Unravelling the interplay of sources of self-efficacy in negotiating in role-play simulations of political decision-making : a longitudinal in-depth case study

Unravelling the interplay of sources of self-efficacy in negotiating during role-play

simulations of political decision-making: A longitudinal in-depth case study

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Abstract

This study contributes to current self-efficacy research in two ways. First, it responds to the need for more context- and competency-specific self-efficacy research by expanding the research field to the context of role-play simulations and focusing on the outcome of self-efficacy in negotiating. Second, aiming to investigate sources of self-efficacy and their interplay, the study addresses the need for more in-depth qualitative research by conducting a single holistic case study with a longitudinal design. Moreover, the study focuses on outcomes of an increase or decrease in self-efficacy over time. Data were collected during a four-day European Union simulation. Three data sources – diaries, interviews, and semi-structured observations and field notes – contributed to data convergence, ensuring that more than a single source of evidence supported findings. Four students were selected using maximum variation sampling. The final sample of 27 meaningful events – about the development of self-efficacy in negotiating – were selected by within-case sampling based on a set of inclusion criteria. Data were analyzed by means of content analysis. Three groups of sources of self-efficacy could be defined: personal sources, social sources, and contextual sources, which encompassed and enriched the four previously hypothesized sources of self-efficacy. With regard to the interplay of sources, five main pathways could be defined. Personal sources were present in all pathways. The contribution of social sources to an increase in self-efficacy was more obvious than its role in a decrease in self-efficacy. The contribution of the contextual source to the development of self-efficacy in negotiating was generally less prominent.

Introduction

Over the past three decades, research on self-efficacy has substantially increased, focusing on the investigation of which aspects contribute to the development of self-efficacy (Ahn, Bong, & Kim, 2017; Usher & Pajares, 2008). Self-efficacy refers to individuals' beliefs that they are capable of learning and performing actions at designated levels (Bandura, 1997). As self-efficacy also concerns an evaluation of one's own abilities, it plays a key role in motivating students to improve their competency and future actions, and it is associated with student success by positively influencing academic achievement, student motivation, and regulative learning outcomes (Bandura, 1997; Pajares, 1996; Richardson, Abraham, & Bond, 2012; Robbins et al., 2004; Schunk & Pajares, 2005; van Dinther, Dochy, & Segers, 2011; Vermunt & Donche, 2017; Zimmerman, 2000). While research repeatedly points to the importance of self-efficacy in higher education, our understanding of which aspects influence self-efficacy development and in what way remains rather limited (Usher & Pajares, 2008).

Most empirical research about sources of self-efficacy in academic settings is conducted using quantitative methods, of which most studies are cross-sectional (Usher & Pajares, 2008). Such designs only result in snapshots of a particular point in time (e.g., Usher et al., 2018), while, by definition, self-efficacy is a dynamic construct, susceptible to continuous change (Usher & Pajares, 2008; Schunk & DiBenedetto, 2016). Even longitudinal quantitative research might fall short in capturing the interplay between information arising from multiple sources. This might, for example, be apparent in high correlations between different sources that may lead to problems of multicollinearity, which in turn might undermine the nature of the relationship between the sources and self-efficacy (e.g., Usher & Pajares, 2006a). Several review studies have already pointed to the need for more diverse context-specific, methodologically rigorous, in-depth research to forge a deeper understanding of how self-efficacy is fostered (Klassen & Usher, 2010; Usher & Pajares, 2008).

Bandura (1997) has also argued that the relationship between the hypothesized sources of self-efficacy is largely influenced by contextual factors, which implies that its development is domain or context sensitive (Butz & Usher, 2015). This issue is reflected in findings that show that self-efficacy is most predictive of outcomes such as achievement when measured at a similar level of specificity (Klassen & Usher, 2010). This context sensitivity leads to the limited generalization of current findings and the need to expand the scope of self-efficacy research, with most higher education self-efficacy research focusing on learning contexts in the fields of mathematics, science, and engineering (Klassen & Usher, 2010; Usher & Pajares, 2008).

This study expands self-efficacy research to the domain of role-play simulations of political decision-making. These simulations occur in a learning environment in which students act out roles of real political actors and simulate real-world policy-making processes (e.g., the legislative procedure of the European Union). Previous research has already pointed to the importance of the social dimension in role-play simulations, which could encompass several sources of self-efficacy (Duchatelet, 2018). In addition to the specific simulation context, this study also applies a competency-specific approach, by focusing on self-efficacy in negotiating, which is a core skill in such simulations (McIntosh, 2001; Obendorf & Randerson, 2013). Tackling previous methodological issues, the study uses a longitudinal design, which is preferred when studying change (Cohen, Manion, & Morrison, 2011) and which fits the dynamic nature of self-efficacy (Schunk & DiBenedetto, 2016). More specifically, this study applies a longitudinal case study design to explore in depth which sources are present and how their interplay contributes to the development of self-efficacy. While most research on the sources of self-efficacy in academic settings has used retrospective data and focused on how self-efficacy can be promoted (for a review, see Usher & Pajares, 2008), this study combines retrospective with real-time data and focuses on

meaningful events that promote or inhibit self-efficacy development. With this design we aim to investigate the development of self-efficacy in negotiating in the context of role-play simulations of political decision-making, answering the following research questions:

RQ1   Which sources relate to student self-efficacy in negotiating?

RQ2   How does the interplay of self-efficacy sources contribute to student self-efficacy in negotiating?

Theoretical Framework

The following section first elaborates on general insights into the role of self-efficacy and the sources of self-efficacy within the context of higher education. Furthermore, we discuss in detail the context- and competency-specific outcomes of self-efficacy that are central to this study: self-efficacy in negotiating in role-play simulations of political decision-making.

Self-efficacy in Higher Education

Social-cognitive theory considers people's behavior to be driven by environmental features but also by a human being's own cognitive and self-reflective skills. The concept of self-efficacy originates in social-cognitive theory and refers to people's beliefs about their capabilities to execute the action required to achieve desired performance (Bandura, 1997). Over the past three decades, educational psychology research on self-efficacy has substantially increased. The interest of researchers has been driven by findings that consistently point to the importance of self-efficacy, which is considered a key motivation construct that improves competency and future actions (Murphy & Alexander, 2000; Schunk & Pajares, 2005). It has been found that students with a higher level of self-efficacy will persist longer and demonstrate more resilience when encountering difficulties (Bandura, 1997; Cassidy, 2015; Lee et al., 2013; Lent, Brown, & Larkin, 1986; Linnenbrink & Pintrich, 2003; Multon, Brown, & Lent, 1991; Pajares, 1996; Wright, Jenkins-Guarnieri, & Murdock,

2012). Less self-efficacious students, by contrast, may procrastinate or fail to initiate the effort required to achieve certain goals (Honicke & Broadbent, 2016; Komarraju & Nadler, 2013; Vogel & Human-Vogel, 2016; Wäschle, Allgaier, Lachner, Fink, & Nückles, 2014). In addition to its significant contribution to self-regulation (Panadero, 2017; Zimmerman, 2000), self-efficacy has also been found to relate to student learning strategies that are positively associated with deep learning, and to support the creation of effective learning environments, such as finding effective study partners (Diseth, 2011; Honicke & Broadbent, 2016; Fenollar, Román, & Cuestad, 2007; Liem, Lau, & Nie, 2008; Schunk & DiBenedetto, 2016; Vermunt & Donche, 2017). Findings repeatedly point to the strong relationship between self-efficacy, motivation, and academic achievement (Honicke & Broadbent, 2016; Kyndt et al., 2017; Richardson et al., 2012; Robbins et al., 2004). Considering that self-efficacy relates to several generic competencies that will also be beneficial to students' future working lives (e.g., persistence, engagement, self-regulation), it can be argued that higher education should focus more on fostering the development of self-efficacy (Strijbos, Engels, & Struyven, 2015; Granziera & Perera, 2019; van Dinther et al., 2011).

Although self-efficacy has received substantial attention from researchers studying higher education learning contexts, research on its antecedents and sources is far less common (Usher & Pajares, 2008). Focusing on how self-efficacy develops, Bandura (1997) hypothesized that such self-beliefs derive from four primary sources: (1) students evaluating their previous experiences (successes or failures) and using these interpretations as indicators of what they believe they can or cannot do (mastery experience); (2) students observing, evaluating, and comparing other students' performances to their own capabilities (vicarious experience); (3) students receiving evaluative feedback, judgment, and appraisals about their performance from significant others (social persuasion); and (4) students interpreting their physiological arousal (e.g., heart rate) and emotional responses (e.g., anxiety) as informative

of their perceived self-efficacy (physiological/emotional state). These four sources provide information that influences self-efficacy development, in conjunction with the cognitive appraisal of that information. As Bandura (1997) contended, and previous research has repeatedly shown, mastery experience – past successes or failures – is the most important source of self-efficacy (Bates & Khasawneh, 2007; Lent, Brown, Gover, & Nijjer, 1996; Metcalf & Wiener, 2018; Usher & Pajares, 2008). Physiological/emotional states also consistently contribute to self-efficacy development. Such studies, however, confined themselves to negative emotions related to fear, stress, or anxiety, which significantly hinder self-efficacy development (Bates & Khasawneh, 2007; Metcalf & Wiener, 2018). Vicarious experience and social persuasion are not always included in studies that investigate sources of self-efficacy in higher education (e.g., Bates & Khasawneh, 2007; Luzzo, Hasper, Albert, Bibby, & Martinelli, 1999). Moreover, the findings about their contribution to self-efficacy development are less consistent, as they seem to vary across domains or subjects (Ahn et al., 2017; Fong & Krause, 2014; Matsui, Matsui, & Onishi, 1990).

Several issues further complicate the investigation of how sources of self-efficacy contribute to self-efficacy development. For example, in middle and high school learning contexts, recent research findings point to complex processes in which students consider information from multiple sources when evaluating their self-efficacy beliefs (Usher, Ford, Li, & Weidner, 2018). Based on the hypothesis that psychological processes other than those initially proposed by Bandura might come into play, it can be argued that complexity increases (Bandura, 1997; Usher & Pajares, 2006b, 2008). Bandura (1997) also argued that the relationship between the hypothesized sources and self-efficacy is largely influenced by contextual factors, which results in the development of self-efficacy being domain or context sensitive (Ahn et al., 2017). Recent research has drawn more attention to the contribution of

specific contextual sources to self-efficacy development, such as the physical environment or lesson organization (Usher et al., 2018; Webb-Williams, 2017).

Self-efficacy in Negotiating in Role-play Simulations of Political Decision-making

To expand the research on the sources of self-efficacy, this study focuses on the context- and competency-specific outcome of self-efficacy when negotiating in role-play simulations of political decision-making. Role-play simulations have been found to be authentic learning environments that contribute to the development of self-efficacy (Duchatelet, 2018; Stroben et al., 2016). They involve non-computer-based simulations in which participants take on the role of a specific actor in a predefined situation, while following a set of rules and interacting with others (Lean, Moizer, Towler, & Abbey, 2006). Such simulations are increasingly implemented in the specific context of learning about political decision-making, in which students are assigned roles that are associated with socio-political processes and are expected to behave as real political actors (e.g., diplomats or ministers in a European Council simulation, Boyer & Smith, 2015). These simulations are characterized by their verisimilitude or real-world extent, implying that the simulation is a valid representation of reality but in a structured and simplified way (Wright-Maley, 2015). The dynamism of a simulation is generated by sequential decisions that determine participants' actions and is considered to be a product of a certain degree of human agency (i.e., choices participants make) combined with the structure provided by the simulation environment (i.e., boundaries, rules) (Chin, Dukes, & Gamson, 2009; Duchatelet, Gijbels, Bursens, Donche, & Spooren, 2019; Wright-Maley, 2015). Within role-play simulations of political decision-making, a participant might make decisions based on the interest of the country or party he/she is representing (agency), or relying on reality-based rules (e.g., voting rules) or procedures (e.g., minority block) (structure) (Duchatelet et al., 2019).

With regard to learning outcomes, negotiating skills are often considered to be key because they are essential for participants to engage in role-play simulations of political decision-making (McIntosh, 2001; Obendorf & Randerson, 2013). Students would not be able to make their point or contribute to the simulation in general without their negotiating skills. The political science simulation literature implicitly connects several other skills to these negotiating skills. Participants practice oral communication skills and public speaking, and also more complex negotiation skills such as arguing and debating, coalition formation, and the art of diplomacy (Crossley-Frolick, 2010; Elias, 2014; Obendorf & Randerson, 2013). In general, negotiating can be defined as "a unique form of social interaction that incorporates argumentation, and information exchange into reaching agreements and working out future interdependence" (Roloff, Putnam, & Anastasiou, 2003: 804). Negotiating processes can lead to positive sum outcomes but also to situations of deadlock, in which negotiators experience difficulties – if strategies have been implemented and rejected – and which could lead to no outcome at all. In such cases, resilience and the ability to bounce back from an impasse become crucial (Spector, 2006).

Considering that self-efficacy contributes to persistence, resilience, and conquering difficulties (Bandura, 1997; Cassidy, 2015; Pajares, 1996), which are needed during negotiating (Spector, 2006), self-efficacy in negotiating is a relevant outcome worthy of attention. Previous research has already shown that self-efficacy in negotiating is an important learning outcome of role-play simulations of political decision-making, which seems to increase over time within one simulation experience (Duchatelet, 2018; Duchatelet, Bursens, Donche, Gijbels, & Spooren, 2018).

However, results also point to individual variations in self-efficacy development, which might relate to the role of several sources of self-efficacy (Duchatelet, 2018). Participants might create several opportunities to perform and thus to master their negotiating skills. The social

context might also provide vicarious experiences, since participants are continuously engaging with and observing others. Engaging with others also potentially creates situations of social persuasion, in which participants are coached by and receive feedback from other delegates. How participants interpret their physical and emotional state when speaking in public and defending their position might also influence their self-efficacy in negotiating.

To date, the sources of self-efficacy within role-play simulations of political decision-making have been given ample attention in the research (Duchatelet, 2018). Moreover, in-depth research on role-play simulations in the field of medical and nursing education has shown that such role-play simulations foster sources of self-efficacy that enhance student self-efficacy (Egenberg, Øian, Eggebø, Arsenovic, & Bru, 2016; Stroben et al., 2016; Watters et al., 2015).

Method

The following section first introduces the simulation setting and participants. Subsequently, we focus on the procedure, measures, and analysis. Finally, we discuss the reliability and validity of this study's findings.

Participants and Setting

This study expands current self-efficacy research to the specific context of role-play simulations of political decision-making and deepens the often-used survey research designs. To this end, we conducted a single holistic case study with a longitudinal design, as described by Yin (2018). The study focuses on a role-play simulation of political decision-making (EuroSim) that took place over several days. This allows for the exploration of the development of self-efficacy over a longer period of time. EuroSim is a four-day cross-continental simulation that mirrors approximately 200 actors who contribute to the EU decision-making process, such as Members of the European Parliament, the European Commission, the Council of Ministers, the European Council, interest groups, other

concerned parties, and even the press. It brings together students from 20 American and European universities, from different fields of study, and with different simulation experience. This research was conducted during the 2017 edition of EuroSim, hosted by the SUNY college at Brockport (New York, US), on the topic of EU energy policies.

Seeking information richness, we applied purposive maximum variation sampling to select participants (Miles, Huberman, & Saldaña, 2014), which aimed for little variation in student characteristics and large variation in contextual factors (e.g., Meyer, 2001). We applied the following selection criteria: 1) all participants selected were enrolled in a Master's at the same university; 2) they were registered for an elective course that prepared for the simulation; and 3) they represented a national minister or Member of the European Parliament in different simulation settings. This resulted in the inclusion of all four students registered in an elective course at one Belgian university. Their Master's program was either in political science or international relations and diplomacy. Both Master's programs were organized and taught by the Department of Political Science. The elective course prepared students to participate in the EuroSim simulation at the end of the semester. All students participated in different standard negotiation settings based on their roles in: the European Council; the Transport, Telecommunication and Energy Council (TTE); the Foreign Affairs Council (FAC); or the European Parliament Committee on Foreign Affairs (AFET). Three students represented the same country in the three different Councils. The fourth student, who was on the AFET Committee, was a coordinator of a European parliamentary party group. As the simulation was embedded in the course, what was expected from them during the simulation was similar for all students.

Furthermore, as described by Miles et al. (2014), we also applied within-case sampling, in which the primary concern is the conditions under which the construct operates (in this case self-efficacy), to select meaningful events for the development of self-efficacy in negotiating.

Procedure

All participants had taken the same course preparing them for the simulation and were invited to contribute to the research during a course meeting. As it is an ethical requirement to disclose the purpose of the study to participants (Creswell, 2007), students received information about what would be asked of them by participating in this research. All students signed an informed consent, which emphasized their voluntary collaboration and their commitment to share requested information for the time span needed. Students were allowed to withdraw at any time without penalty to their course grade.

Collecting and triangulating information about meaningful events requires intensive data collection; however, this had to be done in a way that did not interfere with what was expected from the students participating in the simulation. Before the study took place, the design was discussed with two other non-participant students, who had been involved in the previous edition of the EuroSim simulation in 2016, with the aim of maximizing the feasibility of the data collection methods. With such a tight time schedule, the involvement of two researchers in the data collection increased flexibility. Each researcher collected individual data for two students, as depicted in Appendix A.

Both researchers had a pre-briefing with students to discuss what was expected from them. Substantial attention was paid to how this would fit into the simulation schedule, as it was important not to interfere with the flow of the simulation. A WhatsApp group, which included both researchers and all four students, was created to ensure participants could prioritize the simulation progress when needed; for example, when they were approached by other delegates at the beginning of a break and they needed to continue negotiating a bit longer before the interview could be conducted. Several times, this resulted in the rescheduling of interviews to a maximum of 15 minutes later.

Measures

To answer our research questions about how self-efficacy in negotiating develops, we collected data during the four-day simulation using the following measures: a diary that was passed between participants and researchers (a "passlet"), repeated interviews, and semi-structured observation schemes and field notes. Interviews and observations were scheduled at similar frequencies and time points for all participants, who were also expected to fill out the passlet every day (Appendix A).

Passlet: a special type of diary

The "passlet" refers to a booklet that was continuously passed from researcher to participant and back again. The passlet integrated two different sources of data collected during the simulation: the repeated interview and diary data. During the day, the researcher kept the passlet, in which they took notes during the interviews. After the official simulation program had ended each day, participants were given their passlet to complete it. For each simulation day, the passlet was structured into three parts, consisting of three semi-structured forms, which were printed on differently colored paper to improve clarity and efficiency during data collection. An overview can be found in Table 1.

Table 1 Overview of passlet content

Type of data	Focus	Format	Filled out by
Interviews	Events positively or negatively influencing self-efficacy development	Semi-structured	Researcher during interview
Diary	Self-efficacy events: Events positively or negatively related to self-efficacy development	Semi-structured	Participant

Negotiation behavior: conditions promoting or inhibiting negotiation behavior	Semi-structured	Participant

Students were prompted to describe events that influenced their self-efficacy in negotiating. To enrich the findings, students could also share contextual conditions that they thought promoted or inhibited their negotiating behavior. All semi-structured forms had a similar structure; an example is given in Appendix B.

Repeated interviews during simulation

Six interviews were scheduled during the simulation, of which a detailed scheme is presented in Appendix A. The interviews were spread across the four simulation days. The time span between two interviews ranged from 3.5 hours to 19 hours (next day). Questions always related to the time period between the latest and current interview. For the first interview, the time period started at the arrival in Brockport. An outline of the questions that aimed to reveal meaningful events that positively or negatively contributed to the development of self-efficacy in negotiating is depicted in Table 2. The interviewer used a format similar to Appendix B to take notes during the interview. This format focused on the time interval between two interviews by asking about the negotiation setting in which the event took place. The setting could be checked on the simulation program (Appendix A; e.g., break or standard meeting). To complement note-taking, all interviews were audio-recorded and took approximately 15 minutes. In this way, students still had time to engage in the simulation and have contact with other delegates during breaks when necessary.

Table 2 Repeated interviews protocol

1.   I'm asking you to focus on the time period that has passed between our latest

interview[*] and the current interview … How has it gone so far?

2.   Can you describe to me any event that resulted in a change in how confident you feel about your negotiating skills? (*increase/decrease*)

3.   What happened? *(aiming for detailed description)*

        Where were you?

        What were you doing?

        Who else was involved?

        What were they doing?

4.   How did this event influence your thinking about your negotiating skills?

        Explain.

5.   How did this make you feel?

        Explain.

6.   What were you thinking at that time?

7.   What does this mean for your negotiation process?

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[*] For the first interview, the time period started at arrival in Brockport

Observations and field notes

Semi-structured observation schemes were developed to map student engagement and their physiological/emotional state. Student engagement was measured using an adapted version of the student engagement observation scheme developed by Reeve, Jang, Carrell, Jeon, and Barch (2004), who used it to observe the behavior of high school students in class. The scheme was adapted to the current research context in two ways. First, two items were clustered into one: general active behavior and verbally active behavior. Second, based on the hypothesized sources of self-efficacy (Bandura, 1997), we added an item that referred to the students' physiological/emotional state; more specifically, evaluating their behavior on a 7-point Likert scale ranging from "nervous" to "relaxed" (Appendix C shows how the

observations were scored). In addition, behavior and attitude descriptions were requested to give deeper meaning to the scores. Examples of paralinguistic descriptions were provided in a footnote on the semi-structured observation form. These descriptions of student behavior and attitudes related to, for example, facial expressions, gestures (e.g., supporting oral communication), speech volume (e.g., loud enough), or tone (e.g., powerful).

Observations were conducted during standard simulation meetings (Appendix A), where we chose a position with a clear view of the delegate without disturbing the ongoing process. One completed form covered observational data collected during a half-hour time frame. Observation schemes were bundled in a researcher manual that allowed space for field notes taken throughout the simulation process. Field notes included opinions shared by the students' professor or teaching assistant (e.g., "This Council is doing well, the chairman is taking up his role very adequately"), or specific contextual issues observed (e.g., in the AFET Committee one political party is missing because some students withdrew from the simulation at the last minute).

Analysis

All data sources – 4 passlets (152 pp.), 24 interviews (166 pp.), 2 research manuals with observations and field notes (81 pp.) – were transcribed verbatim by a student assistant. All transcriptions were completely and in detail double-checked for accuracy by the first author.

First, we defined the meaningful events that contributed to the development of self-efficacy in negotiating using the following criteria: a) information was present about how the event related to the development of student self-efficacy in negotiating (increase or decrease); and b) events were self-selected by students, as they recorded such events in their passlet as well as discussed them during the interviews. A flowchart of the different steps taken to define the events is presented in Figure 1. The selection was conducted using Excel software.
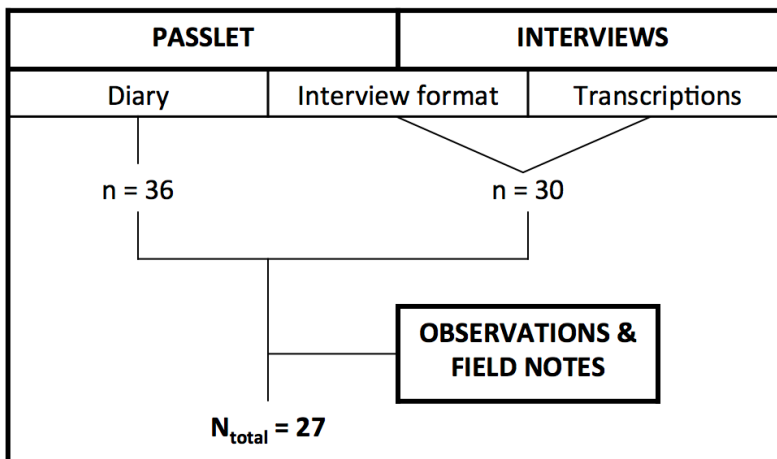
Figure 1. Flowchart of event selection

Applying the first inclusion criteria, data sources were checked for information about events that specifically related to the development of self-efficacy in negotiating. The diary part of the student passlets included 36 completed semi-structured self-efficacy event forms. Two events could be elaborated upon with information from the negotiation behavior forms. The interview part of the student passlets and the transcribed interviews included 30 unique self-efficacy events. In the Excel file, the events recorded in the diary were included in the first column, while events recorded in the interviews were included in the second column. Our inclusion criteria were met when both columns provided information about the same unique self-efficacy event. The third column included information from the researchers' manuals, which contained observations and field notes. This information enriched the data and contributed to data convergence, which is discussed in the next section. As a result, 27 meaningful events could be defined, of which each of the four students were represented in six to eight events.

Second, all the data about the 27 meaningful events was uploaded into the qualitative data analysis software package NVivo. The unique events were defined as cases. Data were systematically analyzed following several steps. Each step was critically discussed during

peer debriefing sessions with all authors. To answer our first research question, all cases were given an attribute value of self-efficacy increase or decrease. Coding of the events was both deductive and inductive. Deductive coding followed the four groups of hypothesized sources of self-efficacy, as defined by Bandura (1997) and presented in the theoretical framework of this study: mastery experience, physiological/emotional state, vicarious experience, and social persuasion. Within these pre-defined groups, lines or paragraphs were further coded in an inductive way. Similarly, when groups of text did not match existing codes, new codes were added, which allowed the detailed mapping of factors that came into play with regard to self-efficacy development. The coding was iterative.

Third, after having coded all the cases, one coding query per participant was conducted to evaluate the number of quotes that related to each code. Cells with empty boxes were double-checked by the first author to evaluate whether the participant in any of the events indeed did not mention that source. Codes with few cases were also re-evaluated and, when appropriate, merged in a top-level code to pursue clarity. During peer debriefing sessions, all authors discussed the sampling and analytical choices that had to be made. These sessions ensured extensive self-reflection and allowed discussing all plausible rival explanations (Levitt et al., 2017; Yin, 2018). After three rounds, all authors agreed upon the final coding scheme and the analysis conducted.

Finally, to answer our second research question (about the interplay of sources and their relation to the development of self-efficacy in negotiating), one coding query per case (event) was conducted to evaluate which sources were coded (i.e., present) in which event. This provided information about the co-occurrence of sources within each meaningful event and resulted in pathways representing the interplay. To increase the validity and reliability of our findings, pathways were taken into account if they fulfilled two inclusion criteria: the pathway needed to be present in a) at least two events, and b) the data of two different

participants. This resulted in five main pathways across all cases: three increasing pathways and two decreasing pathways, contributing respectively to an increase and decrease in the development of self-efficacy in negotiating.

Reliability and Validity

Several aspects contributed to the reliability and validity of our data and related findings. Our design included three types of triangulation: data triangulation, time triangulation, and researcher triangulation.

(1) *Data triangulation.* Information about self-efficacy development came from three data sources (Figure 2). Data were coded using two main sources: the passlet and repeated interviews. As a third data source, we used the observation schemes and field notes. This contributed to detailed observational evidence that grasped the simulation's contextual complexity, also known as "thick description" (Cohen et al., 2011). Observation data were useful to validate the data from the passlet and interviews (e.g., Meyer, 2001). This interconnectivity of data sources, or data convergence, ensured that more than a single source of evidence supported findings and substantially increased validity and reliability (Yin, 2018). To guarantee methodological consistency and to increase reliability, the semi-structured interview protocol was piloted, refined, and consistently used in each related interview (Cohen et al., 2011). The semi-structured formats of the passlet, which were similar to those from the repeated interviews, also contributed to this.
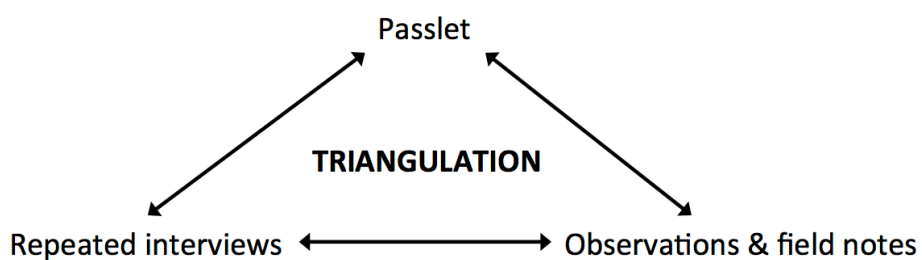

Figure 2. Triangulation of data sources

(2) *Time triangulation.* The longitudinal design also ensured time triangulation (Yin, 2018). Data were collected in real-time (e.g., observations) and retrospectively (e.g., interviews). For data collected in situ and during the simulation, time lapses between events and interviews were kept to a minimum. Students had to submit their passlet to the researcher each morning before the first session started. This allowed researchers to communicate with participants, for example, by writing down questions for clarification when necessary. It also contributed to a continuous member check (Yin, 2018), in which participants were requested to check what had been recorded in writing during interviews, and – when necessary – to provide feedback on the researcher notes in their passlet. The interviews and the completion of the passlet occurred within the critical 48 hour time period, after which recall accuracy substantially diminishes (Henderson & Tallman, 2006). The longitudinal aspect also contributed to establishing trust between the researchers and participants, which was very important in terms of quality and trustworthiness of the data collected (Meyer, 2001).

(3) *Researcher triangulation.* Investigator triangulation, which combined findings of different researchers, involved a corroboratory strategy (Yin, 2018). First, the two researchers who collected data during the simulation extensively discussed the repeated-interviews protocol and observation scheme. Examples of student cases and role-plays had been used to fine-tune the interview protocol and observation scheme. During the simulation, researchers repeatedly reflected on the research progress. Second, throughout the study, there were peer debriefing sessions with all authors involved in the study, in which the different methodological choices, data collection and data analysis procedures, and interpretations were critically examined ensuring the methodological integrity of the study (Creswell & Miller, 2000; Levitt et al., 2017).

Results

Which sources relate to student self-efficacy in negotiating? (RQ1)

We defined three groups of sources of self-efficacy that may positively or negatively contribute to the development of self-efficacy in negotiating: they were personal, social, and contextual sources. An overview of self-efficacy sources, their description, the number of related events, and example quote(s) are presented in Table 3.

The first group of *personal* sources (P) refers to "self-oriented" sources (Klassen, 2004) and includes *mastery experience* (P1). We distinguished success-related and failure-related experiences. Success-related experiences consistently contributed to an increase, while failure-related experiences always related to a decrease, in perceived self-efficacy in negotiating. Most of the reported events related to a successful experience. Personal sources also included *physiological/emotional states* (P2). Each event description included one type of physiological/emotional state, either of a positive (e.g., pride) or negative (e.g., fear) nature. Positive emotions were always reported in events of self-efficacy increase. Negative emotions were usually present when students experienced a decrease in their self-efficacy in negotiating, except for once. As the final personal source, we could distinguish *negative beliefs* (P3), which were doubt-related thoughts that either referred to the simulation in general or to reflective thoughts (e.g., on one's own performance). Their presence always contributed to a decrease in student self-efficacy in negotiating.

The second group of *social* sources refers to "other-oriented" sources (Klassen, 2004) and includes vicarious experience and social persuasion. *Vicarious experience* (S1) refers to evaluating and interpreting other students' performances, as defined by Bandura (1997). *Social persuasion* (S2) relates to direct messages and appraisals of significant others, also defined by Bandura (1997). However, we could additionally distinguish social aspects that

broadened this source's definition to more than "direct" messages. We found aspects that related to other delegates' behavior that can also be considered a form of social persuasion. This behavior either related to the negotiation process (e.g., being approached by other delegates) or the negotiation outcome (e.g., being elected to represent the Council or Committee). Most events included one form of social persuasion. Both social sources might come into play when students experience an increase or decrease in their self-efficacy in negotiating.

The third group includes *contextual* sources, of which all reported aspects related to the participants' perception of *low verisimilitude* (C) (i.e., real-world extent) of the simulation. This could be with regard to other students' positions (i.e., roles other students acted out), the procedure applied (i.e., rules of procedure), or simulation structure (i.e., absent parties). Compared to other groups of sources, contextual sources were less often reported. The source of low verisimilitude may contribute to an increase or decrease in self-efficacy in negotiating.

Table 3 Overview of sources that contribute to the development of self-efficacy in negotiating, including description, number of events, and examples (N_{total} = 27)

	Sources	*n*	Self-efficacy	Example quotes
	PERSONAL			
P1	*Mastery experience*			
	Success-related experiences, such as contributing to the negotiation process and outcome	18	+	*The second vote was a kind of overwhelming majority voting for me. So there is a lot of doubt gone about 'can I do it'? Otherwise they wouldn't have chosen you. Um, so actually it is a huge boost [to self-efficacy in negotiating]. Um ... I think that most of my doubts are gone now actually.* [Participant 3, event 19, interview]
	Failure-related experiences, such as making mistakes, being dissatisfied with one's own performance, or not being able to execute the negotiating strategy as planned but having to adjust the strategy to situational conditions	9	−	*Romania said that they would soon be self-sufficient in their energy supply and therefore have little interest in far-reaching security targets. [My belief in my negotiating skills decreased because of ...] That information removed an important ally who could have been a partner but now seems to be uncertain.* [Participant 1, event 2, passlet]
P2	*Physiological/emotional state*			
	Negative emotions, such as feelings of nervousness, fear, irritation, frustration, tiredness, or boredom	10	+ or −	*I felt a bit nervous. [...] a bit chaotic in my head, I wrote it [the opening statement] down on paper but I didn't manage to make it very structured. [...] However, in general it was positive [for my belief in my negotiating skills]. I said something meaningful.* [Participant 1, event 1, interview]
				[You said: "my self-confidence was knocked in that situation ..."] Yes, but I think that had to do with the fact that I got very tired after lunch, so to speak. Tell me, how do you say that, I have less patience now.

	Sources	*n*	Self-efficacy	Example quotes
				[Participant 4, event 24, interview]
	Positive emotions, such as feelings related to the positive atmosphere of the negotiation process (flow), excited, being proud or honored about accomplishments, feeling competitive, or having fun	17	+	*[What gave you a boost in your self-confidence in negotiating?][...] What a boost that gave. [...] We were very open with sharing ideas and uuh, and testing ideas. Um ... Yes, it's a very good atmosphere I think. And I think it was important to write a proposal and think about it together.* [Participant 3, event 17, interview]
P3	*Negative beliefs*		−	
	Doubt-related beliefs about the simulation in general or negative reflective thoughts on one's own performance	8		*The frequent interventions of another delegation reduced the visibility of the Polish argument. [My belief in my negotiating skills decreased because of ...] The idea that others probably don't consider Poland to be an existing Member State (i.e., influential).* [Participant 2, event 10, passlet]
	SOCIAL			
S1	*Vicarious experience*		+ or −	
	Experiences related to how others' performance is being evaluated, such as characterized by fear, being successful, or performing competitively	9		*[My belief in my negotiating skills increased because of ...] The fact that a first coalition was formed caused fear among the other parties present. That was good for me as a negotiator. They take you more seriously and quickly see you as a good coalition partner. It also confirmed my strategy, which was a helping hand.* [Participant 3, event 13, passlet]
				[My belief in my negotiating skills decreased because of ...] I searched all day today and last night for my other party members, but the fact that I couldn't find them was even more noticeable because [other students] could already work together. [Participant 4, event 21, passlet]

	Sources	*n*	Self-efficacy	Example quotes
S2	*Social persuasion*		+ or −	
	Negative or positive verbal messages about student's contribution, such as compliments or feedback. Also, other social aspects related to the negotiation process (i.e., other delegates involving the student in discussions, others acting dependently, personal bonding with other delegates, receiving award), or negotiation outcome (i.e., contributing to final amendment, being elected to represent their Council or parliamentary committee in a reconciliation session)	22		*[My belief in my negotiating skills increased because of ...] Hungary and Latvia joined me on stopping renewable energy sources. Then the Western countries did not like it and even offered themselves to finance the transition, like Germany. The final compromise was very vague and positive for Poland.* [Participant 1, event 3, passlet] *Because I was elected, something positive for what happened today [...] the chairman and the secretariat decided to discuss the role based on attendance [...] Germany and I were actually carried forward to participate in the informal setting. And that is of course very positive [for the confidence in my negotiating skills].* [Participant 2, event 11, interview]
	CONTEXTUAL			
C	*Low verisimilitude*		+ or −	
	Perceptions of low verisimilitude (i.e., real-world extent) with regard to other students' positions (i.e., roles other students act out), procedure applied (i.e., decision-making, chairing, rules), or simulation structure (i.e., absent parties, roles assigned too late)	7		*[My belief in my negotiating skills increased because of ...] The urgent transfer of the reporter's role gave me an opportunity to set the agenda; something I would not normally have been able to do. This has allowed me to take more control of the negotiating situation, which gave me more self-confidence.* [Participant 4, event 22, passlet] *[Has something happened that had a negative influence on how you believe in your negotiating skills?][...] Slovenia actually has a disproportionate role, in the sense that it is rather ... present during the negotiations. And they really make their voice heard. Which may not really be in proportion with reality, but they certainly make their point*

Sources	*n*	Self-efficacy	Example quotes
			clear. [...] I didn't actually have the opportunity to make the Polish voice heard explicitly ... Or being able to profile myself is perhaps a better word [Participant 2, event 10, interview]

How does the interplay of self-efficacy sources contribute to student self-efficacy in negotiating? (RQ2)

We identified five main pathways that resulted in either an increase or decrease in self-efficacy in negotiating. Table 4 presents an overview of these pathways and an example of one event. Below, we present the characteristics of three increasing and two decreasing self-efficacy pathways, contributing respectively to an increase and a decrease in the development of self-efficacy in negotiating.

The three pathways that resulted in an increase in self-efficacy in negotiating were found across all participants. Each pathway that related to an increase in student self-efficacy in negotiating included the following three sources: mastery experience (P1), physiological/emotional state (P2), and social persuasion (S2). These sources were sometimes combined with a vicarious experience (S1) or with the perception of low verisimilitude (C). However, the latter combinations were less common. The personal source of negative beliefs (P3) was never reported when describing events that resulted in an increase in student self-efficacy in negotiating. These findings were very consistent across all events, as 17 out of 18 events that were described concerning self-efficacy increase related to one of the three pathways.

The two pathways that resulted in a decrease in self-efficacy in negotiating were also found across all participants. Each pathway that related to a decrease in student self-efficacy in negotiating included all of the personal sources (P1, P2, P3). These might be combined with the source of social persuasion (S2), or with vicarious experience (S1), and low verisimilitude (C). While the source of social persuasion (S2) was present in all of the self-efficacy increase pathways, it only contributed to one pathway of self-efficacy decrease. The pathways resulting in self-efficacy decrease were generally more diverse than the pathways of self-

efficacy increase. This is also apparent in the fact that only five of the nine events concerning self-efficacy decrease related to one of the two pathways.

In summary, personal sources (P1, P2, P3) predominantly contributed to self-efficacy increase. Mastery experience (P1) and physiological/emotional state (P2) consistently contributed to self-efficacy increase in general. However, when negative beliefs (P3) were also present, these always contributed to self-efficacy decrease. The source of social persuasion (S2) always contributed to self-efficacy increase, which was not the case in pathways of self-efficacy decrease. The contribution of the sources of vicarious experience (S1) and low verisimilitude (C) to an increase or decrease in self-efficacy in negotiating was less prominent.

Table 4 Five pathways of interplay of sources of self-efficacy that contribute to the development of self-efficacy in negotiating, including number of events, description, and examples ($N_{total} = 27$)

Pathway		Description (*example*)	Example event
Self-efficacy increase			
1 P1 x P2 x S2	*n=9*	P1: Mastery experience (*P1 – success*) P2: Positive emotions (*P2 – pride*) S2: Social persuasion (*S2 – negotiation process: other students approaching the participant*)	*During the coffee break, the Estonian delegation came to me to ask for support* **(S2)** *for an amendment where I could play an important part in the decision-making process. [I became more confident about my negotiation by ...] by making my voice heard, I can influence decision-making. [What does it mean for your negotiation that they come to you?] It means that I can represent the Polish position better and have more influence on the final decision* **(P1)**. *[...] [And what does that do with how you feel about your negotiation?] Uuuh, it strengthens me* **(P1)**. *[...] [How does that make you feel?] Yes, proud* **(P2)**. *Certainly. Uhmm, being sure of yourself and knowing that you are talking about something that you can show you have knowledge of* **(P1)**. *And there immediately ... Because that was, aah, okay, "the presidency initiates an unmoderated caucus for ten minutes", so then everyone goes ... Is it a break and then Estonia comes to me with "aah, this and that, how are we going to do that here"?* **(S2)** [Participant 2, event 9, interview + passlet]
2 P1 x P2 x S1 x S2	*n=5*	P1: Mastery experience (*P1 – success*) P2: Positive emotions (*P2 – feeling good*) S1: Vicarious experience (*S1 – experiences evaluated as successful compared to other's performance*) S2: Social persuasion	*It was on the agenda that decarbonization would be on the agenda again, but Germany said they wanted to prevent it because Poland would still be against everything. My work is done by others by avoiding the subject* **(S1)** *[My belief in my negotiating skills increased because of ...] My interests are so clear that opponents are apparently content with the fact that it is difficult/impossible to discuss.* **(P1, S1)** *[...] It was an initiative of Germany not to do that again ... [So they chose what could yield the most discussion, just because ...] Yes, they knew that I & Hungary and especially yes, me actually, Hungary also, but that I would just burn it down to the ground in such a way that nothing meaningful would ever come of it, so to speak* **(S2)**. *[...] [Yes, but how about that?] Yes, fine, that makes me feel good* **(P2)**. *[...] They just accepted it, I think.*

Pathway		Description (*example*)	Example event
		(*S2 – negotiation process: confirming participant's strategy*)	*Yes, it was non-negotiable* **(P1)**, *so yeah, then it stops, hey?* [Participant 1, event 6, interview + passlet]
3	P1 x P2 x S2 x *n=3* C	P1: Mastery experience (*P1 – success*) P2: Positive emotions (*P2 – feeling good*) S2: Social persuasion (*S2 – negotiation process: others relying on the participant*) C1: Low verisimilitude (*C1 – procedure*)	*My committee's rapporteur was only appointed yesterday, which meant that she needed extra guidance. She specifically asked me for help* **(S2)**. *[...] [I became more confident about my negotiation by...] The fact that someone in this role asked me for advice made me feel good* **(P2)**; *because such roles are generally given to very good students. [...] [It] gave me an opportunity to set the agenda; something I would not normally have been able to do* **(C1)**. *This has allowed me to take more control of the negotiating situation* **(P1)** *which gave me more self-confidence. [...] First of all, I can influence the situation by giving my advice* **(P1)** *Secondly, it also indicates to me that they trust me and see something in me that makes them clearly ask* **(S2)**. [Participant 4, event 22, interview + passlet]

Self-efficacy decrease

Pathway		Description (*example*)	Example event
4	P1 x P2 x P3 x *n=3* S2	P1: Mastery experience (*P1 – failure*) P2: Negative emotions (*P2 – suspiciousness*) P3: Negative beliefs (*P3 – negative reflective thoughts*) S2: Social persuasion (*S2 – compliments + negotiation outcome: being elected*)	*I've received quite a lot of compliments and I've been elected of course uh that day* **(S2)**. *Um, that brings "yes, but, it's actually not that good, or people may not be ...". Yes, it's crazy actually. Uh, uh, maybe not wanting to believe that people really liked you during the simulation. [...] I began to question the compliments, and with that the sincerity of the compliment givers* **(P3)**. *[...] and then it went from "it wasn't all that good, I wasn't very good"* **(P1)**. *The fact that I can't take compliments very well, because I always think "people will say it because they have a reason for it, and not because they think so"* **(P3)**. *Um. And I think it is true in this case too. [...] That kind of yes, feeling almost suspicious* **(P2)**. [Participant 3, event 20, interview + passlet]
5	P1 x P2 x P3 x *n=2* S1 x C	P1: Mastery experience (*P1 – failure*) P2: Negative emotions (*P2 – frustration*) P3: Negative beliefs	*At the last minute, there were, um, more questions about whether ... How um, certain euh, rules are going to be followed. [...] um ... And in fact I should have said more. Or maybe I should have had more share in it* **(P1)**. *[...] Because of the questions and remarks of Slovenia, among others, our voice was heard less which was necessary so as not to miss discussions. [...] Slovenia actually has a disproportionate role, in the sense*

Pathway	Description (*example*)	Example event
	(P3 – negative reflective thoughts) S1: Vicarious experience *(S1 – comparison with other's performance)* C1: Low verisimilitude *(C1 – position)*	*that it is rather ... present during the negotiations. And they really make their voice heard* **(S1)**. *Which may not really be in proportion with reality* **(C1)** *but they certainly make their point clear. [...] I didn't actually have the opportunity to make the Polish voice heard explicitly ... Or being able to profile myself is perhaps a better word* **(P1, S1)**. *[...] [How does this make you less confident in negotiating?] The idea that others probably don't consider Poland to be an existing Member State (i.e., influential)* **(P3)**. *[...] [And that makes you think about yourself?] Yes, of course! Because yes ... the frustrating thing is, I also want to apply it, I don't just want to echo... the frustrating thing is, I also want to deliver things, I don't just want to respond* **(P2)**. [Participant 2, event 10, interview + passlet]

Discussion and Conclusion

Self-efficacy is considered a meaningful learning outcome within higher education. Previous research has repeatedly pointed to its contribution to student learning, motivation and engagement, self-regulation, persistence, and study success (Bandura, 1997; Kyndt et al., 2017; Pajares, 1996; Richardson et al., 2012; Schunk & Pajares, 2005; van Dinther et al., 2011; Vermunt & Donche 2017; Zimmerman, 2000). This has resulted in more research, aiming to reveal the aspects that influence self-efficacy development and in what way. However, researchers face the challenge of not only uncovering which sources are at play but also how their interplay contributes to self-efficacy development. This process is complicated by contextual conditions that influence self-efficacy, which hinder the generalization of findings across domains.

This study expanded the self-efficacy research field with regard to investigated contexts and competencies by focusing on the development of self-efficacy in negotiating in role-play simulations of political decision-making. Using a longitudinal case study looking at how sources of self-efficacy contribute to outcomes of self-efficacy increase and decrease, this study aimed to enhance our understanding of which sources come into play in the context of role-play simulations of political decision-making and how their interplay relates to the development of self-efficacy in negotiating.

With regard to self-efficacy sources, three groups could be distinguished: personal sources (mastery experience, physiological/emotional state, negative beliefs), social sources (vicarious experience, social persuasion), and contextual sources (low verisimilitude). These groups extend Bandura's (1997) four hypothesized sources of self-efficacy. Concerning personal sources, the findings confirmed the importance of mastery experience, which includes success-related and failure-related experiences, and which consistently contributed to

self-efficacy development in our study (Bates & Khasawneh, 2007; Lent et al., 1996; Metcalf & Wiener, 2018; Usher & Pajares, 2008). Also supporting previous findings, our results pointed to physiological/emotional states consistently contributing to self-efficacy development (Bates & Khasawneh, 2007; Luzzo et al., 1999). While previous research focused on negative emotions that hinder self-efficacy development (e.g., fear) (Bates & Khasawneh, 2007; Luzzo et al., 1999), our findings showed that success-related experiences often related to positive emotions (e.g., pride). As a final personal source, we found a more general level of beliefs that also extensively contributed to self-efficacy development. Negative beliefs were completely absent when an increase in self-efficacy occurred and always present when self-efficacy decreased.

With regard to social sources, we distinguished vicarious experiences that played a role in self-efficacy development, although in a limited way. Concerning social persuasion, we found that "direct" messages (e.g., feedback) and also more "indirect" behavior from significant others played a role. In particular, behavior that related to the negotiation process (e.g., approaching delegates) or negotiation outcome (e.g., contribution to final amendment) defined social persuasion in role-play simulations of political decision-making. This expanded Bandura's definition of social persuasion as "direct" messages (Bandura, 1997). Finally, we also identified contextual sources, all of which related to the participants perceiving a low level of verisimilitude of the simulation.

With regard to the interplay of sources, five main pathways could be defined. Personal sources were present in all pathways. The contribution of social sources to self-efficacy increase was more obvious than to self-efficacy decrease, especially for the social persuasion source, which was always present in pathways of self-efficacy increase. The contribution of the contextual source to the development of self-efficacy in negotiating was generally less present and less prominent.

Several review studies have pointed to the need for more diverse context-specific, methodologically rigorous, in-depth research to forge a deeper understanding of how self-efficacy is fostered (Klassen & Usher, 2010; Usher & Pajares, 2008). This qualitative study used a single holistic longitudinal case study design, as described by Yin (2018). This resulted in a comprehensive design that collected retrospective and real-time data, and ensured the triangulation of data, time, and researcher. Instruments were carefully designed to capture the data: the passlet, a semi-structured interview protocol, and a semi-structured observation scheme. A step-wise analysis was conducted to select meaningful events using data convergence. In this way, this study also contributed methodologically to the self-efficacy research field.

The sample of four students who provided insights into their development of self-efficacy might be considered too small to draw conclusions. However, these four students were purposefully selected and represented an entire class. Participants were selected based on minimal variation in student characteristics (e.g., same preparation) and a large variation in contextual features (e.g., different Council or Committee), which strengthens findings strongly related to situational conditions (in our case, sources) and encompassing maximum situational variation (e.g., Meyer, 2001). We analyzed a total sample of 27 events using within-case sampling. Usher et al. (2018) pointed out that qualitative self-efficacy research can be subject to the fallibility of the participants' retrospection. In this research, this was addressed by collecting the data within the critical 48 hour time period for recall accuracy (Henderson & Tallman, 2006) and by combining retrospective with real-time data. One downside of using repeated interviews that asked about events related to self-efficacy development is that these might have had constitutive effects. However, different data sources and data collection methods spread over time allowed a consistency check. Triangulation of

researcher, data, and time (Cohen et al., 2011; Yin, 2018) also contributed to the reliability of the findings.

More research is needed to further fine-tune the current findings. For example, compared to the number of events related to self-efficacy increase pathways, fewer events related to the pathways of self-efficacy decrease. Therefore, we consider it important for future research to not only focus on aspects that promote self-efficacy development but to also investigate which elements relate to a decrease in self-efficacy.

Moreover, to date, research has seldom included the source of positive emotions; however, our findings show how these are consistently related to self-efficacy increase. Thus, it would be interesting to investigate how such positive feelings influence self-efficacy over a longer period of time. For example, success-related experiences in which feelings of pride are present might have a deeper impact on self-efficacy and, therefore, might significantly contribute to general self-belief over time. This is especially interesting because our findings show that general self-belief also plays a role in self-efficacy development, as doubt-related thoughts hamper self-efficacy beliefs. Previous research has already pointed to aspects of "self-talk" that influence self-efficacy development (Warner et al., 2014; Webb-Williams, 2017).

This brings us back to the core of the sources of self-efficacy: individual cognitive appraisal of situational aspects. In addition, recent research has shown that it is not only the type of source (e.g., vicarious experience) but also the type of significant other (e.g., peer, teacher) that determines the source's influence on self-efficacy development (Ahn, Usher, Butz, & Bong, 2016; Ahn et al., 2017). It would be worthwhile to explore this further, considering that our findings indicate that social persuasion is an important source, especially in relation to self-efficacy increase.

Further research is also necessary to generalize our research findings, preferably to other contexts involving role-play simulations of political decision-making. It would be interesting to relate findings about sources of self-efficacy in negotiating to other student characteristics and their negotiating performance. One potential next step might be to conduct a comparative case study, in which, for example, participants could be selected based on their initial student profile (e.g., motivation, preparation, experience, etc.) and observed throughout the simulation. In the context of role-play simulations of political decision-making, it might be interesting to also consider the role that the participants play, because students who represent a more prominent country (e.g., Germany or France), for example, are simply given more opportunity to engage in negotiating behavior.

In addition, the data collection method used in this study might have served as a scaffold to support participant self-reflection in some way. Thus, it might be valuable to investigate the effect of the data collection method on participants' self-reflective skills, for example, by means of a quasi-experimental design. This could be interesting from a methodological as well as a teaching practice viewpoint.

As a practical implication, students might benefit from being thoroughly prepared for the simulation experience. Preparation might enhance the chance of success-related experiences occurring and might also diminish doubt-related thoughts and feelings. For example, the preparatory activities may include practicing negotiating skills. This might result in students more extensively engaging in the simulation process. In turn, this enhances the chance of them being more visible and, when doing well, experiencing other delegates actively involving them in negotiations, approaching them for collaboration, or even rewarding them for their performance at the end of the simulation. As such, we believe that by preparing students, the personal and, indirectly, the social sources that contribute to an increase in self-efficacy might be triggered.

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Appendix A   Detailed time schedule of one researcher and two students[*]

Day	Time	Simulation agenda	Researcher 1 Student 1	Student 2
1	15.00		Pre-briefing	Pre-briefing
	16.30-18.00	Opening ceremony + plenary session		
	18.00-19.30	Opening banquet dinner		
	19.45-20.15	Standard meetings	Observation	
			20.15-20.30	20.30-20.45
	20.15	END	Interview	Interview
			PASSLET	PASSLET
2	9.00-10.45	Standard meetings	Observation	
	10.45-11.15	Break	Observation	
	11.15-12.45	Standard meetings	Observation	
			13.00-13.15	13.15-13.30
	13.00-14.00	Lunch	Interview	Interview
	14.00-15.30	Plenary session		
	15.30-16.00	Break		Observation
	16.00-16.30	Non-standard meetings		Observation
	16.30-17.45	Standard meetings		Observation
			18.00-18.15	17.45-18.00
	17.45	END	Interview	Interview
			PASSLET	PASSLET
3	9.00-10.45	Standard meetings		Observation
	10.45-11.15	Break		Observation

	11.15-12.45	Standard meetings		Observation
			13.15-13.30	13.00-13.15
	13.00-14.00	Lunch	Interview	Interview
	14.00-15.15	Plenary session		
	15.15-15.30	Break	Observation	
	15.30-16.30	Standard meetings	Observation	
			16.30-16.45	16.45-17.00
	16.30	END	Interview	Interview
			PASSLET	PASSLET
4	9.00-11.15	Standard meetings		Observation
	11.15-11.45	Break		Observation
	11.45-13.00	Plenary session		
			13.15-13.30	13.00-13.15
	13.00-14.00	Lunch	Interview	Interview
	14.00	END	PASSLET	PASSLET

*The second researcher had exactly the same time schedule for student 3 and student 4

Appendix B   Semi-structured forms used for interviews and passlet

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HOW DID YOUR BELIEF IN YOUR NEGOTIATING SKILLS INCREASE? (*)

*Short example: During the coffee break (**where**) Estonia (**who**) told me that I had made clear arguments for preserving the coal industry. However, I felt nervous and unconfident at the time I was asked to take the floor (**factual situation**). Receiving this compliment increased my self-belief about how I handled the situation. I felt confirmed in my negotiating abilities and more confident at the time the next standard meeting started (**impact**).*

---

1. WHERE?

☐ Standard meeting   ☐ Non-standard meeting   ☐ Breaks

     ☐ Plenary session   ☐ Off-schedule (breakfast, bus, bar, etc.)

---

2. WHO OR WHAT?

MY BELIEF IN MY NEGOTIATING SKILLS <u>INCREASED</u> BECAUSE OF…

3. FACTUAL SITUATION	**4. IMPACT**

Elaborate on the situation in detail	*Elaborate on how exactly your self-belief increased*

([*]) Similar formats were used for negatively influencing events and for contextual conditions that might promote or inhibit negotiation behavior.

Appendix C   Observation list (adapted from Reeve et al., 2004)

DAY...............   **TIME FRAME………………………..**   **STUDENT…………………..………**   **SETTING……………………**

BEHAVIOR	**Behavior and attitude descriptions ([*])**
Action	
Passive 1 2 3 **4** 5 6 7 n.v.t. Active	
(not taking the floor, not (taking the floor,	
posing questions, not taking initiative,	
initiating contact, etc.) initiating contact,	
etc.)	
Perseverance *(when*	
encountering challenges,	
failure, or confusion)	
Gives up easily 1 2 3 **4** 5 6 7 n.v.t. Persists	
Attention	
Dispersed attention 1 2 3 **4** 5 6 7 n.v.t. Focused attention	

ATTITUDE		
Involvement		
Flat	1 2 3 **4** 5 6 7 n.v.t.	Positive
(bored, disinterested,		(enjoyment,
etc.)		interested, flow,
		etc.)
Anxiety		
Nervous	1 2 3 **4** 5 6 7 n.v.t.	Relaxed
(nervous, uncomfortable,		(in control,
etc.)		comfortable, etc.)

(*) Behavior and attitude descriptions can relate to:

facial expressions

posture (e.g., alert, sitting in a sprawled position)

gestures (e.g., supporting oral communication)

volume (loud enough?), pitch, tone (nervous, powerful), tempo (too fast?)

manner (e.g., taking the floor, passing notes, whispering)

Note: For each rating: use the bold, underlined **4** as your anchor/starting point