. But if it’s just a little nick or a little burn or whatever, ‘Suck it up princess, go to work.’ That’s the way we encourage it because of the fact that it’s small. But there are some small things that can turn very bad.”

School and Work Differ (2)

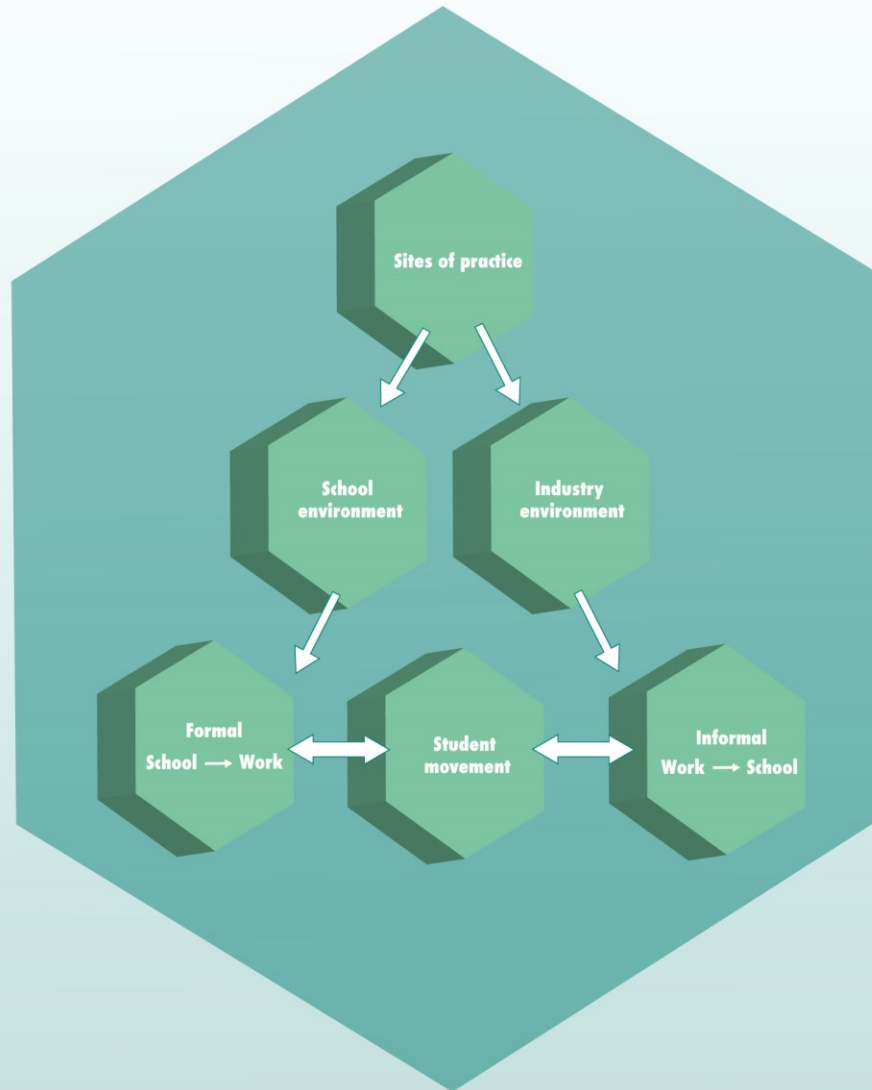
"If it's just a little knick or if it's something that's a little more uncontrollable, in that business, in that line where you've got all these deadlines and you've got all this production that you're doing that day, wrap it up and get to work. Depending on the severity. If it's severe than no, I would definitely, if it was myself cutting it I would basically because we had proper first aid training I would try and wrap it up as good as I can. Get out there and do what I need to do and then I would seek medical assistance after the fact. Because I knew I would always report it. But doesn't happen all the time. If it's a little nick or whatever, it's like put a bandage on it, put a finger cot and get to work. Because that business is that business. You're not going to constantly stop. That was another thing. I had some cooks that were with me at the [name of the restaurant] where they would get a little nick and they wanted to go home. It's like, "No, you're not going home. Wrap it up, tighten it up, we'll make a note of it and get back to work."

School and Work Differ (3)

Jeff: “So now here you are, you’re thrown into [this] environment...”

CS: “I think it’s easier at school than it is in the workplace because at school you’re not being paid to be fast. You have the opportunity to slow down if you need to.”

Figure 2:
Circulation of Safety Knowledge



Theme 2:

**Becoming a Practitioner:
Safety as “Common Sense”**

Becoming a Practitioner: Safety as “Common Sense” (1)

“There's only really so much you can teach people. At the end of the day they need common sense”(Chef, Interview P005)

- Some practitioners spoke about it as almost innate (“you know not to touch something is hot”); others, learned through experience (“you touch something hot and know not to do it again.”)
- Data suggest *deliberate reflection* (sharing with others how to be safe): negotiated on a collective level, shared in interactions, but without participants noticing its construction

Becoming a Practitioner: Safety as “Common Sense” (2)

- Common sense is *shared* and *social*, and exists within a *community of practice* constructed by *relationships*
- It is a *practical* accomplishment that we *re-enact*
- Mechanism that enables *identification* with an in-group (“*legitimate* practitioners”) and out-group (“*peripheral* practitioners”)

Safety as Common Sense: Social and Shared

*“...Listening to guys, they’ve been around a lot longer than I have. Chef’s been in the industry 20-30 odd years... Just past experiences, just common sense kind of things. Just proper sanitation, proper this. Don’t cross contaminate, things like that. **Just a lot of past experiences really most of the stuff that I’ve been told.** I’ve been fortunate to work with a lot of guys with a lot of experience and they have a lot of knowledge to share, not only cooking but with safety as well”*

Safety as Common Sense: Practical Accomplishment (1)

“As students you learn, it’s a different pace obviously in the students’ kitchen but you learn basic fundamentals that you would apply to a professional kitchen, especially with safety. It’s common sense to make sure your arms are covered for example when you’re working. How to properly use equipment and you know, don’t mix oil and water - that type of stuff. Simple stuff like that that you learn at NAIT, that I learned at NAIT and I still apply now. It’s all common sense.”

Safety as Common Sense – as Identifying (1)

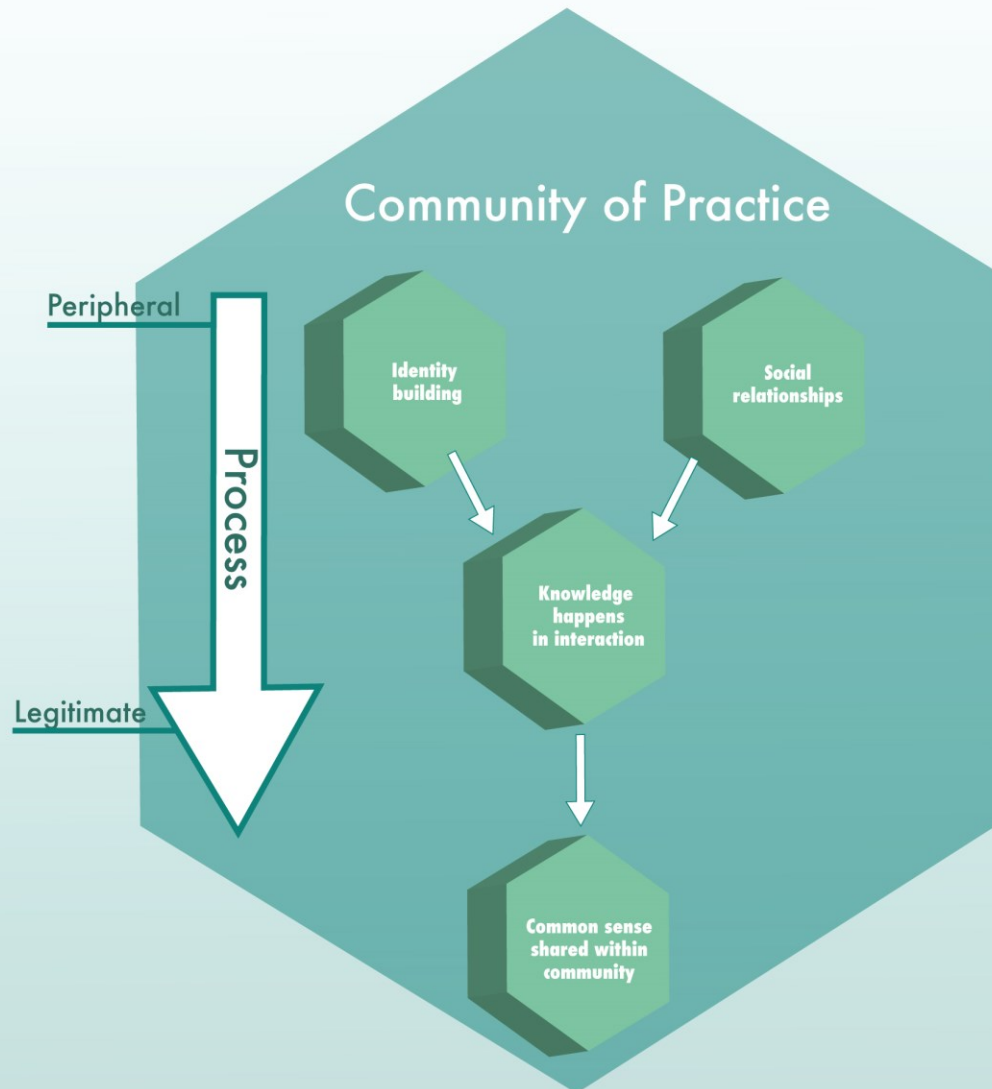
Jeff – “Can you tell me about how safety in the kitchen happens?”

*BI – “I think it’s through personal experience as well as through experience of others. **How it happens? You’re relying on everyone else as well. [Eventually] kind of like a collective knowledge.**”*

Safety as Common Sense: Practical Accomplishment (2)

“And you work with guys, you’d think that they’d understand proper don’t cross contaminate. It’s preached a lot and people should know that but you’d be surprised how often I’d have to tell someone to “Get rid of that cutting board” or “Clean that cutting board” or “Clean up that counter” or “Are you going to leave that sitting on the counter all day? Are you going to leave that? What are you doing with that? Get that in an ice bath. You can’t leave that in the sink.” Things like that. Some things that people I guess don’t practice themselves and it shows”.

Figure 3:
Becoming a Practitioner



Study 2

Study Methodology

- 2-wave study with 73 students at Red River College
- 6-wave study with 94 students and 13 instructors at NAIT

Example schedule of six-wave survey design

	Wave 1 - Oct 6		Wave 2 - Oct 20		Wave 3 - Nov 17		Wave 4 - Jan 19		Wave 5 - Mar 2		Wave 6 - Apr 6	
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Safety Knowledge Sharing Items

1. My colleagues share their safety knowledge and expertise with one another.
2. If a colleague has some special knowledge about how to perform a task safely, he or she is likely to tell other members about it.
3. There is willing exchange of safety information, knowledge, or sharing of skills among my colleagues.
4. More knowledgeable colleagues freely provide other members with hard-to-find safety knowledge or skills.
5. I share my safety knowledge and expertise with my colleagues.
6. If I have some special knowledge about how to perform a task safely, I am likely to tell other colleagues about it.
7. I willingly exchange safety information, knowledge, and sharing my skills with my colleagues.
8. I freely provide other members with hard-to-master safety knowledge or skills.

Instructors Rated Students Across Waves

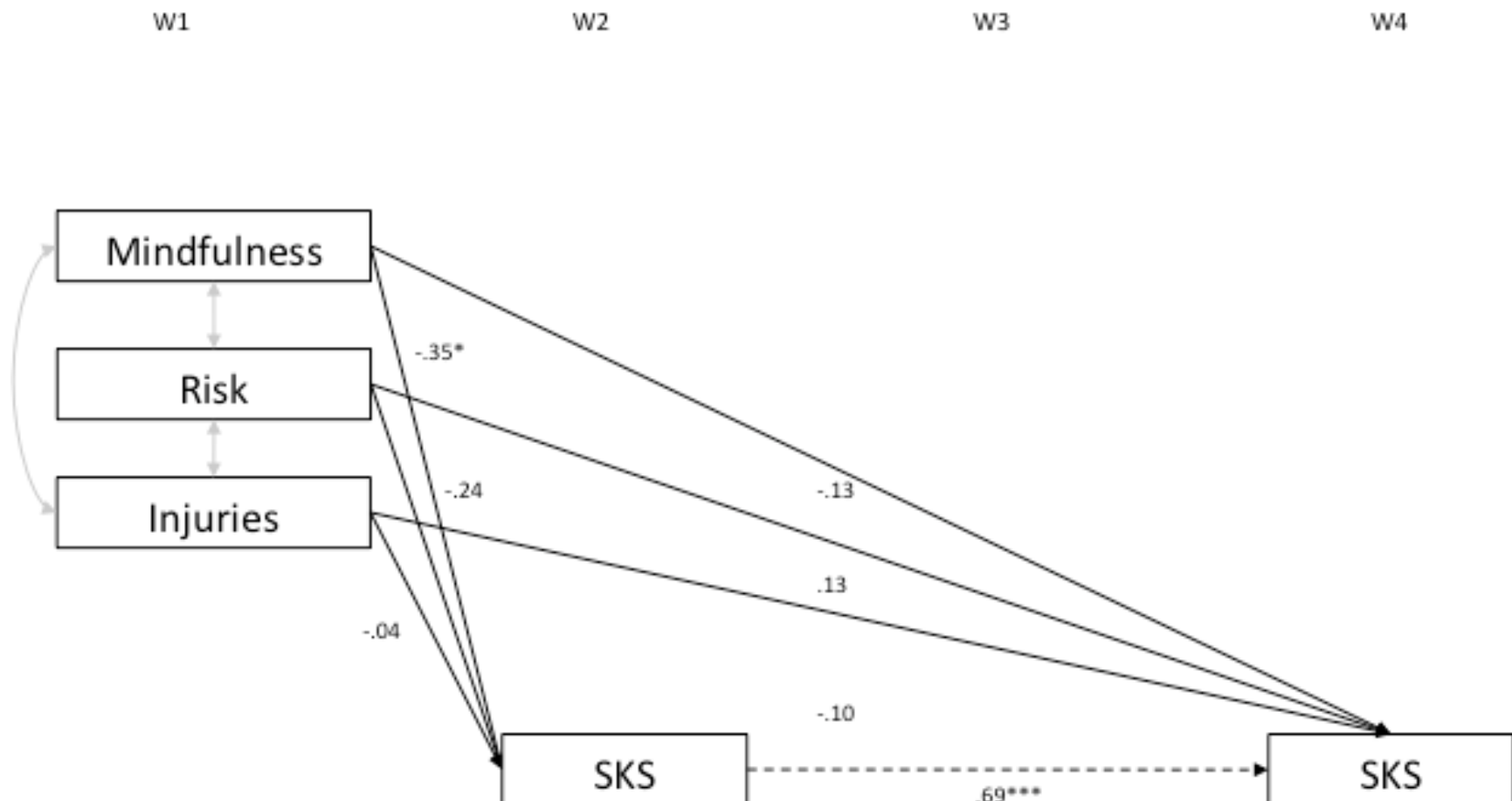
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13 instructors provided **505** students with ratings over 6 waves.

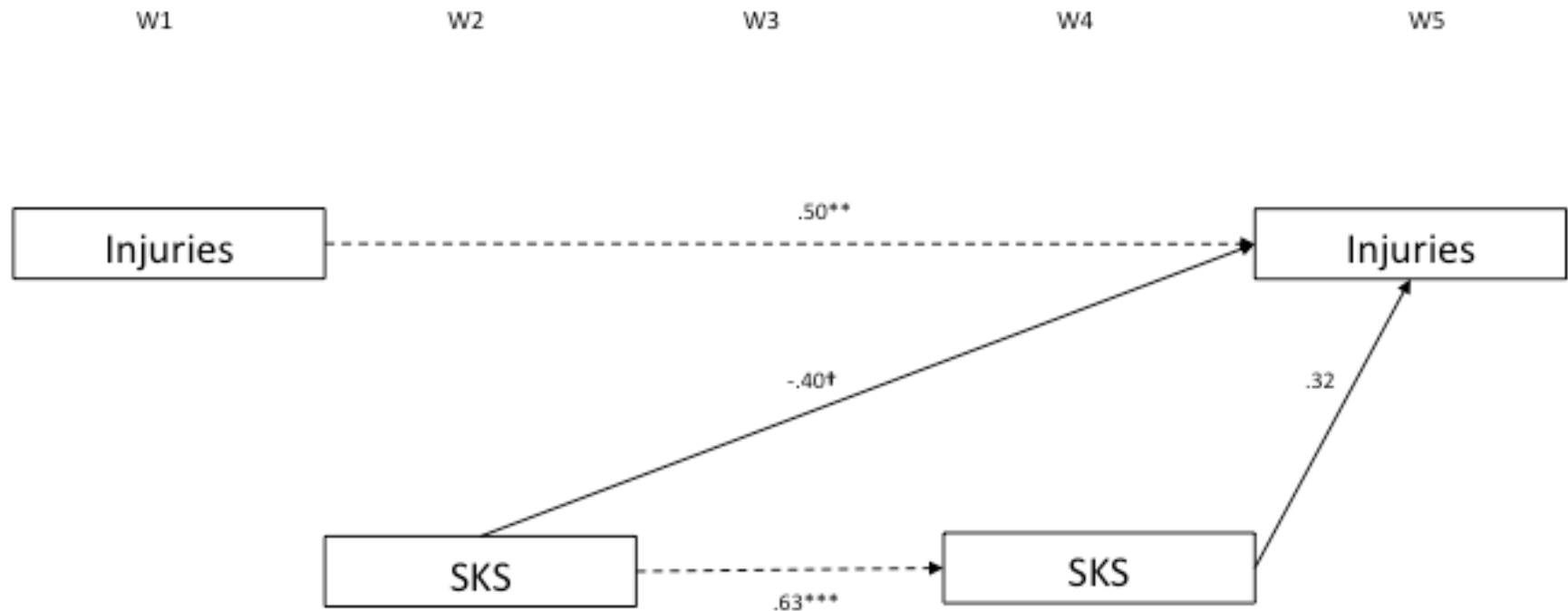
In total, **170** matched responses between students who participated in the survey who were also rated on multiple aspects of safety performance by instructors.



Relationship between potential individual predictors and change in SKS ($n = 34$)



Relationship between change in SKS and change in injury frequency ($n = 24$)



Relationship between risky behaviors and SKS

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Students who engaged in more *unsafe behaviours* at Wave 2 as rated by the instructors exhibited *higher SKS* at Wave 2 ($r = .34, p < .05$) and Wave 4 ($r = .56, p < .01$)



Relationship between information seeking and SKS

First and Last Name	Observation 1: Has sought safety information from you.			Observation 2: Has sought safety information from fellow students.			Observation 3: Has voiced safety concerns to you.			Observation 4: Has voiced safety concerns to fellow students.			Observation 5: Has engaged in safe and / or unsafe behaviours.		
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Students who engaged in more *observed information seeking* at Wave 3 as rated by the instructors exhibited *higher SKS* at Wave 2 ($r = .39$, $p < .05$) and Wave 4 ($r = .44$, $p < .01$)



Bigger Picture Implications of Safety Knowledge Sharing

- Active process in communities of practice that keep people safe
- Performance → SKS vs. SKS → Performance
- Formal curriculum is not a prerequisite for learning, participation and socialization may be
 - What does this mean for how we teach or promote safety?

Thank you!!!

Nick.Turner@haskayne.ucalgary.ca