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Can we predict a negotiator's success using the concept of an integrative mindset?

MASTER THESIS

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Abstract

The aim of this master thesis is to exploratively test theoretical assumptions of the scale for the integrative mindset (SIM) with a 15-item scale that quantifies a negotiator's success holistically. Interest in negotiation trainings has grown exponentially. Training transfer however, seems to be largely anecdotal. Ade et al. (2018) suggest to foster an integrative mindset to leverage negotiation skills and knowledge hence increase long-term negotiation effectiveness by reaching sustainable integrative agreements. In two six-party multilateral policy negotiations simulations in an online setting, students (n = 31) self-reported the SIM and their past negotiation experiences, peer-rated negotiation performance and gave endorsements for their top-five negotiators. There were significant correlations between the performance and experiences $r(29) = .46$, $p = .009$, and performance and endorsements $r(29) = .54$, $p = .002$. However, comparing Pearson and Spearman correlations provides no support for the SIM's validity. Strengths and limitations of the study and the negotiation performance measurement are discussed.

Keywords: negotiation, training, learning transfer, training effectiveness, sustainable integrative agreements, integrative mindset, performance

Zusammenfassung

Ziel dieser quantitativen Masterarbeit ist es, theoretische Annahmen der *Skala für das Integrative Mindset (SIM)* explorativ zu testen, indem mit einer 15-Item Skala der Erfolg eines Verhandlers holistisch quantifiziert wird. Ade et al. (2018) nehmen an, dass wer sein *integratives Mindset* fördert, erhöht von Verhandlung-Skills und -Wissen profitiert und seine langfristige Verhandlungseffektivität erhöht, indem vermehrt nachhaltige-integrative-Deals erreicht werden. In zwei multilateralen politischen Verhandlungssimulationen über Videokonferenz mit je sechs Parteien, füllten Studierende (n = 31) per Selbstbericht den SIM aus, berichteten Verhandlungserfahrungen, bewerteten die Verhandlungsperformance von Peers und sprachen Empfehlungen ihrer top-fünf Verhandlungsführer aus. Es gab signifikante Korrelationen zwischen der Performance und Erfahrungen, $r(29) = .46$, $p = .009$, sowie zwischen Performance und Empfehlungen $r(29) = .54$, $p = .002$. Der Vergleich der Pearson- und Spearman-Korrelationen liefert jedoch keine Unterstützung für die Validität des SIMs. Stärken und Limitationen der Studie, sowie der *Skala für die Verhandlungsleistung* werden diskutiert.

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1. Introduction

Over the past 50 years, researchers from political science, communication sciences, social and personality psychology, economics, and organizational behavior science (De Dreu and Carnevale, 2005) have accumulated an impressive interdisciplinary body of literature examining negotiations and negotiation training (Brett and Thompson, 2016).

At the same time, increasing "complexity, dynamism, and unpredictability" (Coleman, 2018, p. 7), have led organizations and individuals to becoming increasingly overwhelmed with negotiations (Coleman et al., 2019; Frennhoff Larsén and Khorana, 2020) The "overlapping and the dissemination of values, beliefs and perceptions pertaining to different cultures have reached an unprecedented level" (Costin, 2015, p. 185). In this "increasingly complex, diverse, and dynamic world, negotiation is being seen as the most practical and effective mechanism we have for allocating resources balancing competing interest and resolving conflicts of all kinds" (Malhotra and Bazerman, 2007, p. 6).

As a result, interest in negotiation and especially negotiation trainings have grown exponentially (Bazerman et al., 2000; Buelens, 2008). Today, negotiation trainings are among the most popular courses in business schools throughout the world (Thompson, 2006). Negotiations have become a significant success and career factor. Jobs, responsibilities, and opportunities are continually negotiated (Greig, 2018). Due to the unquestionable importance of negotiations, organizations spend billions each year on training, assuming training effectiveness as given (Coleman and Lim, 2001). The goal of this master thesis is to contribute to the measurement of training effectiveness in order to better evaluate negotiation trainings.

1.1 Practice Partner: The Negotiation Studio

This master thesis is fortunate to be done in collaboration with the practice partner The Negotiation Studio, who is also closely involved in the current negotiation research. The Negotiation Studio is a negotiation consulting firm from Konstanz (Germany) operating in both the private and the public sector. Based on empirical research conducted by affiliates (e.g., Ade et al., 2020), The Negotiation Studio provides interactive training courses as well as coaching services (www.negotiationstudio.com, retrieved on 20.2.21).

Their negotiation courses aim at developing what they call an *integrative mindset*, defined as the "psychological orientations by which people approach negotiations" (Ade et al., 2018, p. 1). Conventional negotiation trainings are primarily aimed at learning skills and knowledge, and applying them e.g., in role plays or simulations in classrooms. On top of that, The Negotiation Studio wants clients to develop an integrative mindset, because they believe strengthening it not only works as a lever for negotiation skills and knowledge, but also helps to transfer the learnings out of the classroom and achieve long-term negotiation success.

1.2 Objectives of this Master Thesis

One relevant question that arises from Ade et al. (2020) is whether a negotiator's integrative mindset, quantified with the *scale for the integrative mindset (SIM)*, can be used as a predictor for a negotiator's success. In other words: Do negotiators with higher SIM-scores negotiate better than negotiators with lower SIM-scores? Following research questions are derived:

- How is it possible to quantify a negotiator's success?
- To what extent can the SIM explain a negotiator's success?

This master thesis is based on a broad understanding of the term negotiation. Ultimately, both research questions aim at one big question: Why are some negotiators more successful than others?

The research questions divide this master thesis into two steps: In a first step, the theoretical background is described, hypotheses derived, and an explorative draft of a *negotiation performance measurement (NPM)* aimed at quantifying a negotiator's success is introduced. In a second step, data is assessed in multi-party negotiation simulations and its results are presented qualitatively and quantitatively. The master thesis concludes with a discussion about limitations and strengths, as well as the theoretical and practical implications.

2 Theoretical Background

Some mistakenly think of negotiation as an art that only gifted individuals have mastered. In that case, it would be pointless to learn (let alone teach) about negotiation, because it would have to be assumed to require an indefinable skill set and knowledge that manifests itself in settings that are always different and unpredictable (Alavoine et al,. 2014). In the following, it is argued that negotiation can be trained, despite the lack of "a single, integrated, grand theory that has been shown to be valid empirically in a wide range of issue areas, regions, and times" (Odell and Tingley, 2015, p. 146).

2.1 Transfer Problem

Especially when it comes to negotiation training and its transfer of learnings from the classroom to the real world (Baldwin and Blume, 2009), training effectiveness seems to "largely hinge upon anecdotal support" (Burke and Hutchins, 2007, p. 284). This costly problem is neither new nor exclusive to negotiations (e.g., Beer et al., 2016; Cromwell and Kolb, 2004). Saks and Belcourt (2006) show that 38% falter to apply training material immediately after a training, and 66% falter after one year. Starting with Baldwin and Ford (1988) it is referred to as the *transfer problem* of learned skills and knowledge into the real world.

Laker and Powell (2011) add that negotiation skills are expected to be transferred even harder, because of the enhanced difficulty in transferring such complex soft skills. Taylor et al. (2008) operationalized training transfer for negotiation research by measuring e.g., confidence in negotiation situations, intention to use the newly learned, or the recall of learned skills and strategies one year after training. In behavioral change models (e.g., Bandura, 1982; Prochaska and Velicer, 1997), these measures are strong indicators for actual implementation of behavior. A meta-analysis by ElShenawy (2010) claims that the skills and knowledge learned in negotiation training has direct effects on negotiation outcomes. Still, actual implementation is shown insufficiently in studies (Baldwin et al., 2009; Bordone and Viscomi, 2015; Druckman and Ebner, 2013).

It is important to note that only a few studies evaluated the long-term effectiveness of negotiation training, because of the difficulties associated with long-term studies and the measurement of behavioral change in professional or private contexts in general (Coleman and Lim, 2001). Laboratory experiments are particularly popular but provide little insight into training transfer (De Dreu and Carnevale, 2005). In addition, available research uses a wide variety of outcomes, contexts, theoretical frameworks, and terminologies, making it difficult to bring structure to the literature (Agndal, 2007; Coleman, 2018)

To summarize, the lack of empirical confirmation for training transfer is in part due to the fact that training transfer is methodologically difficult to capture (Cheng and Hampson, 2008). In general, there is unclear evidence and little systematic research in the field of negotiation and negotiation training (e.g., Laker and Powell, 2011; Movius, 2008; Roloff et al., 2003; Herbst and Schwarz, 2011; Taylor et al., 2008). However, on the other hand, the available research gives an idea of how poor training transfer from the classroom to the real world might be (e.g., Burke and Hutchins, 2009; Lewicki, 2014; Movius, 2008).

2.2 Negotiation Curriculum

Due to the immense demand for negotiation courses, many scholars never conducted negotiation research themselves, rather reinvented themselves as negotiation scholars (Thompson, 2006). This is why negotiation training courses widely differ in their content and form (Fortgang, 2000; Wheeler, 2006). In fact, trainings are often a diffuse mix of interacting components (Michie et al., 2013) and "agreement as to the basics of a negotiation course curriculum" is missing (Lewicki, 2014, p. 504). Lewicki (2014) concludes that a closer examination of what students actually learn or should learn in a course is needed.

To maximize training effectiveness it is important to know which parts of negotiations are determined by predispositions and which parts can be learned (ElShenawy, 2010). A meta-analysis by Sharma et al. (2013) found predictors for negotiation outcomes on the level of personality, cognitive ability and emotional skills, however, these constructs are impractical for negotiation training, because they are difficult to change. Weingart et al. (1996) show in a laboratory study that negotiators provided with tactical knowledge achieved better outcomes. However, Chapman et al. (2017) argue that unique knowledge and skills are needed for various specific negotiation contexts.

As learned skills and knowledge often fail to transfer, research suggests e.g., to apply analogical reasoning to transfer skills (Gentner et al., 2003; Loewenstein et al., 1999; Moran et al., 2008). This research suggests to promote abstraction of knowledge into subconscious schemata by comparing similar negotiation cases. Nadler et al. (2003) measured negotiator's schemata via open-ended essays and found training transfer to one other laboratory situation via the formation of schemata.

As demonstrated, a lot of the published material "represents view points, opinions and experiences of certain individuals, often presented in the form of "how to" manuals focusing on specific cultural or geographical areas"(Agndal, 2007, p. 4). Ade et al. (2018) states that, overall, there is no consensus on best practices in negotiation training. However, there is agreement that gaining negotiation expertise is not achieved easily (e.g., Bordone, 2000; Bereby-Meyer et al., 2004; Moran and Ritov, 2007).

In this respect, it sounds demoralizing that even people with the understanding of best practice negotiation cannot reach optimal agreements in many cases (e.g., Bazerman et al., 2000). This raises the question of whether training effectiveness can be significantly increased at all, which means for the predominantly used skill set approach, whether training transfer can be increased (Alavoine et al., 2014; Ade et al., 2018).

2.3 Integrative Mindset

"Negotiation occurs whenever people cannot achieve their own goals without the cooperation of others" (Thompson et al., 2010, p. 491). However, negotiators face a dilemma, because they must work together to reach an agreement, but at the same time compete with each other to get the best result for themselves (e.g., Putnam and Roloff, 1992; Walton, 1965). In this context it is often found that most negotiators intuitively assume that their interests are strictly opposed to their opponents. As a result, a distributive approach is chosen and both parties fail to realize compatible interests and settle for suboptimal agreements (e.g., Neale and Bazerman, 1983; Thompson and Hastie, 1990; Thompson, 1991). Pruitt and Lewis (1975) show that negotiators approaching a negotiation with a problem solving or an information exchange orientation achieve better, more integrative solutions.

Gelfand and Christakopoulou (1999) show that a distributive approach to negotiations (see McKersie et al., 1965) has its roots in cultural values and ideals, and is often acquired through socialization and personal experience. Harinck and De Dreu (2008) used priming to induce distributive and integrative approaches to negotiators and demonstrate the similarity of these approaches to the concept of mindsets.
Ade et al. (2018) explain in detail why mindsets seem so interesting for negotiation trainings. It is argued that the dominating behavioral decision theory in negotiation research mostly aims at how to learn skills and knowledge in trainings and then transfer them to where they are actually needed. In contrast, negotiation training should aim at the development of an *integrative mindset* to leverage negotiation skills and knowledge.

Ade et al. (2020) presents a validated, quantitative scale for the integrative mindset (SIM) with three qualitatively described inclinations (a collaborative, a curious, and a creative) and locates the construct, as mindsets in general, "somewhere in the middle" of the trait-state continuum" (p. 741). The measurement builds on research about the mindset theory of action phases (Gollwitzer, 2012) that suggests measuring mindsets like psychological traits and considerably large effects found for the growth mindset in different fields (e.g., Claro, Paunesku and Dweck, 2016; Yeager and Dweck, 2012).

If mindsets are activated in specific social contexts, related knowledge, skills, cognitive schemata, scripts or attitudes become salient and potentially trigger psychological reactions at the cognitive, affective and motivational levels automatically (e.g., Gollwitzer and Keller, 2016; Rucker and Galinsky, 2016). This is why a well-developed mindset may automatically and unconsciously trigger pre-defined negotiation behavior. It is therefore hypothesized that integrating mindset development into negotiation training increases training transfer and thus long-term training effectiveness in the form of so-called sustainable integrative agreements (Ade et al., 2018).

The concept of an integrative mindsets responds to the challenges posed by increasingly complex negotiations. The more complex negotiations become – "strategically, socially, and motivationally" – the more helpful it is to choose an integrative approach (Kern et al., 2020, p. 143) and to focus more on goals and cooperation (Halpert et al., 2010).

2.4. Negotiation Simulations

To learn about adjustment of strategy, adaptability and behavioral sensitivity, Fayerweather and Kapoor (1972) developed a pedagogical device for international management courses. Today, most negotiation trainings incorporate negotiation exercises, from two-party scorable games to large-scale, immersive, highly realistic simulations (Bell and Valley, 2020). Negotiation exercises help negotiators to "develop a realistic understanding of negotiation settings and their place within them" (Bell and Mandell, 2018, p. 46).

Negotiation situations in real life often feel overwhelming due to the lack of control, unpredictability and the absence of feedback (Coleman, 2018; Leary et al., 2013). To prepare negotiators for these situations, negotiation simulations focus on the creation of value (e.g., using logrolling, identifying compatible interests, adding issues, and using integrative contingency contracts) (e.g., Druckman and Ebner, 2013; Lewicki, 2014; Moran et al., 2008; Roloff et al., 2003).

While Fayerweather and Kapoor (1972) tried to provide a sense of realism for greater personal engagement, Crampton and Manwaring (2014) argue that personally relevant simulations prevent from experimenting newly learned skills hence create a barrier to behavioral change due to lack of psychological distance or fear of embarrassment. Bazerman et al. (2000) highlight that constrictive simulation's specifications cannot control how participants psychologically "redefine the game" for themself, resulting in "weird" behavior (p. 303). As a solution they suggest to provide a context, or story-line, that is reality-based but placed in unfamiliar situations, e.g., actual historic events (Crampton and Manwaring, 2014).

Note that different considerations go into the implementation in assessment centers or for training purposes (Bell and Mandell, 2018). In training courses, tasks are rarely associated with quantified outcomes, but rather replaced with a debriefing of the entire simulation. Commonly, the negotiation simulation is reflected and discussed with the help of a trainer, making learning available (Agndal, 2007).

2.5 Climate Club

One simulation that teaches how to navigate the complexities of multilateral negotiations is Climate Club (created by Ade, Grech and Lace in partnership with UNITAR). It is contextually implemented around the idea of climate clubs (see Nordhaus, 2015) and multi-state policy negotiations. This way, the simulation represents a level of artifice, but at the same time the underlying realism enables analogical learning of the structural elements, all by providing an appealing narrative (Crampton and Manwaring, 2014).

High importance is placed on finding integrative solutions. Negotiators need to deal with conflicts of interest and values. Initial issues are carbon tax, research & development investments, tariffs on non-members, punitive measures for members, characterized with utility points for each party. In addition, there are subjective utilities if the club is joined and costs associated if not, representing network effects (Rumore, 2016). It is important to note that the six parties, each with different characteristics, can benefit substantially from adding new negotiation issues. This means that the number of possible resolutions is not tied to the initial issues, but rather parties are allowed to creatively introduce new issues into the negotiations.

Watkins (1999) points out that negotiation simulations are too "simplistic, sterile, and-or static" (p. 246). Although it is still under debate if newer negotiation exercises, and especially simulations are able to prepare negotiators for the complexity of the real world, many efforts have since been made to develop them further (Lewicki, 2014).

2.6 Measuring a Negotiator's Success

Having roots in economic theory, negotiation outcomes in research mostly "center around objective outcomes such as mathematical and economic definitions (e.g., pareto efficiency), and deal or impasse" (Agndal, 2007, p. V). These measures have the advantage of being directly observable (Tripp and Sondak, 1993). Thompson (2006) sees the "clear and compelling dependent measures" as a key reason for the ongoing proliferation of negotiation as a field (p. 2).

However, an analysis of various outcome measures used in research studies has shown that they are often creatively adapted to specific needs of a study, which makes comparison difficult. In this context, Ogilvie and Kidder (2008) note that it still lacks an established measure for often used fixed-pie attitudes. To draw an example, Kray and Haselhuhn (2007), Traavik (2011), Liu et al. (2012) and Kern et al. (2020) all used slightly adapted versions for their outcome measurements. Buelens et al. (2008) note that outcome measurement is often limited to few salient variables, however the increasing diversity of measurements yields new empirical and theoretical insights.

Drawing from the concept of sustainable integrative agreements (Ade et al., 2018), I argue that the research on the integrative mindset requires an outcome definition of a negotiator's success that goes beyond the success in value creation. Sustainable integrative agreements are defined as taking into account the likelihood of implementation, the level of transaction costs, and the long-term impact that a negotiation has on relationships as well.

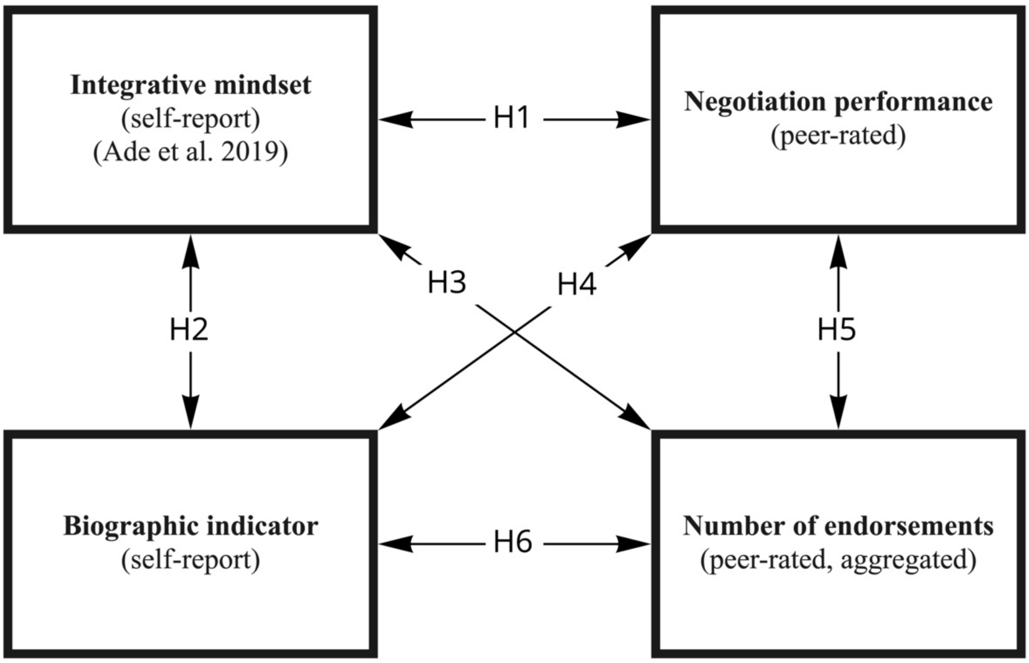
To quantify a negotiator's success, the most common way is by objective gain (e.g., in utility points, or monetary units) realized in a negotiation exercise or simulation (Zetik and Stuhlmacher, 2002). This method falls short once the range of possible agreements increases. As negotiation simulations become more complex, a resolution key to put a negotiator's success in relation is rarely found (Bell and Mandell, 2018). How to assess negotiation performance systematically and comprehensively is largely unanswered (e.g., Smolinski and Xiong, 2020; Wade, 2009).

In case of Climate Club, there is neither an optimum at the group level nor at the individual level, because there is an infinite number of possible resolutions. I argue that as the negotiation situation becomes more complex, it does not do justice to a negotiator's success using objective gain. In addition, Ade et al. (2018) suggests that the integrative mindset may only unfolds in more complex negotiation situations.

2.7 Hypotheses

Ade et al. (2018) developed the psychological construct of an *integrative mindset* by conceptually exploring the relative importance of knowledge, skills, and mindsets for training effectiveness. Inspired by Ade et al. (2020) it is assumed that the scale for the integrative mindset (SIM) explains part of a negotiator's success in a negotiation, e.g., number of endorsements a participant receives from its peers or his *negotiation performance*. Inspired by Gelfand and Christakopoulou (1999), it is assumed that past negotiation experiences have an effect on the integrative mindset. Based on the theoretical explanations above, this master thesis measures four constructs creating a nomological network (Figure 1), in which it is possible to exploratively test theoretical assumptions concerning the SIM.

Figure 1: Nomological network of this master thesis



Note: The formulated network of hypotheses (H1-H6) proposes the existence of positive correlations between the *integrative mindset*, *negotiation performance*, *biographic indicator*, and *number of endorsements*.

The hypotheses are formulated as correlational relationships only. The direction of the relationship is theoretically suggested above. Following hypotheses are proposed:

Hypothesis 1 (H1): The *integrative mindset* correlates positively with *negotiation performance*.

Hypothesis 2 (H2): The *integrative mindset* correlates positively with a *biographic indicator* for negotiation experiences.

Hypothesis 3 (H3): the *integrative mindset* correlates positively with the *number of endorsements* a participant receives from its peers subsequent to a negotiation simulation.

Hypothesis 4 (H4): *Negotiation performance* correlates positively with the *biographic indicator* for negotiation experiences.

Hypothesis 5 (H5): *Negotiation performance* correlates positively with the *number of endorsements* a participant receives from its peers subsequent to a negotiation simulation.

Hypothesis 6 (H6): The *biographic indicator* for negotiation experiences correlates positively with the *number of endorsements* a participant receives from its peers subsequent to a negotiation simulation.

3. Methods

The following chapter describes the methodologies used.

3.1 Research Design

Based on theoretical considerations elaborated above, the following research design is derived to test the hypotheses and answer the research questions. First, an explorative attempt of a measurement to quantify a negotiator's success with *negotiation performance* ratings is created. Second, in a correlational study design, this measurement was applied after a negotiation simulation.

3.2 Participants

Due to ongoing COVID19 restrictions during the period of this master's thesis, many negotiation courses were postponed or access for research purposes was not approved. In the end, it was decided to use the available data of two opportunity samples with a total of 31 participants aged 18 to 31 years (M = 22.13, Mdn = 22, SD = 4.80) for this master thesis.

A first sample of 17 (14 women and three men) bachelor students in psychology attended the negotiation course "Psychologically profound negotiation skills" on the 5.12.2021 in German language. A second sample of 14 bachelor and master students (seven women, six men and one participant who did not want to provide information) attended the negotiation course "Public leadership for the 21st Century" on the 19.12.2021 in English language. In the interdisciplinary second sample five participants each were enrolled in an economics or politics/public administration related program, whereas the other four participants stated that they were enrolled in other programs. It could be assumed that all participants were fluent in English.

The participation in both courses was rewarded with ECTS-points from the University of Konstanz. However it was clearly stated that the participation in the research study running in parallel, was completely voluntary, independent from their grading, and that consent could be withdrawn at any time without giving reasons or suffering disadvantages. This is highlighted because, for practical reasons in the virtual setting, both questionnaires collected their real names. First, self-report and peer-rating had to be matched, which the participants did not know about. Second, however, it was important for participants to identify and select other participants from the negotiation. All participants gave their informed consent before their participation in the research study. In both courses, all participants took part in the research study and there were no drop-outs. All participants were naive about the experimental hypotheses and were not briefed until after the data collection was completed.

3.3 Procedure

Data was collected on Sundays between approx. 10 a.m. and 4 p.m. in negotiation courses held by Mr. Valentin Ade. Two standardized online-questionnaires, one before, and one after the negotiation simulation Climate Club. The participants attended the negotiation courses via the use of Zoom Video Communications teleconferencing. It was ensured that the participants were familiar with its use, including changing their displayed name.

In the beginning, all participants completed the first questionnaire, which included the SIM (Ade et al., 2020) and a *biographic indicator*. Then, they were introduced to the Climate Club simulation (see chapter 2.5) and randomly assigned to one of its six parties. Each member received general instructions for the simulation and their party's confidential information about the initial issues' utility points. Utility points were not directly comparable.

During a preparation phase, all participants were given 45min to gather their team members, to choose a representative for the plenary session, and prepare for the negotiation. Prior to the start of the simulation, unclarities were proactively resolved and every participant was randomly assigned two participants from other parties via a private chat message whose receipt had to be confirmed.

In Climate Club, participants held repeated rounds of negotiations, with the number of rounds depending on whether and when a draft resolution was adopted by representatives of each party in a procedural vote. In each round, a nominated chair party drafted a resolution and presented it to the others in a plenary session, where the representatives declared their commitment to the resolution. If commitment was declared, parties were obliged to join the club based on the resolution. However, in a procedural vote, at least five representatives were required to "finalize" the vote. If at least two representatives voted to "improve", there was another round and a new chair party needed to be nominated by the chairing party.

In another round, 45 min were given to draft a new resolution. During this time, the parties were free to choose how to interact with each other. Break-out rooms were provided. After this time, every representative had 2 min time for a speech in the plenary session before the voting took place. For more information, see Teaching Notes of Climate Club.

Before the debriefing, all participants completed the second questionnaire, which included rating the NPM for the two assigned persons and endorsing five participants as potential lead-negotiators.

3.4 Measures

The measures applied in the two questionnaires are presented below. In addition, the development of a holistic measurement to quantify a negotiator's success is explained.

3.4.1. Integrative Mindset (self-report)

The integrative mindset was measured with the Scale for the Integrative Mindset (SIM) (Ade et al., 2020). The scale is based on the concept of an integrative mindset (Ade et al., 2018) consisting of three qualitatively described inclinations: A collaborative (e.g., *"I collaborate rather than compete."*), a curious (e.g., *"I really like listening to my counterparts."*), and a creative (e.g., *"In negotiations, I enjoy developing new ideas."*).

Equal to (Ade et al., 2020), the scale was used with all 15 items being mandatory and with its original 6-point Likert scale (1 = disagree completely to 6 = agree completely). Only the endpoints were labeled. All items were assessed in a randomized order for each participant.

Right before the SIM, the questionnaire informed the participants that the following questions were “based on a broad understanding of the term negotiation”. Moreover, the participants were asked to think about themselves in the context of negotiations and answer the questions in the way they really perceive themselves instead of how they think they should or they think is best. Ade et al. (2020) pointed out that males had lower mean values in the SIM than females and age correlated with the SIM scores. Gender and age were assessed as potential control variables.

3.4.2. Biographic Indicator (self-report)

My supervisors Mr. Valentin Ade and Mr. Michael Dantlegraber created a 5-item scale that measured negotiation experiences linked to biographic circumstances. The items were “*I am involved in an association or I am a member of a political party.”, “I have sat or regularly sit on a committee.”, “I have been selected as a spokesperson for a group before.”, “I have discussions that last longer than an hour every week.”, “It is part of my job to negotiate contracts with partners.”*

To highlight the link to biographic circumstances, each item was rated Yes/No instead of using a 6-point Likert scale. This way the rater perceives the scale as objective and to some degree verifiable (Schuler and Höft, 2004). All questions were mandatory. All five responses were summed, giving each person an integer value from 0 to 5 for the entire scale. Higher scores indicated more biographical events, where negotiation experience could be obtained in the past.

3.4.3. Development of Negotiation Performance Measurement

Based on the theoretical considerations above, I concluded that there was a need for a NPM that captures a negotiator’s success holistically, yet guided by empirical evidence. In the course of a literature search on PsycInfo, PsycARTICLES, Annual Reviews and Google Scholar using *“negotiation”*, reviews in the field of negotiation research were identified. These reviews, and the articles cited in them served as a starting point to inductively develop the holistic framework for the questionnaire. Identified aspects of a negotiator's success were intuitively arranged and iteratively added to a visual cluster solution on an e-whiteboard.

A second literature search used *"outcome", "performance", "evaluation", "assessment", "model", "framework", "holistic", "competency", "success"* in combination with *"negotiation"* in order to find existing models in the field to compare with. To tie in with existing measures, the methodologies used in the articles were analyzed and clustered too. However, they were mostly adapted to specific needs of a study and therefore mostly not applicable (see chapter 2.6). In the end, I decided to adapt the complete structure of the 15 competencies of a negotiation competency model from Smolinski and Xiong (2020) and deducted one item for each competency from my cluster solution. It was established that the NPM was a standardized, quantitative questionnaire with 15 items, the same amount of items as the SIM.

The 15 items were first discussed and reviewed with my supervisors. Then, pre-tests were conducted in German language with five non-psychology students, who had participated in a negotiation simulation before. In an unstructured interview, these pre-testers filled out both questionnaires and were encouraged to express spontaneous thoughts aloud. Thus, it was possible to find out how the English items were perceived for non-native speakers and whether the implementation of the questionnaire in its web-based form was experienced as intended (DeVellis and Thorpe, 2021; Zickar, 2020).

Based on the reactions of the pre-testers, the questionnaire was iteratively adjusted. Last, the whole questionnaire was checked for correct English by two native speakers. The final questionnaire (see Table 1) consisted of five qualitative facets with three items each. For content remarks, it is referred to Smolinski and Xiong (2020). The facets were named after the my cluster solution: Intelligence, Agility, Aspiration, Interpersonal and Appearance. Note that the item *team performance* aims at the performance of the whole group instead of one individual, because I argue that one aspect of an individual's negotiation performance is how to blend in or manage a team (e.g., Thompson et al., 1996).

Table 1: Items of the NPM

Facet	**Negotiation Competency Model** Smolinski & Xiong (2020)	**Items**
Intelligence	Setting the stage	The person clearly stated their prioritised issues in their overall negotiation objectives.
	Using objective criteria	The person was able to take my perspective to offer mutually fair standards.
	Understanding interests and options	The person had an accurate understanding of their own, as

Note: NPM = Negotiation Performance Measurement. Second column represents the 15 negotiation competencies of the negotiation competency model by Smolinski & Xiong (2020). Item order was randomly generated for each participant.

3.4.4 Application in the Study (peer-rated)

The participants did not know that they would be asked to give or receive peer-ratings. However, because of the online setting, it was decided that every participant needed to keep an eye on two other participants during the negotiation. These were the same participants that had to be peer-rated later. It was decided to send a private chat message to every participant saying: *“Please keep an eye on the following two persons in the negotiation: 1.) Name1 2.)*

Name2 - Do not behave/negotiate differently, because you have to observe these two persons."

The NPM was rated on the 6-point Likert scale (1 = disagree completely to 6 = agree completely). Only the endpoints were labeled. All items were assessed in randomized order. Higher negotiation performance ratings indicated greater negotiator's success. Giving an answer to every item was not mandatory. Before the participants could skip an item however, they were reminded that they left out an item by highlighting it in red and the message "*You have not answered one or more questions*." If they wanted to proceed without answering the question, they had to check a box that said "*I want to leave item X blank, because I don't feel able to answer it*."

3.4.5 Perceived Capability (peer-rated)

A 1-item scale was developed to monitor the quality that participants attribute to their performance rating for each peer. "I felt able to answer the questions about the person in a way that accurately represented the person's negotiation behavior." The question was mandatory and rated on the 6-point Likert scale (1 = disagree completely to 6 = agree completely). Only the endpoints were labeled.

At the end of each peer-rating, participants had the opportunity to respond with text to the question "*Anything to add?"* in a free-format response item.

3.4.6. Number of Endorsements (peer-rated, aggregated)

To provide feedback at the debriefing of the negotiation courses, all participants stated their top-five negotiators from the simulation by selecting their names out of a complete list of all attended participants. The higher the number of mentions the more participants endorsed the person. For the analysis this number was weighted by the number of participants in the negotiation party, since participants in triads would be at disadvantage to participants in dyads. After that, a z-standardization was performed for both sub-samples individually in order to approximate control for the number of participants in each course. Note that this measure was implemented in this form to provide a fast available and intuitive feedback for the students in the negotiation course. The measure was adapted from a similar educational tool that Mr. Valentin Ade used for negotiation courses in the past: *"Which five persons (who* *are not a member of your team) would you most strongly endorse for a real-world job as a lead negotiator?"*

3.5 Data Analysis

Data preparation and a qualitative pre-analysis was done in Microsoft® Excel (Version 16.55), because it allowed for an easy, qualitative inspection of the relatively small dataset. Data analysis used IBM® SPSS Statistics (Version 28.0.0). Internal consistency was explored with Cronbach's α coefficients (Cronbach, 1951).

Following the research tradition in the field, Spearman's rank-based coefficient ρ is chosen over Kendall's τ to provide an intuitively comparable and complementary view to the Pearson correlation coefficient r (Chok, 2010; Xu et al., 2013). R^2 is given as the range between two coefficients (r, r_s). Normal distribution was tested with the Kolmogorov-Smirnov test (with Lilliefors correction) as well as the Shapiro-Wilk test. Both results were compared (Razali and Wah, 2011; Yap and Sim, 2011). Due to their sensitivity, quantile-quantile plots (Q-Q plots), boxplots and histograms were visually inspected and compared as well. Linear relationships of all variables were assumed and inspected using scatterplots. Outliers were detected using boxplots and histograms. To allow simple interpretation no variable was transformed in order to achieve linearity, including count data (O'Hara and Kotze, 2010). In this way, Spearman's rank-based correlation was used as a less subjective alternative to transformation of data.

4. Results

As this was the first use of the NPM on a small sample, in a first step, the data was analyzed qualitatively to assess data quality. In a second step, Cronbach's α was inspected. In a third step, an exploratory two-tailed correlation analysis with focus on the facets of the NPM and the inclinations of the SIM was conducted. Finally, a two-tailed (Hick, 1952; Lombardi and Hurlbert, 2009) correlation analysis is used to test the hypotheses.

4.1 Qualitative Pre-Analysis

Missing values only occurred in the NPM, because all other measurements only had mandatory items. The NPM was originally designed to be used for a longer negotiation in a live setting. Therefore, it was expected a priori that the shorter time provided and the online setting would influence the quality of the simulation and hence, affect negotiation performance ratings. In the debriefing of the negotiation courses, these concerns were confirmed by the stated experiences in the negotiation simulation.

Out of 62 performance ratings, four performance ratings were invalid due to communication problems hence deleted. 20 performance ratings were complemented with texts that participants wrote in the free-format response items. Using a qualitative approach, these texts were analyzed together with the quantitative data using descriptive measures and color-coding.

Color coding low perceived capability and corresponding performance ratings showed that either there were a lot of missings or undifferentiated negotiation performance ratings (all items answered with 1 or 3). It seems that some raters felt compelled to give a peer rating, while others made use of not answering items resulting in missings. It can be assumed that only some raters found out about the option to leave items blank, because all preceding questionnaires consisted of mandatory items only and the option could only be discovered by trial. No information about this option was given to avoid a lot of missings.

Looking at the free-format response texts, it became clear that a lot of raters had not interacted with their assigned peers: “I didn’t see the person during the negotiation.” “I didn’t see the person contributing”, “No information at all.”, “Person did not contribute to the debate.” “I had no interaction with this person”, “No interaction with this person, so I don't want to make conclusions based on no evidence”, “I do not have any information about this person. My answers for this person are basically invalid.” All of these texts were preceded by low perceived capability ranging from 1 to 2.

By clustering based on other free-format response texts, a group of raters that appeared to have had some interaction with their assigned peers was identified: “We only had a small interaction in a breakout room, so my image cannot be fully created.”, “I did not talk to X directly. X was generally rather reserved in the discussions and in the plenary.”, “I didn't negotiate directly with X and X was not very active in the plenum, therefore it was difficult to get an impression.”, “X was not part of our negotiation. After we all had agreed on the deal and closed it, he came to the conversation and started negotiating, but we could not do anything anymore.” Arguably, these raters had little information about their assigned peers, but they adjusted for the amount of information that the negotiation simulation provided them in general. These texts were preceded by perceived capability ranging from 2 to 4.

To further explore these findings, the means of both negotiation performance ratings per participant were compared in combination with both their perceived capability. Because of the small sample and a random pair of raters assigned to every participant, it was decided to analyze inter-rater reliability qualitatively. Note that from a theoretical point of view, the negotiation performance rating cannot be separated entirely from the specific rater, because of interaction effects. Therefore, negotiation performance ratings should be seen as indicators, which can be aggregated, but not directly compared.

It can be seen that with increasing perceived capability, the raters' agreement between performance ratings is increasing. However, there are only 17 pairs with a perceived capability > 1 each, only 9 pairs with a perceived capability > 2 each, and only 4 pairs with a perceived capability > 3 each.

Based on the above analysis, it was decided to use the one negotiation performance rating with the higher value in perceived capability instead of an average between both. If the perceived capability by both raters was the same, an average score between the two ratings was used. In consequence, the dataset used for all subsequent analyses consists of only nine missings due to non-mandatory items. In addition, the assumption concerning the shorter and virtual setting and its effects on the quality of the negotiation performance ratings was taken into account.

4.2 Scale Reliabilities

Table 2 follows the imperative of Gliem and Gliem (2003) to show the internal consistency using Cronbach's α coefficient (Cronbach, 1951) together with the number of items, means and standard deviations for every scale. Missings in the NPM were excluded listwise. George and Mallery (2003) propose to interpret $\alpha > .9$ as excellent, $\alpha > .8$ as good, $\alpha > .7$ as acceptable, $\alpha > .6$ as questionable, $\alpha > .5$ – as poor, and $\alpha < .5$ as unacceptable. "What satisfactory level of reliability is depends on how a measure is being used. In early stages of research (…) ones saves time (…) with instruments that have only modest reliability" (Nunnally, 1978, p. 245).

Acceptable to excellent reliabilities were found for the Biographic Indicator and the SIM with Cronbach's α ranging from .72 to .91. The facet *Aspiration* ($\alpha = .09$, $M = 3.39$, $SD = 0.85$) showed unacceptable reliability, which is why item 8 (", which correlated negatively, was omitted. The two remaining items showed considerably better, but still poor reliability (α

= .53). The facet *Intelligence* of the NPM (α = .68) showed questionable reliability. Given the small number of items in both these facets, reliabilities were considered sufficient (Salkind, 2010; Tavakol and Dennick, 2011).

Bujang and Baharum (2018), Samuels (2015), Yurdugül (2008) argue that a sample size of approx. 30 is enough to quantify reliability with Cronbach's α for exploratory research. To not undermine further analysis item 8 was excluded (Conroy 2016; Tavakol and Dennick, 2011). However, using Cronbach's α is not enough to decide about the final exclusion of items here. Since all items were based on sound theoretical considerations, a larger sample and factor analysis would first be mandatory (Gliem and Gliem, 2003; Schmitt, 1996; Sijtsma, 2009).

Table 2: Item numbers, means, standard deviations and Cronbach's *α*

Scale	Items	M	SD	α
Integrative Mindset (SIM) (n=31)	15	4.47	0.58	.77
Collaborative Inclination	5	4.36	1.07	.90
Curious Inclination	5	5.00	0.91	.91
Creative Inclination	5	4.06	0.84	.72
Negotiation Performance (NPM) (n=29)	15	3.91	0.96	.90
Intelligence	3	4.03	1.19	.68
Agility	3	3.84	1.18	.83
Aspiration (without item 8)	3	3.55	0.90	.53
Interpersonal	3	4.10	1.10	.84
Apperance	3	4.23	1.21	.80
Biographic Indicator (n=31)	5	1.48	1.57	.74

Note: M = mean, *SD* = standard deviation, *α* = Cronbach's alpha

4.3 Facets of the NPM & Inclinations of the SIM

Comparing the means and standard deviation in table 2, it is noticeable that the means of the NPM's facets only range between 3.55 to 4.23, while the means of the SIM's inclinations range between 4.06 to 5.00. The SIM shows considerably higher values in the *curious inclination* (*M* = 5.00, *SD* = 0.91) of the integrative mindset as in the *creative inclination* (*M* = 4.06, *SD* = 0.84). In contrast, the NPM seems to have balanced facets with similar standard deviations. The *biographic indicator* stands out with a low mean ($M = 1.48$), which indicates its strongly right-skewed distribution.

Table 3 shows emerging patterns in correlations (Pearson) at the descriptive level. Some of them are pointed out below. Note that in the case of missings (only in the NPM), subscale-means were calculated using at least two existing values per participant, resulting in a sample of $n = 31$. Looking at the *integrative mindset*, it stands out that its *creative inclination* had neither a high correlation with the *curious inclination* nor the *collaborative inclination* nor with its main scale (SIM), which contradicted subscale correlations of Ade et al. (2020).

Looking at *negotiation performance*, it stands out that its five facets correlate among each other and each facet correlates highly with its main scale (NPM). This suggests that the facets measured similar constructs. In addition, this makes one speculate about an overlying performance factor, since a participant either had high ratings in all facets or low ratings in all facets. Furthermore, the facet *interpersonal* (*(*referring to team performance, trust and relationship building, and moral wisdom and honesty) stands out being the only facet with low correlations with the *biographic indicator* and *number of endorsements*; all other facets show high correlations with both.

Looking at the subscale correlations, there was a significant correlation between the *creative inclination* and the facet *appearance*, $r(29) = .37$, $p = .039$. This suggests that participants with high creative inclinations tended to be significantly better rated on their facet *appearance (*referring to quality of expression, active listening, and managing emotions*)*. Interestingly, *perceived capability* correlated significantly with *negotiation performance*, $r(29) = .64$, $p < .001$, as well as the *number of endorsements*, $r(29) = .65$, $p < .001$. Following tendency can be described: If perceived capability increased, its negotiation performance rating (received from one peer) increased, and at the same time, the number of endorsements (from all peers together) increased as well.

Table 3: Bivariate Pearson correlations of main scales with inclinations of the SIM and facets of the NPM including its perceived capability (n= 31)

Subscale	1	2	3	4	5	6	7	8	Integrative Mindset (self-report)	Negotiation Performance (peer-rated)	Biographic Indicator (self-report)	Number of Endorsements (peer-rated)
Integrative Mindset (self-report)												
1. Collaborative Inclination									.81**	.30	-.06	-.31
2. Curious Inclination	.38*								.64**	.19	.22	.00
3. Creative Inclination	.00	-.26							.37	.15	.23	.31
Negotiation Performance (peer-rated)												
4. Intelligence	.09	.09	.16						.18	.85**	.41*	.54**
5. Agility	.05	.31	.05	.65**					.22	.83**	.46**	.48**
6. Aspiration (without item 8)	.08	.30	.11	.69**	.62**				.26	.72**	.54**	.40*
7. Interpersonal	.31	-.08	.15	.44*	.52**	.21			.22	.74**	.05	.31
8. Apperance	.07	.15	.37*	.76**	.63**	.61**	.49**		.30	.86**	.49**	.44*
9. Perceived Capability	-.06	-.14	.07	.54**	.59**	.53**	.40**	.47**	.07	.64**	.29	.65**

Note: * indicates $p < 0.05$ (2-tailed) ** indicates $p < 0.01$ (2-tailed). There were no considerable correlations with the variable gender, age and party in the negotiation, which is why they are not included here.

4.4 Hypothesis Testing

To test the hypotheses H1 to H6, a complementary correlation analysis was conducted using both Pearson *r,* and Spearman's rank-based coefficient ρ. Simulation studies show that Pearson offers higher statistical power, especially in small samples, but is known for its sensitivity to outliers (e.g., Chok, 2010; Bishara and Hittner, 2012; Bonett and Wright; De Winter et al., 2016; 2000; Xu et al., 2013).

Boxplots identified values of different participants on different variables as outliers, but removal would have considerably reduced the sample size. More important, the examination of outliers provided no reason for removal other than Pearson's sensitivity to outliers.

Using the Kolmogorov-Smirnov and Shapiro-Wilk normality tests, all distributions but the one of negotiation performance were unanimously detected as violating normality. However, QQ-plots, boxplots and histograms only pointed out *biographic indicator* and *number of endorsements*. With $n > 30$, normality plays a subordinate role (Salkind, 2010), but as count data tends to be highly skewed caution was required using Pearson-correlation (Kowalski, 1972; Steinskog et al., 2007; Thode, 2002).

Pearson *r* assumes interval scaled variables. Whether and when Likert-scales are interval-scaled is a debated controversy. (e.g., Brown, 2011; Jamieson, 2004; Norman, 2010; Wu and Leung, 2017), which additionally justifies the comparison with Spearman's rank-based correlations.

Table 4: Bivariate Pearson correlations between the main scales (n= 31)

Scale	1	2	3
1. Integrative Mindset (self-report)			
2. Negotiation Performance (peer-rated)	.30*		
3. Biographic Indicator (self-report)	.19	.46**	
4. Number of Endorsements (peer-rated)	-.04	.54**	.41*

Note: *indicates $p < 0.05$ (2-tailed) ** indicates $p < 0.01$ (2-tailed)

Table 5: Bivariate Spearman correlations between the main scales (n= 31)

Scale	1	2	3
1. Integrative Mindset (self-report)			
2. Negotiation Performance (peer-rated)	.18		
3. Biographic Indicator (self-report)	.22	.53**	
4. Number of Endorsements (peer-rated)	-.10	.56**	.33

Note: *indicates p < 0.05 (2-tailed) ** indicates p < 0.01 (2-tailed)

Hypothesis 1 postulated that the *integrative mindset* correlates positively with *negotiation performance*. Table 4 shows a positive and significant Pearson-correlation between integrative mindset and negotiation performance, $r(29) = .30$, $p = .024$. However, Spearman's rank-based correlation between the same constructs was $r_s(29) = .18$, $p = .164$. Thus, it was assumed that Pearson overestimated the correlation. Deleting potential outliers for *integrative mindset* resulted in a non-significant Pearson-correlation, $r(24) = .125$, $p = .519$. Therefore H1 was *not* confirmed.

Hypothesis 2 postulated that the *integrative mindset* correlates positively with a *biographic indicator* for negotiation experiences. Table 4 shows no significant Pearson-correlation between integrative mindset and biographic indicator $r(29) = .19$, $p = .300$. Note, that Table 5 too shows no significant Spearman-correlation between the same constructs, $r_s(29) = .22$, $p = .246$. Thus, H2 was *not* confirmed.

Hypothesis 3 postulated that the *integrative mindset* correlates positively with the *number of endorsements* a participant receives from its peers subsequent to a negotiation simulation. Table 4 shows no significant Pearson-correlation between integrative mindset and number of endorsements, $r(29) = -.04$, $p = .839$. Note, that Table 5 too shows no significant Spearman-correlation between the same constructs , $r_s(29) = -.10$, $p = .581$. Thus, H3 was *not* confirmed.

Hypothesis 4 postulated that *negotiation performance* correlates positively with the *biographic indicator* for negotiation experiences. Table 4 shows a significant Pearson-correlation between negotiation performance and biographic indicator, $r(29) = .46$, $p = .009$. Table 5 shows a significant Spearman-correlation between the same constructs, $r_s(29) = .53$, $p = .002$. Thus, hypothesis 4 was confirmed. Interestingly, negotiation performance tended to increase together with the biographic indicator. In the analyses 21-28% of the variance in both variables was determined by shared sources of variance. According to Cohen (1992), the effects was medium to large.

Hypothesis 5 postulated that *negotiation performance* correlates positively with the *number of endorsements* a participant receives from its peers subsequent to a negotiation simulation. Table 4 shows a significant Pearson-correlation between negotiation performance and number of endorsements, $r(29) = .54$, $p = .002$. Table 5 shows a significant Spearman-correlation between the same constructs, $r_s(29) = .56$, $p = .001$. Thus, H5 was confirmed. Interestingly, negotiation performance tended to increase together with number of endorsements. In the analyses 29-31% of the variance in both variables was determined by shared sources of variance. According to Cohen (1992), the effects are large.

Hypothesis 6 postulated that the *biographic indicator* for negotiation experiences correlates positively with the *number of endorsements* a participant receives from its peers subsequent to a negotiation simulation. Table 4 shows a significant Pearson-correlation between biographic indicator and number of endorsements, $r(29) = .41$, $p = .024$. Table 5 shows a no significant Spearman-correlation between the same constructs, $r_s(29) = .33$, $p = .067$. Nevertheless, it must be said that the Spearman test has less statistical power and normality plays a subordinate role here (Salkind, 2010). Thus, H6 is only accepted with reservation.

5. Discussion

The goal of this master thesis is to make an attempt to evaluate the integrative mindset by measuring negotiation performance holistically.

5.1 Summary of the Results

Methodologically, there are different approaches to construct validation: Content-based, qualitative analyses, experimental methods, or correlational statistics. The latter assumes higher correlations between different operationalizations of the same construct (convergent validity) as between constructs that are theoretically related and low correlation with irrelevant constructs (discriminant validity) (Bortz and Döring, 2007).

To quantify the expected effect sizes between the *integrative mindset* and the other constructs at this exploratory stage was difficult. Though, two different studies from mindset research, suggest to expect effects between mindsets and behavioral criteria data of $r = .33$ to $r = .44$ (Armor and Taylor, 2003; Liu et al., 2020).

The first three hypotheses (H1-H3) focus on the correlations between the *integrative mindset* and the other constructs in the nomological network. Based on theoretical assumptions in Ade et al. (2018) it is assumed that the integrative mindset has positive correlations with all these constructs. However, there is only one significant Pearson correlation between the *integrative mindset* and *negotiation performance*. Pearson correlation tends to overestimate correlation coefficients when there are outliers in the sample. Removing these outliers confirm the results from the Spearman correlation. In total, the results from H1-H3 of this master thesis are not able to provide support for the SIM's validity.

The hypotheses 4 and 5 (H4-H5) focus on the correlations between *negotiation performance* and two other constructs in the nomological network: *biographic indicator* and *number of endorsements.* Again, positive correlations are expected, because higher negotiation performance ratings indicate greater negotiator's success. First, align with the predominant skill set approach in behavioral decision theory e.g., ElShenawy (2010), it is expected that more opportunities for negotiation experiences in the past result in better negotiation performance ratings, because of knowledge about negotiation and related skills (e.g., Gentner et al., 2003; Moran and Ritov, 2007). Second, in the context of sustainable integrative agreements (Ade et al., 2018), it is expected that greater negotiator's success also results in a greater number of endorsements. Both hypotheses were confirmed by highly significant Pearson and Spearman correlations.

The confirmation of H4 poses the most interesting results, because *negotiation performance* was assessed using peer-ratings in the second questionnaire and *biographic indicator* was assessed using self-report in the first questionnaire, before the negotiation simulation took place. In fact, 21-28% (according to Spearman or Pearson) of the variance in *negotiation performance* and *biographic indicator* was determined by shared sources of variance. This is a medium to large effect size (Cohen, 1992). Therefore, we can conclude that there was a relationship between negotiation experiences in the past and a negotiator's success in a negotiation simulation later in time. This relationship was measurable with the developed questionnaire together with 5 items about past negotiation experiences tied to biographic circumstances. An alternative explanation could be that experienced negotiators dominated the negotiation simulation and were particularly noticeable in comparison to others.

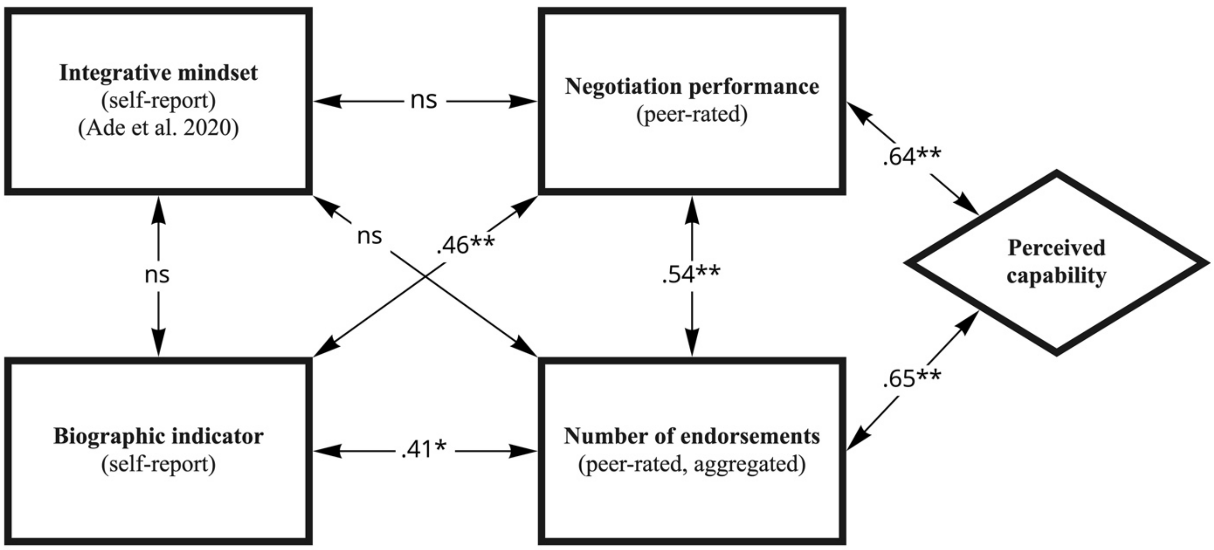
The confirmation of H5 shows that 29-31% (according to Spearman or Pearson) of the variance in *negotiation performance* and *number of endorsements* was determined by shared sources of variance. This effect size was large (Cohen, 1992). However, for closer interpretation of H5 it is referred to Table 3. Interestingly, *negotiation performance also* correlated significantly with *perceived capability.* If *perceived capability* of a rating increased, its negotiation performance rating increased as well. In fact, 41% of the variance in *perceived capability* and *negotiation performance* was determined by shared sources of variance. This is a large effect size (Cohen, 1992). Compared to H4, *number of endorsements* was assessed using aggregated peer-ratings in the same questionnaire directly after *negotiation performance.* A potential explanation was a halo-effect.

This brings us to hypothesis 6 (H6), which focuses on the correlations between *biographic indicator* and the *number of endorsements.* Align with the predominant skill set approach in behavioral decision theory a positive correlation is expected, because having more opportunities for negotiation experiences is expected to result in a greater number of endorsements (e.g., ElShenawy, 2010; Druckman and Ebner, 2013). In fact, 17% (according to Pearson) of the variance in *biographic indicator* and *number of endorsements* was determined by shared sources of variance. This is a medium effect size (Cohen, 1992). However, because the Spearman correlation was not significant, this hypothesis was only confirmed under reservation. The different methods used (aggregated peer-ratings and self-report), the assessment in two different questionnaires, and the statistical considerations from above speak in favor of an interpretation of the result (e.g., Kowalski, 1972; Steinskog et al., 2007).

The results from H4 and H6 can be allocated to two different opinions in negotiation research. On one hand, past negotiation experiences could be seen as training (e.g., ElShenawy, 2010) and therefore the result would be interpreted as a sign for training transfer to a new situation. However, on the other hand, it is also possible that participants with higher negotiation performance ratings or a higher number of endorsements have been attracted to negotiation situations in the past, because of their predispositions (e.g., cognitive ability) or special talent (e.g., Sharma et al., 2013). In this context, higher negotiation performance ratings or a higher number of endorsements is explained by participants' predispositions and personality (Alavoine et al., 2014; Loewenstein et al., 1999).

In total, the results from H4-H6 of this master thesis in comparison to H1-H3 speak against the SIM's validity. However, there are alternative explanations. It is conceivable that negotiators with some amount of skills and knowledge dominated the negotiation simulation, which restrained the negotiators approaching negotiations with an integrative mindset. Figure 2 presents the nomological network in addition to *perceived capability* and all its significant Pearson correlations. It can be seen that high perceived capability ratings are also connected to a higher number of endorsements. This indicates a moderator effect of *perceived capability*. It seems that the same negotiators, to whom raters feel more able to answer the NPM are endorsed much more, and also are given higher performance ratings. Keep in mind that only the negotiation performance rating with the higher perceived capability rating was chosen to increase their validity.

Figure 2: Nomological network of this master thesis & perceived capability



Note: The tested network of hypotheses with significant Pearson correlations between constructs
**indicates p < 0.05 (2-tailed) ** indicates p < 0.01 (2-tailed)*

5.2 Strengths and Limitations

This master thesis explores whether the complexity of negotiations can be captured by a measurement that looks at a negotiator's success in a holistic way. Negotiation research is missing such a quantitative measurement and to the best of my knowledge, this approach to measurement is unique in negotiation research to date (e.g., Smolinski and Xiong, 2020; Wade, 2009). In addition, by adopting the definition of sustainable integrative agreements from Ade et al. (2018) the NPM emphasizes the long-term effects a negotiation in real life normally has. As the saying "You always see each other twice in life", measuring a negotiator's success should not only pay attention to immediate outcomes, but rather highlight long-term effects on interpersonal relationships (e.g., Banas and Parks, 2002; Curhan et al., 2006; Kong et al., 2014; McGinn, 2006; McGinn and Keros, 2002). Roloff et al. (2003) points out that reaching an agreement alone does not always indicate a negotiator's success. Ade et al. (2018) explains in this context that often a relationship, e.g., in business, or politics, is more valuable than the immediate outcome of the negotiation it originated from.

Another strength of this master thesis is its multimethod approach. The integrative mindset, as well as the biographic indicator was assessed using self-reports, whereas negotiation performance was assessed using peer-ratings. In addition, number of endorsements represents an aggregated measure over all participants.

On the other hand, there are a lot of limitations to this explorative study, some of which are elaborated here. First, the small sample size (n = 31) in this study limits the informative value and generalizability of the findings considerable, especially considering the following points.

Second, qualitative analysis shows when *perceived capability* is low, more divergent ratings occur, which indicates that the less able peers feel to answer the NPM, the lower the negotiation performance rating. As demonstrated in the qualitative pre-analysis, the questionnaire often produces non-differentiating negotiation performance ratings with all items rated 1 or 3 in combinations with low perceived capability ratings. Consequently, the NPM's answers have a high variance between ratings, which are reportedly based on almost no information: e.g., "I had no interaction with this person", "No information at all."

There are at least two different approaches peer-raters used when little information about a specific peer is available: Some raters might indicate low *perceived capability*, while others might indicate high perceived capability, because they do not adjust for the amount of information they had received in the negotiation simulation. Instead, they valued the non-participation as an indicator of poor negotiation performance. The latter of course represents a justified statement, but it does not reflect the analytical depth which was intended with all 15 items of the NPM. If both these approaches were present, it would imply inconsistency in the data and therefore its validity must be considerably questioned.

I argue that the NPM needs a certain degree of interaction to become valid. Note that Climate Club only lasted between one and two rounds, when it normally lasts two to six rounds. Restricted interaction between the participants in the shorter and virtual settings might lead to less valid negotiation performance ratings as indicated by media-richness theory (e.g., Nadler and Shestowsky, 2006; Purdy and Balakrishnan, 2000; Sheffield, 1995). In addition, the thereby caused lack of valid information to appropriately rate peers, is assumed to amplify the use of heuristics and biases (e.g., Kahnemann et al., 1982). An example: Participants who spoke on behalf of their team in the plenary session, where they attracted attention, may achieve a higher number of endorsements as a lead negotiator. The large effect sizes of both, *negotiation performance* and *number of endorsements* with *perceived capability (see Figure 2)* additionally supports this interpretation.

Third, referring to the debriefing of the negotiation simulations, I argue that the possibility to creatively add new issues in Climate Club seemed counterintuitive for most participants. Although this perfectly coincides with findings about fixed-pie perceptions (e.g., Gelfand and Christakopoulou, 1999; Kern et al., 2020). Bazerman et al. (2000) explains that one source of errors in negotiation simulations is how participants redefine the simulation. If a lot of participants thought it was not allowed to add issues, this has probably lowered the extent to which Climate Club simulated a complex negotiation situation and therefore its comparability to a negotiation simulation with the possibility to achieve sustainable integrative agreements. Look at item 8 ("*The person only made concessions after extensive information had been shared"),* which needed to be omitted due to unacceptable scale reliability (see chapter 4.2). Opposing responses suggests that participants understood the item 8 fundamentally different. I argue that towards sustainable integrative agreements, negotiators should strive for the exchange of as much information as possible. Note that maybe also the short time provided had an effect on opposing responses.

5.3 Implications for Future Research & Practice

In negotiation research, economic definitions have mostly been used to measure a negotiator's success (Zetik & Stuhlmacher, 2002). This contradicts the increasing complexity of negotiations (e.g., Coleman, 2018). In addition, Ade et al. (2018) suggests that the integrative mindset may only unfolds in more complex negotiation situations, which is why a conventional assessment of negotiation performance cannot be used for negotiation mindset research. Negotiation research needs an elaborated, theory-tested and replicated measurement to adopt and contribute to the increasingly complex, dynamic and unpredictable negotiation problems from the real world. It is important to highlight the explorative nature of this master thesis. Due to the small sample, no factor analysis could be performed, which is why the dimensionality and structure of the NPM remains hidden. From a methodological and theoretical point of view, this master thesis has taken an initial step towards the development of a comprehensive measurement.

The results from using the NPM in this study speak against the SIM’s validity. However, there are concerns regarding the analytical depth achieved with the NPM as discussed above. Based on the media-rich theory, future research might consider an offline setting of a negotiation simulation, where participants get the opportunity to further interact with each other. As the NPM tries to capture a wide range of aspects with only 15 items, some item formulations reflect complex constructs, which may demand some amount of reflection and commitment from the peer-rater. Instead of blaming the online setting, perhaps peer-raters need guiding of how they should approach the items and the rating in order to increase validity.

On the other hand, the NPM can already be used in practice. “How do you ever know if you succeeded in a negotiation?” (Curhan et al., 2006, p. 9) I encourage negotiation trainers to use the cost and time efficient NPM in negotiation trainings e.g., for a debriefing, or in feedback loops between peers. The NPM might also be used as an experience diary to reflect about one’s own or others' performance over a multi-day negotiation simulation. Also a combination of peer and self-reports might be useful.

In summary, the NPM might be used as a pedagogical tool to teach sensitivity for sustainable integrative agreements in negotiation trainings. In negotiation research, the NPM might be used to produce insights towards a comprehensive measurement to quantify a negotiator’s success holistically.

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