

SIOP 2023

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The logo consists of the letters 'G', 'D', and 'Q' in a bold, teal, sans-serif font. The 'G' and 'D' are connected at the top. The 'Q' has a small registered trademark symbol (®) to its upper right. The logo is centered within a white circle.

GDOQ<sup>®</sup>



# SIOP ANNUAL CONFERENCE

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# Content

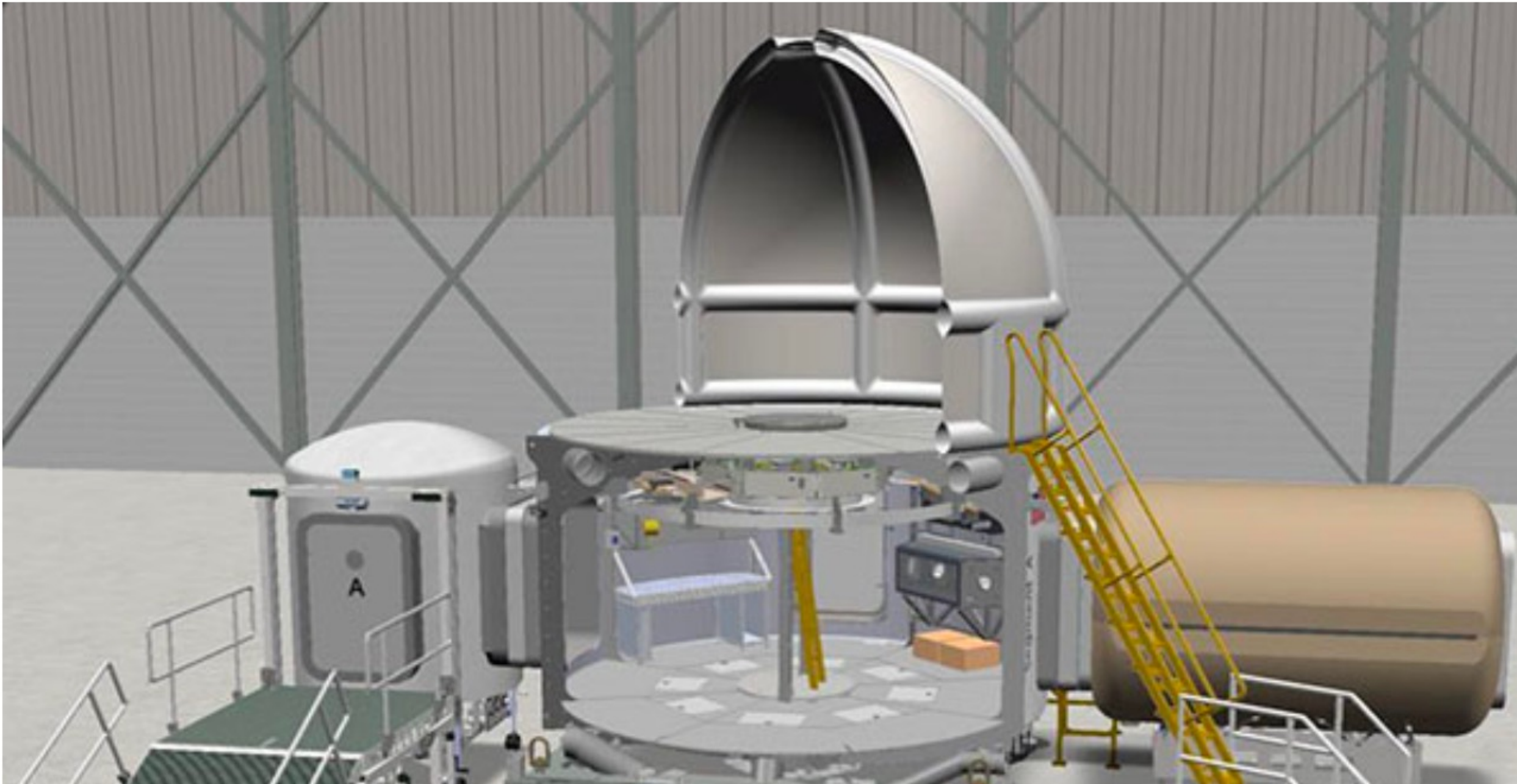
1. The dynamic nature of interpersonal conflict and psychological strain in extreme work settings
2. Helping healthcare teams to debrief effectively
3. Diversity and knowledge integration

# 1. The Dynamic Nature of Interpersonal Conflict and Psychological Strain in Extreme Work Settings

Somaraju, A. V., Griffin, D. J., Olenick, J., Chang, C.-H. (D.), & Kozlowski, S. W. J. (2022). The dynamic nature of interpersonal conflict and psychological strain in extreme work settings. *Journal of Occupational Health Psychology, 27*(1), 53–73.

- 32 participants operating in ICE conditions over the course of 30-45 days
- Drawing on conservation of resources (COR) theory, we investigated reciprocal relationships between different forms (i.e., task and relationship) of conflict, and between conflict and strain

*Figure 2. Cutaway diagram of the HERA habitat.*



# Measures

**Task conflict:** “I had conflicts with other people on my team about how to perform tasks”

**Relationship conflict:** “I had conflicts with other people on my team that were personal in nature”

**Strain (example):** “To what extent did you experience health difficulties today?”

**Workload:** “How hurried or rushed was the pace of your work?”

# Results

## **Resource threat feedback loop:**

current-day task conflict → next-day relationship conflict  
current-day relationship conflict → next-day task conflict

## **Resource loss feedback loop:**

current-day relationship conflict → next-day strain  
current-day strain → next-day relationship conflict



# Results

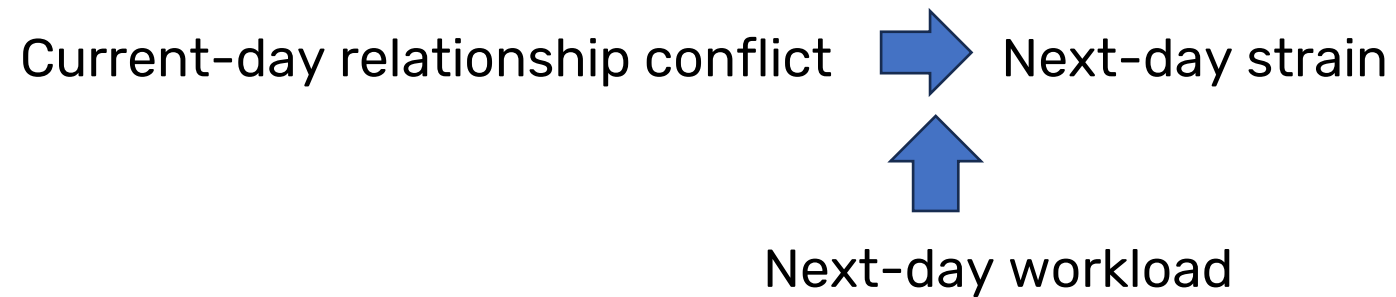
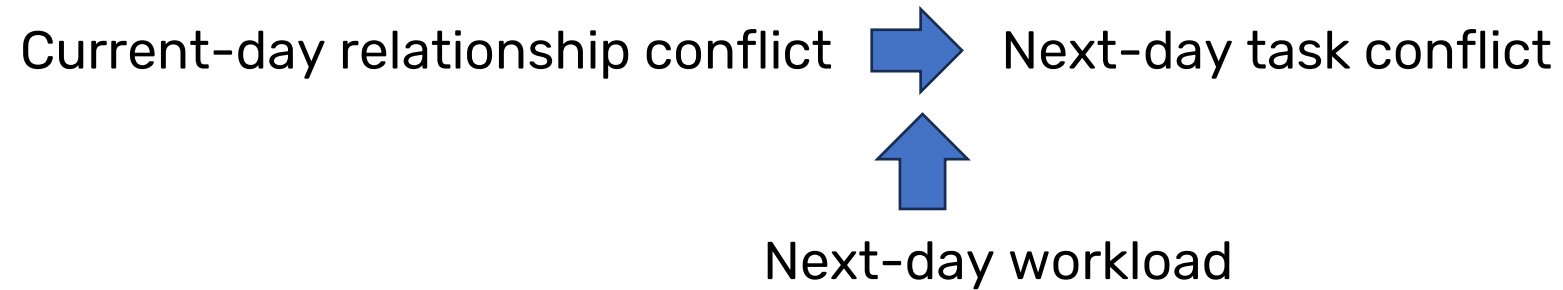
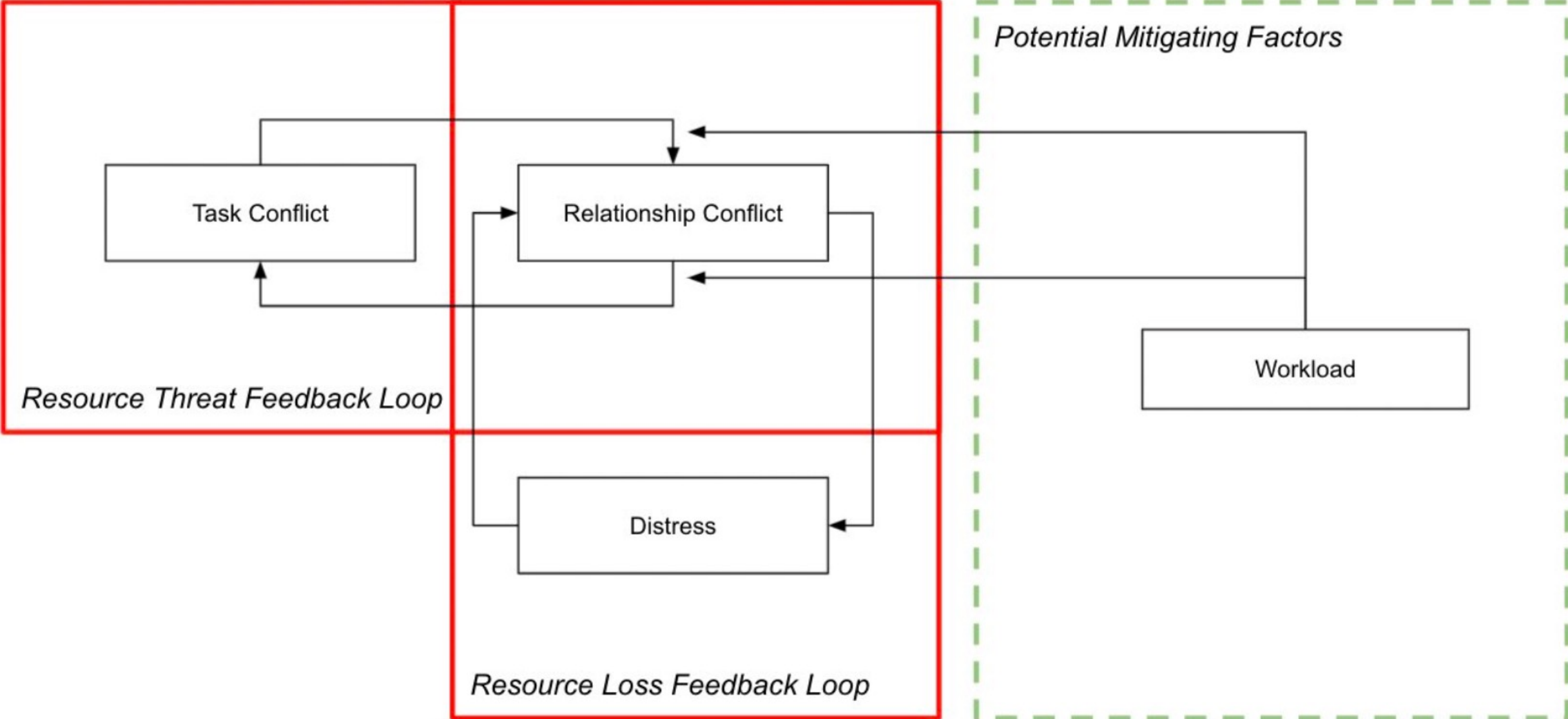




Figure 7. Updated model based on the results of our study.



# Conclusions

- **Workload** plays a critical role in weakening the effect of these spirals over time
- Targeted interventions (e.g., recovery days) can help buffer against the *negative impact of relationship conflict on strain* and decrease the extent that *relationship conflict spills over into task disputes*

## 2. Helping healthcare teams to debrief effectively

Kolbe M, Grande B, Lehmann-Willenbrock N, Seelandt JC. (2023). Helping healthcare teams to debrief effectively: associations of debriefers' actions and participants' reflections during team debriefings. *BMJ Quality and safety*. 32(3):160-172.

**Background:** Debriefings help teams learn quickly and treat patients safely. However, many clinicians and educators report to struggle with leading debriefings. The aim of the study was to evaluate the potential of specific types of debriefer communication to trigger participants' reflection in debriefings.

**Methods:** Researchers observed clinicians in healthcare team debriefings following three high-risk anaesthetic scenarios during simulation-based team training.

- Video-recorded debriefings
- INTERACT coding software
- DE-CODE, a coding scheme for assessing debriefing interactions.

The relationship between what debriefers and participants said was analyzed.

**Hypothesis:** combining advocacy (ie, stating an observation followed by an opinion) with an open-ended question would be associated with participants' verbalisation of a mental model as a particular form of reflection.

**Table 1** Observation taxonomy of debriefers' communication and frequencies of codes

DE-CODE code	Definition and example	n (%)
<b>Framing</b>		
Previewing	Debriefers explain purpose of the debriefing and introduce topics that will be discussed during the debriefing, for example, 'First, we'd like to talk about planning and initiating actions, and second we'd continue talking about challenges for speaking up'.	250 (1.35)
Previewing the content of a video sequence	Debriefers explain purpose of a video sequence that will be subsequently shown, for example, 'I will show you a sequence where Barbara and Andrina were standing next to the patient. While watching the scene, let's have a look at...'	111 (0.6)
Structuring	Debriefers verbalise the structure or procedure of the debriefing, for example, 'I suggest continuing with ...'.	394 (2.13)
Communication between debriefers	Debriefers openly talk among each other about how to proceed in the debriefing, for example, 'I would like to spend a few more minutes on that topic, ok?'.	1183 (6.38)
<b>Total</b>		<b>1938 (10.46)</b>
<b>Advocating</b>		
Observations*	Debriefers describe what they have seen or heard a participant doing or saying during the simulation, for example, 'I saw you checking the blood pressure'.	440 (2.37)
Pseudo- observations	Debriefers describe what they have seen or heard that is, however, not observable (eg, emotions, cognition, perception, for example, 'You were stressed'.	126 (0.68)
Opinion*	Debriefers express their point of view, for example, 'In my opinion, I would have done the same because...'	1947 (10.50)
Appreciation	Debriefers verbalise appreciation for learners' actions, for example, 'Wow, very good'.	413 (2.23)

<b>Illustrating</b>		
Input simulation	Debriefer provides more detailed information about the development of the scenarios, for example, 'This scenario is based on a similar incident which occurred during a thoracic surgery'.	269 (1.56)
Anecdotes	Debriefer talks about personal moments or experience, for example, 'I had a similar experience last month:(...)'.	191 (1.03)
Medical input	Debriefer provides more detailed case information, for example, 'This procedure involves three defined steps, namely...'	475 (2.53)
Psychological input	Debriefer provides information on psychological research or psychological phenomena, for example, 'There is huge evidence on the effect of teamwork and communication within medical teams on patients outcomes'.	151 (1.66)
Demonstration	Debriefer demonstrate a certain behaviour or communication style, for example, 'For example, you can try to verbalise your actions like...'	1 (0.005)
<b>Total</b>		<b>1087 (6.79)</b>
<b>Inquiring</b>		
Emotionst	Questions related to learners' feelings and reactions, for example, 'How are you?'.	391 2.11)
Realism	Questions related to the perceived realism of the scenario, for example, 'Was the scenario realistic for you?'.	48 (0.26)
Behaviourt	Behaviour-related question, for example, 'What was going on in this situation?'.	113 (0.61)
Cognitionst	Cognitive-driven question, for example, 'What do you think about...?'.	473 (2.55)
Knowledge	Knowledge-driven question, for example, 'How do you manage a difficult airway situation?'.	99 (0.53)
Circulart	Questions based on circular assumptions, for example, 'Paul, what do you think Helga may need from you to speak up?'.	89 (0.48)
Ideas or solutionst	Inviting learners to establish a link from simulation to real world context and the clinical setting, for example, 'How can you use this case in your daily work in the operating room?'.	65 (0.35)
Leading	Questions implicitly imposing the debriefer's point of view on the learner, for example, 'Don't you think that you should have spoken up?'.	38 (0.21)

DE-CODE code	Definition and example	n (%)
Clarification†	Debriefer asks learners about missing facts or unclear points in order to find out more, for example, 'Did you do that before answering the telephone?'	153 (0.83)
Conclusion	Debriefer asks learners what they have learnt from the scenario and debriefing, for example, 'What was useful for you in that simulated case and debriefing?'	114 (0.62)
Inquiry	Debriefer invites learners to ask questions about missing facts or unclear points, for example, 'Any further questions regarding the scenario?'	39 (0.21)
<b>Total</b>		<b>1622 (8.76)</b>
<b>Other</b>		
Summarising	Debriefer summarises the debriefing, for example, 'To sum up, we talked about planning and coordination actions as well as barriers for speaking up'.	30 (0.16)
Normalising	Debriefer comments on learners' reactions/experiences as being normal, for example, 'That is a normal reaction'.	122 (0.66)
Paraphrasing	Debriefer repeats in his/her own words what was said, for example, 'At the beginning of our discussion, you mentioned that...'	165 (0.89)
Repeating	Debriefer repeats completely what was said, for example, 'As you have said before...'	231 (1.25)
Irony and humour	Debriefer is telling a joke.	647 (3.49)
Laughing	Debriefer laughs.	820 (4.42)
Addressing somebody by name	Debriefer calls learners by name.	753 (4.06)
Role play	Debriefer initiates role play to practice certain skills, for example, 'Try to address your concerns by using a combination of advocacy-inquiry...'	2 (0.01)
<b>Total</b>		<b>2770 (14.94)</b>



**Table 2** Observation taxonomy of participants' communication and frequencies of codes

DE-CODE code	Definition and example	n (%)
<b>Advocating</b>		
Feelings	Learner expresses his/her feelings, for example, 'I'm feeling ok'.	132 (0.71)
Descriptions	Learner describes what happened, for example, 'I came in and asked the anaesthetist...'	3047 (16.44)
Evaluation of learners' actions	Learner evaluates what was good or bad about his or her actions, for example, 'I think we did a good job'.	158 (0.85)
Evaluation of team members' action	Learner evaluates what was good or bad about his/her team colleagues' actions, for example, 'I think they should have called for help'.	243 (1.31)
Explanations*	Learner analyses why something happened, for example, 'I think the problem was that'.	655 (3.53)
Mental models*	Learner verbalises his or her internal thought processes, schemes or assumptions, for example, 'I am used to handling ...'.	571 (3.08)
Conclusions*	From the discussion the learner concludes other actions that he or she could have done, for example, 'I could have called my colleague and asked her whether'.	710 (3.83)
Action plan*	Learner describes what he or she will do differently in the future, for example, 'I will do more talking to the room when new members join the team'.	26 (0.14)
Positive relevance	Learner verbalises his or her perception that the simulation is connected to their daily working setting or their behaviour in the clinical context, for example, 'We use the same tool during our team timeouts'.	66 (0.37)
Negative relevance	Learner verbalises his or her perception that the simulation is not connected to their daily working setting or their behaviour in the clinical context, for example, 'I would not have done the same in my daily routine'.	55 (0.30)
Positive evaluation of the simulation	Learner evaluates what he or she liked about the simulation, for example, 'It felt so real'.	177 (0.96)
Negative evaluation of the simulation	Learner evaluates what he or she did not like about the simulation, for example, 'For me, it was not realistic at all'.	97 (0.52)
<b>Total</b>		<b>5937 (32.04)</b>
<b>Illustrating</b>		
Learners' anecdote	Learner talks about experience or personal moments, for example, 'Last week, I was working with Lukas when suddenly....'	172 (0.93)
<b>Total</b>		<b>172 (0.93)</b>
<b>Inquiring</b>		
Learners' inquiry	Learner inquires about missing facts or unclear points, for example, 'What do you mean by using closed-loop communication in this case?'.	424 (2.29)
<b>Total</b>		<b>424 (2.29)</b>
<b>Other</b>		
Expressions of humour	Learner laughs or tells a joke, for example, Learner is laughing.	1219 (6.58)
<b>Total</b>		<b>1219 (6.58)</b>

Values are expressed as number (%). Examples were developed based on the DE-CODE manual; participants' names are fictional.<sup>63</sup> Codes were mutually exclusive.

\*Codes used to operationalise participants' reflection during debriefing.





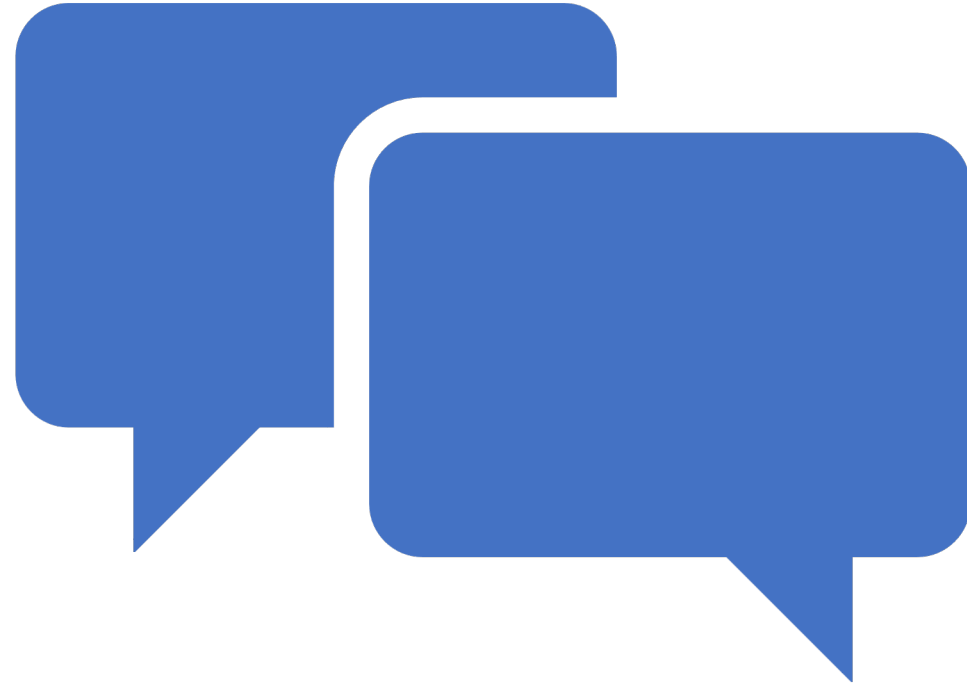
# Conclusion

When debriefers pair their observations and opinions with open-ended questions, paraphrase participants' statements and ask specific questions, they help participants reflect during debriefings.



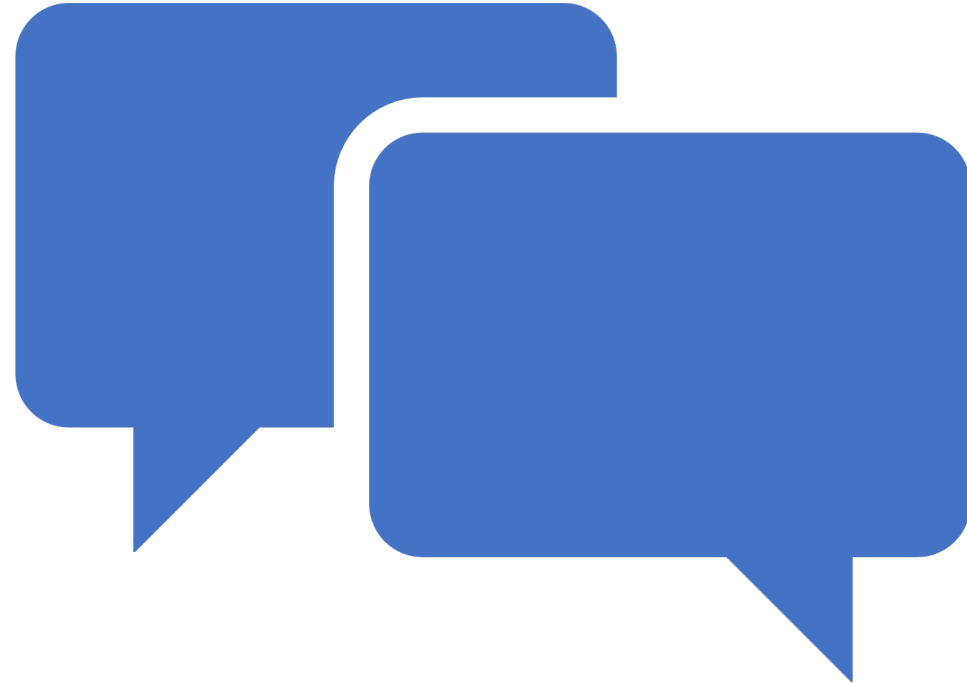
# Recommendations

1. Focus on a few but effective debriefing behaviours: advocacy-inquiry, open-ended questions, paraphrasing participants' statements and asking for conclusions and specific action plans.



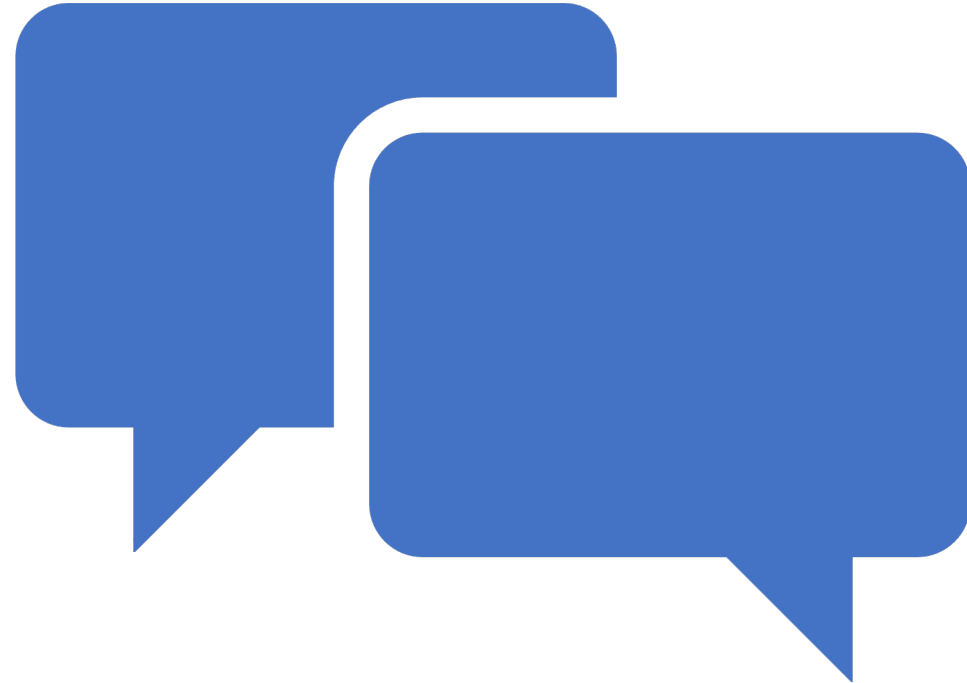
# Recommendations

2. When immediate reflection of participants is the desired objective, debriefers should refrain from using stand-alone appreciation without asking any follow-up questions; instead they may use advocacy-inquiry for in-depth exploration of desired behaviours.



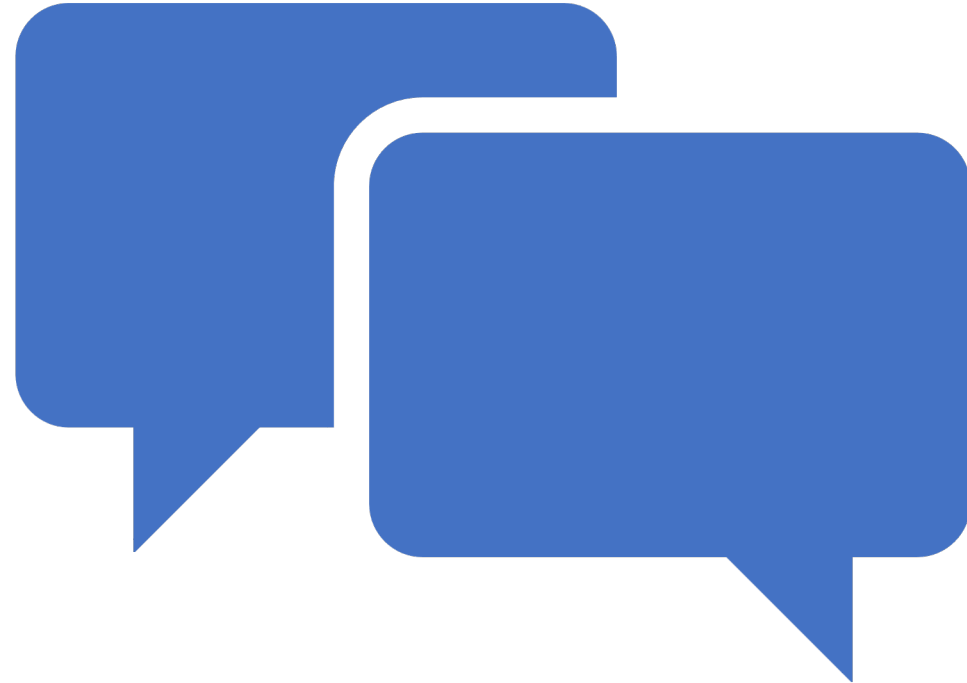
# Recommendations

3. Debriefers are advised to allow participants to engage and remain in reflective patterns by initiating participants' reflection and anecdotes, paraphrasing and listening.



# Recommendations

4. Successful reflection does not hinge exclusively on debriefers; rather, participants themselves have the ability to maintain reflection during debriefings, which can be fostered through training as well as through raising debriefers' awareness of this team potential.



### 3. Deep level team composition

- Authors: Qu, J., Huang, L., Jiang, Z., Zhang, Y., Orning, R., & Schmidt, A. M., (2023). A Meta-analysis: Deep-level Team Composition Predicting Teamwork and Team Outcomes [Poster]. Society for Industrial and Organizational Psychology Annual Conference, Boston, MA
- Authors examined the relation among **team inputs** (i.e., intelligence, personalities), **teamwork**, and **team outcomes** with a meta-analytic database of 50 papers reporting 710 effect sizes based on 53,241 teams.
- Findings show that team mean cognitive ability and conscientiousness positively relate to team task performance.
- Team mean agreeableness, conscientiousness, and emotional stability are positively correlated to team affective states
- Team mean conscientiousness is positively correlated to team motivational states.

# 4. Diversity and knowledge integration

## **Unpacking the Effect of Alternative Team Functional Diversity Conceptualizations**

Yichen Tang, Alyssa Davenport, Christopher W. Wiese  
Georgia School of Tech Psychology

## **Openness to experience and knowledge integration in knowledge diverse teams**

Muflahi, Z. A., Zalewski, J. M., Khan, Z., & Brown, S. G.  
Wayne State University



## Effect of Alternative Team Diversity Conceptualizations

Report, Christopher W. Wiese

### BACKGROUND

The distribution of alternative  
within a team  
interdisciplinary team

Expect both positive and  
effectiveness  
Additional unique knowledge  
Potential subgrouping  
Mixed results (positive,  
effects)

Use of terminology

Study conditions

Methodology  
Meta-analysis

Articles, APA PsycINFO,  
with Full Text (H.W. Wilson),  
Complete, EconLit  
and Dissertations)  
Citation and Ancestry based on  
Citations

From 8723 articles to 56 final

and effect size coding

### Analysis

Model

Between Group Heterogeneity  
Estimators  
Comparison

Sum of squares.

Estimation

Teams can take more advantage of  
functional diversity if they are:

Expect to be a team for a longer  
period.

Tasks include both behavioral and  
cognitive coordination.

Effectiveness will be assessed based  
on creativity.



### Hypotheses, Results, and Coding Scheme

A list of Hypotheses, Complete results with  
statistics, and the codebook can be found here.



Direct effect				
Variables	k	N	95% CI	80% CR
Performance	38	4 885	[ .05, .15]	[-.07, .2
Creativity	28	2 483	[ .07, .27]	[-.14, .4

### Discussion

- Key Findings
  - Functional diversity has a positive effect on performance and creativity across boundary conditions.
  - The Effect of functional diversity is more positive when evaluate teams with creativity
  - Types of functional diversity are different empirically
  - Some Characteristics make teams more able to take advantage of functional Diversity
- Limitations
  - Team information was not reported enough
  - Virtuality did not fully explain
- Future Directions
  - Advanced framework concerning each functional diversity
  - Study the complex virtuality condition based on the method or level of virtuality.
  - Indirect outcomes like ROI should also be studied.

# Unpacking the Effect of Alternative Team Functional Diversity Conceptualizations

- Key Findings in this meta-analysis:
  - Functional diversity has a positive effect on performance and creativity across boundary conditions.
  - The effect of functional diversity is more positive when effectiveness is assessed based on *creativity*
  - Some characteristics make teams more able to take advantage of functional diversity: the team expects to be a team for a longer period of time, tasks include both behavioural and cognitive coordination.



# Openness to Experience and Knowledge Integration in Knowledge-Diverse Teams

Mufahi, Z. A., Zalewski, J. M., Khan, Z., & Brown, S. G.  
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## Abstract

Knowledge-diverse teams' capacity to make successful decisions may be hindered by failure to share and integrate knowledge between team members. We explore the influence of openness to experience on knowledge integration in teams. To conduct this study, we recruited 183 participants (61 teams) using Prolific. Teams interacted and completed the task using the LIONESS lab. Results demonstrated that openness to experience was positively correlated to knowledge consideration, assimilation, and accommodation. No indirect relationship was found between knowledge consideration and knowledge transformation through assimilation/accommodation.

## Background

The **knowledge integration** process is comprised of three primary components that can yield knowledge transformation: **knowledge consideration, assimilation, accommodation, and transformation** (Salazar et al., 2012).

**Openness to experience** captures an individual's imaginativeness, their sensitivity to aesthetics, curiosity, independent thinking, and values (Costa & McCrae, 1992).

## Method

**Participants and procedures.** Using Prolific, 61 three-person virtual teams were recruited for this study. Participants reviewed study materials, including clues for a decision-making task (**hidden profile** homicide investigation task; Campbell & Stasser, 2006; Stasser et al., 1995), then made a decision individually. Next, participants convened as a team, discussed the materials via chat, and made a team decision.

**Measures.** **Openness to experience** (Goldberg, 1999); sample: "I have a vivid imagination.";  $\alpha = .75$ ; **Knowledge consideration** ( $\alpha = .92$ ); **Knowledge accommodation and assimilation** ( $\alpha = .89$ ); **Knowledge transformation** ( $\alpha = .86$ ); (Salazar et al., 2012)

*In knowledge-diverse teams...*

*high openness to experience relates to more knowledge integration.*



## LIONESS Lab

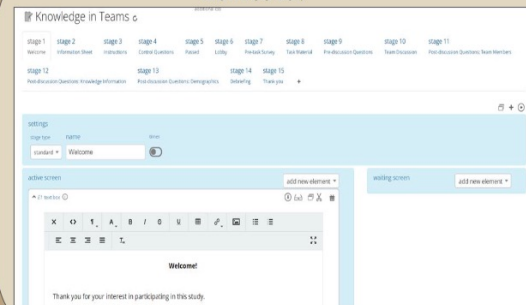


Table 1  
Means, Standard Deviations, and Correlations Between Team-Level Study Variables

Variable	M	SD	1	2	3	4	5	6
1 Age (years)	37.05	11.57	—					
2 Work experience (years)	5.21	.96	.37*	—				
3 Openness to experience	4.10	.35	.03	-.15	—			
4 Consideration	6.38	.54	.30	-.07	.48**	—		
5 Assimilation/Accommodation	5.46	.79	-.11	-.07	.51**	.43**	—	
6 Transformation	5.51	.73	.06	-.08	.38**	.50**	.37**	—

Note:  $n = 40-61$  (due to missing data on some demographic variables). \* $p < .05$ ; \*\* $p < .01$ . Reliability estimates are presented on the diagonal.

## Results

**H1:** Individuals measuring high on openness to experience are more likely to consider unique information. ( $r = .48$ ;  $p < .001$ )

**H2:** Individuals measuring high on openness to experience are more likely to assimilate and accommodate unique knowledge shared. ( $r = .51$ ;  $p < .001$ )

**H3:** Knowledge consideration is positively related to knowledge transformation. ( $B = .58$ ;  $p = .0011$ )

**H4:** The positive relationship between knowledge consideration and knowledge transformation is mediated by assimilation/accommodation. ( $B = .11$ ;  $p > .05$ )

**H5:** Knowledge transformation is positively related to decision quality. **Coding in progress.**

## Discussion

**Optimize** knowledge-diverse teams for knowledge integration by considering openness to experience when constructing and training knowledge-diverse teams.

## Limitations

- It is possible that the team task was not cognitively complex enough to enable assimilation or accommodation.
- Small sample limits more complex data analysis.

# Openness to experience and knowledge integration in knowledge diverse teams

- Individuals measuring high on openness to experience are more likely to consider unique information.
- Individuals measuring high on openness to experience are more likely to assimilate and accommodate unique knowledge shared.
- Knowledge consideration is positively related to knowledge transformation (the creation of new knowledge).
- Knowledge transformation is positively related to decision quality.