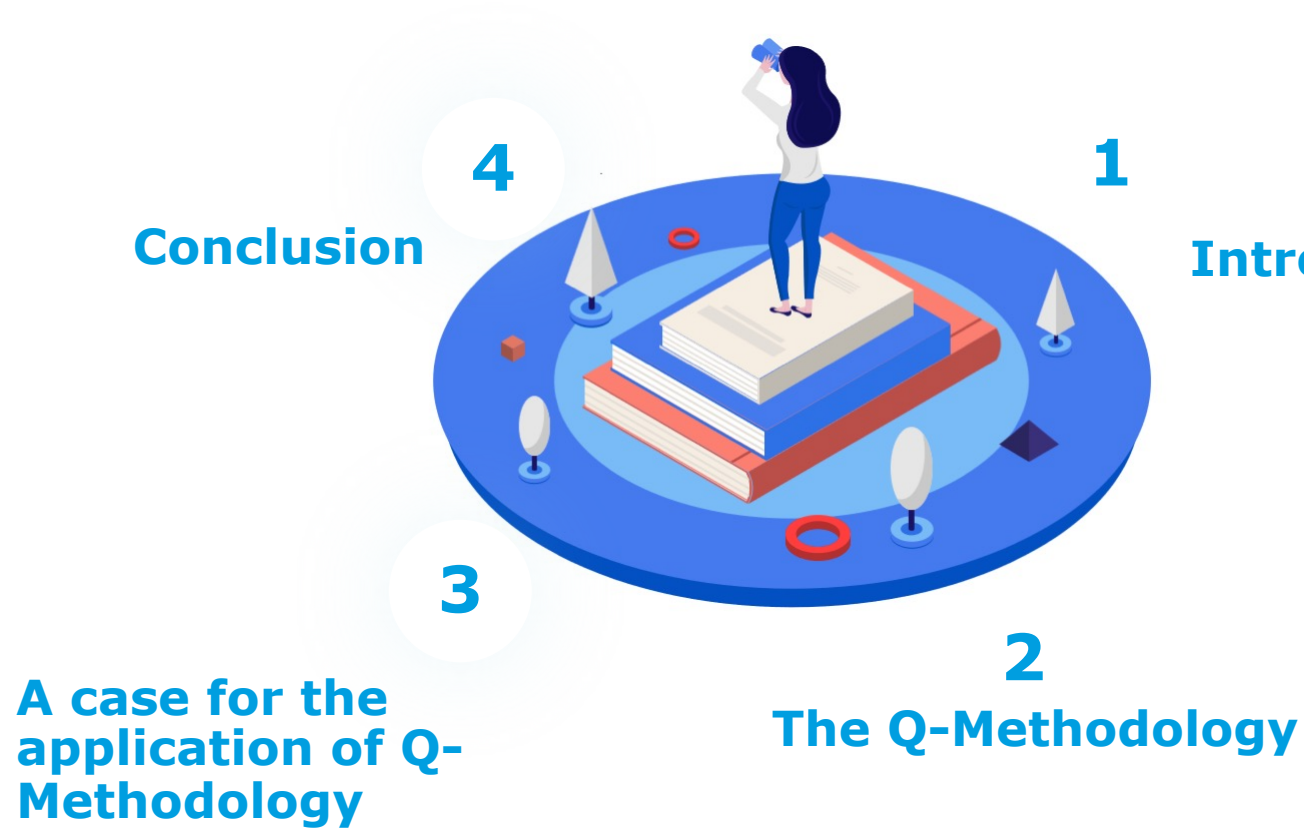


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APPLICATION AND VALUE OF Q-METHODOLOGY IN ENTREPRENEURSHIP RESEARCH

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INTRODUCTION

ENTREPRENEURSHIP RESEARCH: WHERE DO WE STAND?

- research methods in entrepreneurship are often chosen by the principle of disposability (Brännback & Carsrud, 2016);
- methodologies are often homogeneous as the long-lasting dichotomy of qualitative and quantitative approaches has created a 'dual-class society' (Chlosta, 2016);
- quantitative methods are powerful to precisely unwrap surges of commonalities and significant differences, while qualitative methods allow for deeper insights into the subjective meaning and influence of surges (Valliere, 2019);
- qualitative researchers are in danger to get largely immersed in context and hence overlook universal occurrence, whereas quantitative researchers mostly seem to focus on generalisability of their results (Johns, 2006);
- empirical papers applying quantitative methods represent the most common type of entrepreneurship research (Shepherd & Wiklund, 2020);
- smaller groups are marginalized in quantitative research studies (Dryzek, 2005), resulting in a majority of single case or qualitative interview studies with limited power to bring to light important group-specific beliefs and convictions (Heinze et al., 2022).

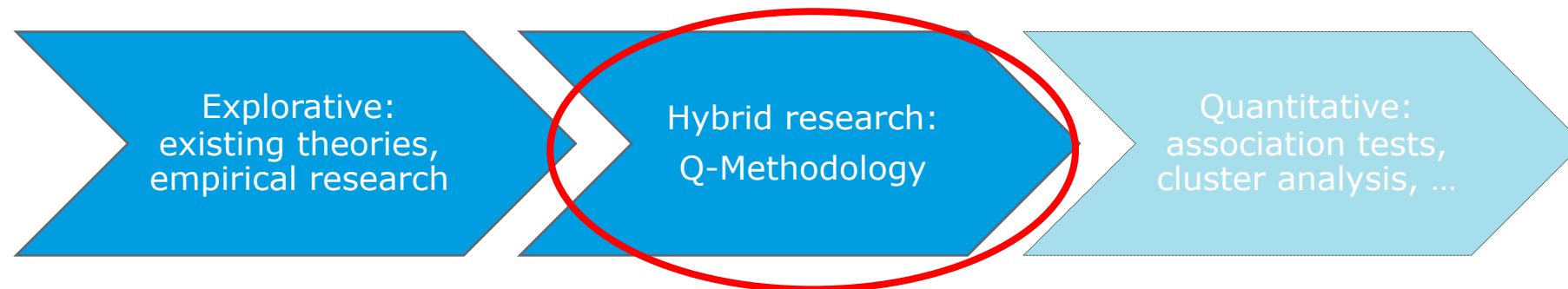
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ENTREPRENEURIAL FAILURE RESEARCH: WHERE DO WE STAND?

- understanding of entrepreneurial behavior requires more qualitative, phenomenon-driven research (Wang & Chugh, 2014).
- *"future research [should] integrate different theories and different perspectives rather than using one perspective over the others [...]. I think it could be an integration"* (see Shepherd *et al.*, 2016; Shepherd and Patzelt, 2018)."
(Khelil, 2021, p. VII).



OUR ANSWER: TURNING TO A MIXED-METHOD APPROACH, APPLYING HYBRID METHODS





Q-METHODOLOGY

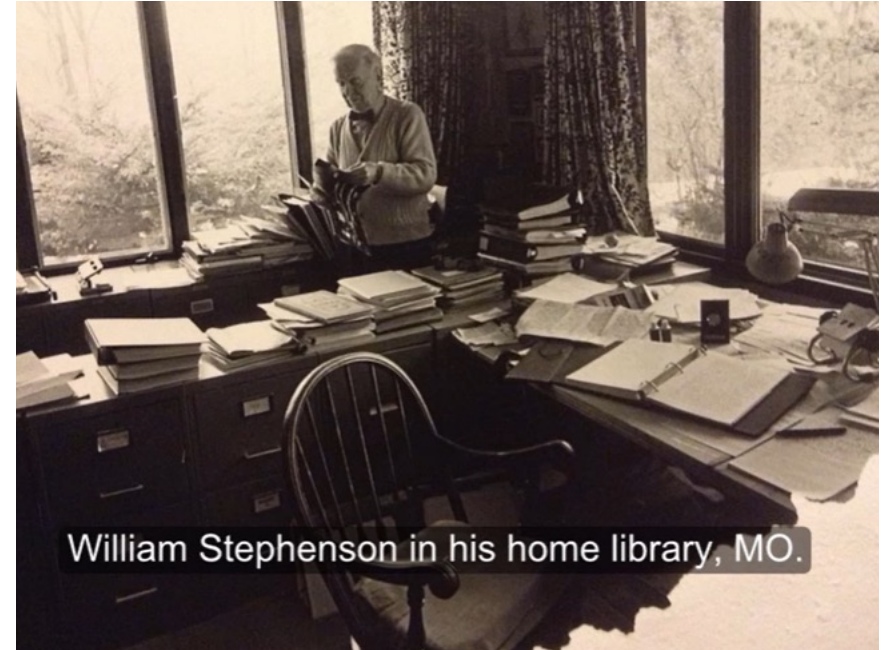
WHAT IS Q-METHODOLOGY?

The method has been proposed by William Stephenson in 1935 as a research approach that

- allows for a certain diversity in perspective and approach;
- bears on the elusiveness of the subjectivity of individual experiences;

as it highlights concealed patterns within the subjective experiences of individuals by combining the capacity of statistical data analysis with an ability to explore and interpret the subjective meaning of the statistical outcomes (Stephenson, 1935, 1953).

- the method starts to attract attention in the field of entrepreneurship research (Gruenhagen & Davidsson, 2018; Valliere, 2017; 2019);
- a Web of Science search yielded 1,510 Q-method studies concerned with entrepreneurship that were published between 2000-2022, about 80% after 2014.



William Stephenson in his home library, MO.

<https://www.youtube.com/watch?v=1MmgvCuYEkg>

HOW DOES Q-METHODOLOGY WORK?

The phases of a Q-study are

- (1) development of the concourse;
- (2) development of the Q-sample;
- (3) selection of the p-set;
- (4) conduct of the Q-sort;
- (5) analysis of data

(Brown, 1980; Watts & Stenner, 2012).





CASE STUDY

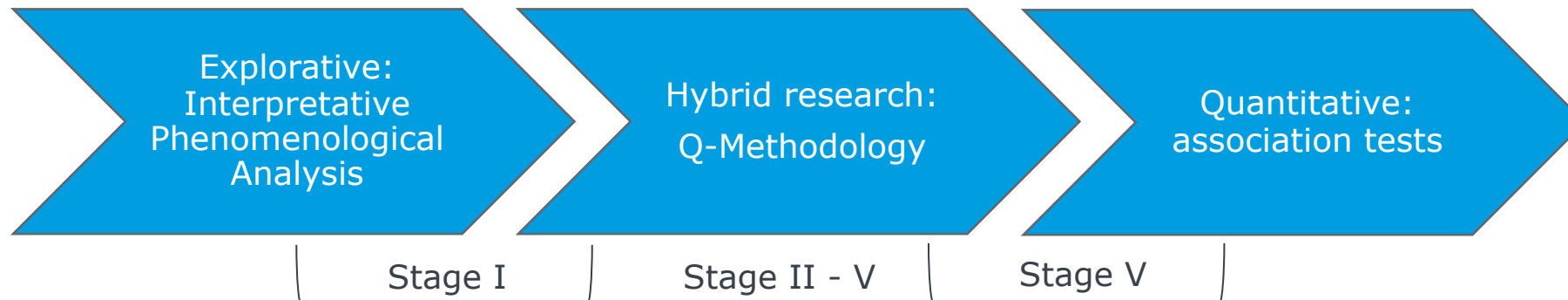
LEARNING FROM FAILURE: A MIXED METHOD APPROACH WITH Q-METHODOLOGY AT ITS CORE

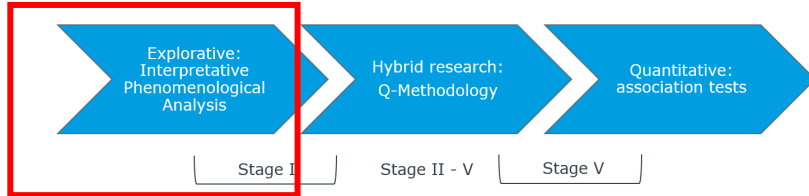
Research aim:

Investigation of the failure learning process in order to
Establish a typology of learning strategies in the aftermath of venture failure

Research questions:

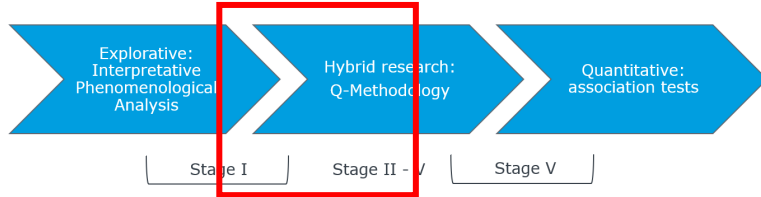
1. What narratives told by failed entrepreneurs to make sense of the failure experience?
2. What is the role of learning strategies for the sense-making process?
3. Which unlearning strategies are applied to overcome unsuccessful behavior?
4. Do certain differences in failure learning exist to build a typology of failure learning strategies?
5. What are the relationships between failure learning strategies and behavioral styles?





STAGE 1: DEVELOPING THE CONCOURSE

- Required outcome: a set of statements that reflect the range of perceptions on the research topic
- Way forward: either based on secondary data yielded by a review of the relevant literature, or on primary data or a combination of both
- Case study:
- review of international research on reports of individual sense-making in the aftermath of entrepreneurial failure.
 - interpretative phenomenological analysis of 20 extensive semi-structured interviews with entrepreneurs who had previously experienced entrepreneurial failure, resulting in more than 15 hours of audio-recorded data and 308 transcribed A4 pages
- Outcome: first level of analysis: 164 statements about how and what one can learn from entrepreneurial failure



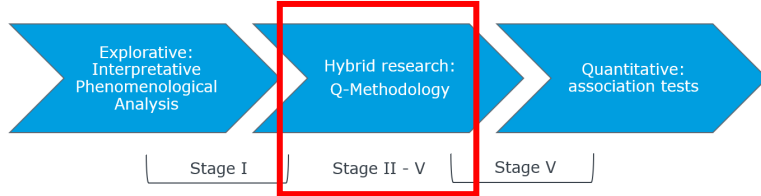
STAGE 2: DEVELOPING THE Q-SAMPLE

Required outcome: an adequate subset of statements that still represents a well-balanced diversity of opinions (a range between 40 and 80 items “has become the house standard”, Watts & Stenner, 2012, p. 61)

Way forward: iterative procedure: researcher(s) reduce the set by addressing and discussing likely redundancies

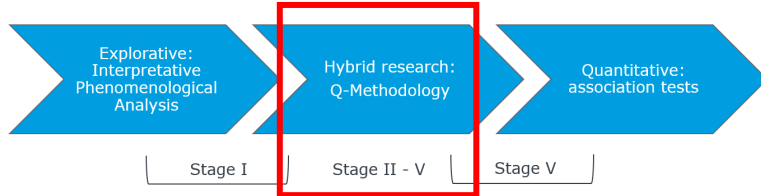
Case study: Example: some interviewees raised opinions such as “all founders tried out stuff that did not work, that's just normal”, “every new project is an experiment, sometimes it will work out, sometimes not”, “realistically, it will only work out on the third try” or “fail fast, learn fast, start again”
-> solve redundancy with a single meaningful and easy to understand statement
-> creation of statement “Fail fast, fail often”, a common metaphor in entrepreneurship

Outcome: the final set of 60 statements about how and what one can learn from entrepreneurial failure



STAGE 3: SELECTION OF THE P-SET

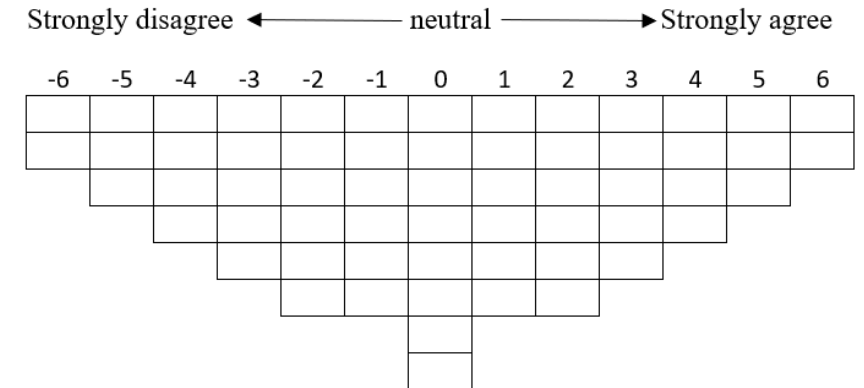
- Required outcome:** selection of a purposive sample of participants with firm and distinct viewpoints on the research topic (Brown, 1980). P-sets range from 20 to 103 participants (Dzopia and Ahern, 2011), the number of participants should be kept to a minimum (McKeown and Thomas, 2013)
- Way forward:** strategic sampling to recruit a purposive sample of participants
- Case study:** participants from different backgrounds, age & gender were recruited via several channels. To qualify for the study, the participants had to fulfil two criteria: (1) previous experience of failure and (2) involvement in entrepreneurial activities and/or entrepreneurship education programs
- Outcome:** the p-set consists of 28 participants who all fulfill the above-mentioned criteria



STAGE 4: CONDUCTING THE Q-SORT

Required outcome:

individual sorts of all participants by application of template that forces a quasi-normal distribution



Way forward:

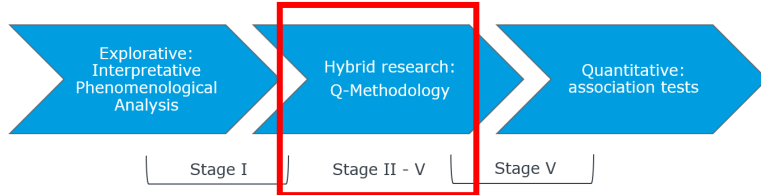
setting up of sorting sessions either in person or online
 first, participants sort statements that they mostly agree with in one pile, statements that they disagree with in a second pile and statements that they feel ambivalent about in a third pile.
 next, participants sort each of the piles into the template, starting with most agreeable to least agreeable statements, finishing with neutral ones

Case study:

in total six in-person-sorting sessions to collect data from 28 participants

Outcome:

a data set consisting of 28 paper-and-pencil templates



STAGE 5: DATA ANALYSIS I

Required outcome:

a certain number of distinguishing factors representing shared opinions addressed as typical subjectivities

Way forward:

in the statistical analysis the Q-sets become subjects and the individual Q-sorts become variables (Sinclair, 2019), thus allowing for a correlation of individual viewpoints clustered into similar opinions, factor extraction applies Principal Component Analysis (PCA), extracted factors are varimax-rotated to produce the maximum differentiation, separate factors represent typical subjectivities

following the statistical analysis, data is further explored by a qualitative approach, based on background information gathered from the participants during the sorting workshops

Case study:

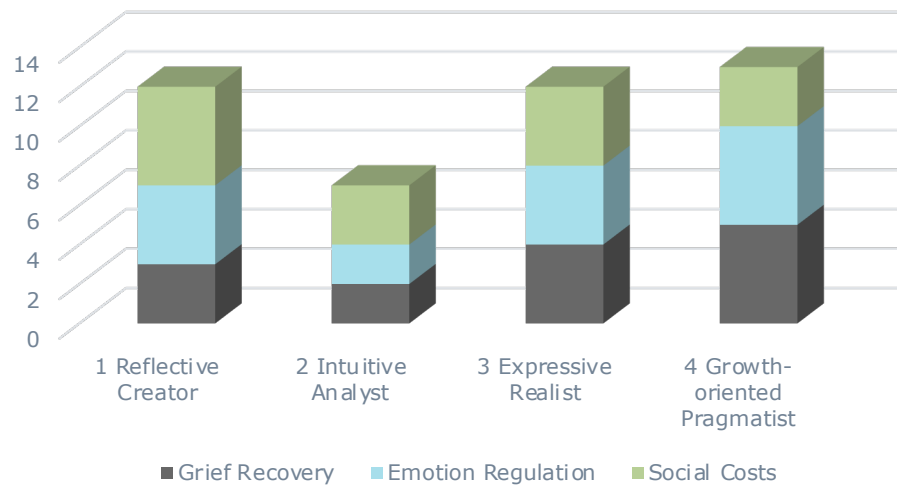
data was imported into the R platform, and analyzed with *qmethod* package (Zabala, 2014). Thereafter, a crib sheet has been developed to interpret and define the yielded factors

Outcome:

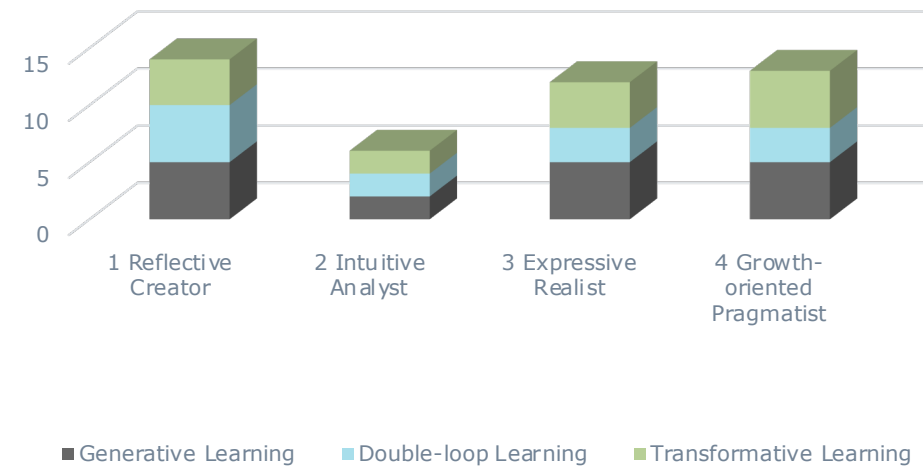
four distinguishing factors representing typical subjectivities to learn in the aftermath of business failure

RESULTS OF Q-METHODOLOGY: FOUR-FACTOR MODEL OF LEARNING IN THE AFTERMATH OF FAILURE

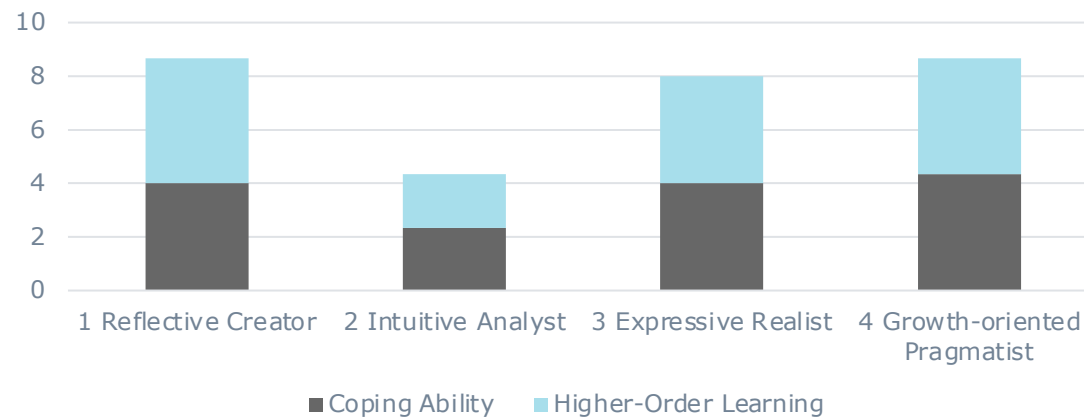
Coping Ability

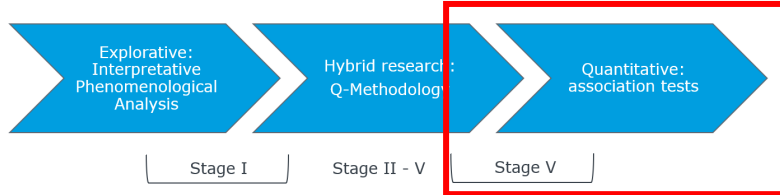


Higher-Order Learning



Failure Learning Abilities



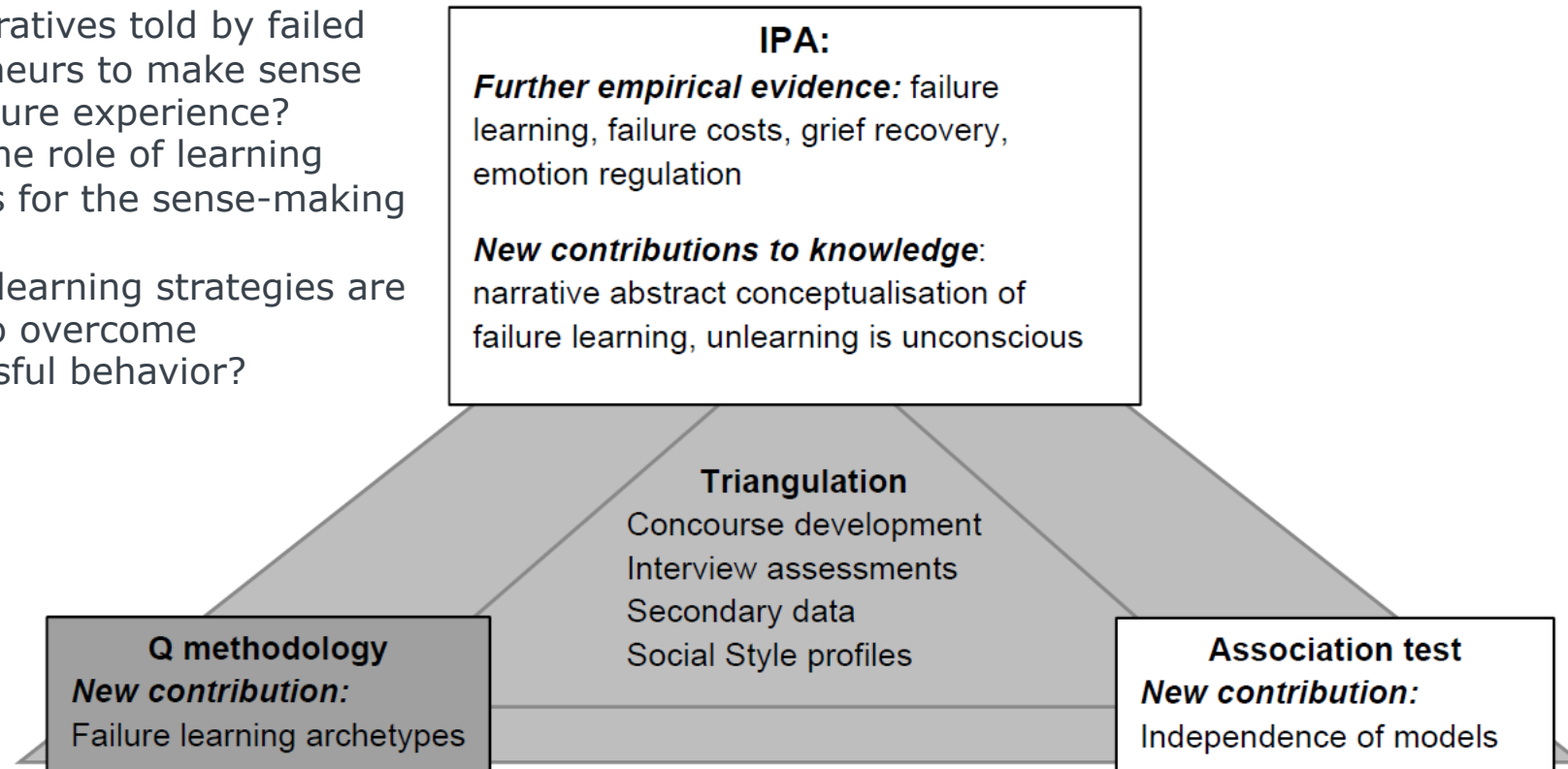


STAGE 5: DATA ANALYSIS II

- Required outcome:** observation of potential associations between the failure learning model and existing behavioral models
- Way forward:** participants' behavioral styles are assessed by a survey and cross-tabulated as well as tested for associations with the failure learning archetypes yielded by the Q methodology (Bühl & Zöfel, 2002)
- Case study:** participant profiles of social styles (based on the Social Style Profile – Enhanced SSP-E) provided by Tracom were used for cross-tabulation and several association tests by SPSS Statistics 25
- Outcome:** the calculation of associations between the four typical subjectivities of learning after failure and behavioral styles measured by the Tracom Social Styles Model™ results in statistically non-significant outcomes with p-values > 0.05

RESULTS OF THE MIXED METHOD APPROACH

1. What narratives told by failed entrepreneurs to make sense of the failure experience?
2. What is the role of learning strategies for the sense-making process?
3. Which unlearning strategies are applied to overcome unsuccessful behavior?



4. Do certain differences in failure learning exist to build a typology of failure learning strategies?

5. What are the relationships between failure learning strategies and behavioral styles?



CONCLUSION

WHY PAY ATTENTION TO MIXED AND HYBRID METHODS?

- Entrepreneurship research requires an approach that integrates several theories as well as contextual factors.
- Our study showcases the suitability and benefits of Q methodology in entrepreneurship research as it reveals typical subjectivities of learning in the aftermath of failure.
- Our results lead to the proposal of a failure learning framework consisting of four typical subjectivities on how to make sense of and learn from failure.
- Our insights are important for entrepreneurship educators as well as start-up training programs to support their students' ability to learn from failure.



OUTLOOK

- based on the results of the study presented, we compared individual and cultural aspects of learning in the aftermath of failure with samples from Germany, Sweden and India:

<https://www.sciencedirect.com/science/article/pii/S2666374022000851?via%3Dihub>

- a new study with samples from a European cross-section is under way.

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Is it just about me? A comparison between individual and cultural strategies of learning from failure

Ilka Heinze ^a, Börje Boers ^b  , Maria Stellmacher ^c, Karl-Florian Platt ^d


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FEEDBACK AND DISCUSSION TIME



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