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The Dynamical Interaction between Coach and Coachee of Empathy and Autonomy Support in Coaching Beginning Teachers: An Observational Approach

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Master Thesis – Talent Development & Creativity

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Abstract

Two concepts that are present and well researched within coaching are empathy and autonomy support. While there is evidence that empathy and autonomy develop in an interactional process between coach and coachee, little is known of the relation between empathy and autonomy within coaching session. The present study is aimed at investigating the relationship between empathy opportunity and empathy response, and between autonomy support and autonomy response on a macro and micro level. Moreover, the study investigated the interaction between empathy response and autonomy support within in coach and the interaction between autonomy response and empathy opportunity within the coachee on a macro and micro level. In an observational design 21 audio recordings of coaching sessions from 8 coach-coachee dyads were analysed and coded. The data was analysed on the macro level through correlation, regression analysis and overall state space grid examination. On a micro-level, individual state space grid and time-series analyses were used. Analyses showed mixed results for the relationship between empathy opportunity from the coachee and empathy response from the coach and evidence for the positive relation between autonomy support from the coachee and autonomy response from the coach. Moreover, analyses showed evidence for the relationship between empathy response and autonomy support within the coach and mixed results for the relationship between autonomy response and empathy opportunity within the coachee. Implications of the study, limitations and suggestions for future research are discussed.

Keywords: Coaching, empathy opportunity, empathy response, autonomy support, autonomy response, dynamical interaction in coaching

The Dynamical Interaction between Coach and Coachee of Empathy and Autonomy Support in Coaching Beginning Teachers

Need-supportive coaching, and more specifically beginning-teacher coaching is a purposeful, systematic individual-development intervention used to achieve specific development goals (Athanasopoulou & Dopson, 2018; Ianiro & Kauffeld, 2014; Jones et al., 2016; Theeboom et al., 2014). The concepts that have been identified to be propitiously leading to successful coaching sessions are empathy (Cooper et al., 2020; Elliott et al., 2011) as well as the psychological need for autonomy of the self-determination theory (Elliott et al., 2017) connected to the coach's autonomy support (Bartholomew et al., 2011; Van den Broeck et al., 2016a). Concerning coaching, a dynamical process of empathy has been found, viz. that the coachee expresses their emotional state, giving the coach an empathy opportunity to react to that expression in an empathic way, which can positively influence further empathy expression and positive outcomes for the coachee (Bylund & Makoul, 2005; Cooper et al., 2020; Elliott et al., 2011). Another factor that has been shown to lead to positive outcomes in coaching is autonomy. The psychological need for autonomy describes the need to self-organize and regulate one's own behavior to feel motivated and fulfilled (Deci & Ryan, 2000). A coachee's autonomy can be fulfilled during coaching sessions through autonomy support from the coach, by providing the resources necessary for an individual to take responsibility and action in their external and internal environment (Ryan & Deci, 2000).

There has been research that found that empathy and autonomy support is positively related (Deci et al., 1996; Nienhuis et al., 2018), however, until the date of this paper, there has been no research on the dynamical interaction between these two concepts. Research on this topic can be beneficial to identify the underlying patterns that are leading to successful coaching. Coaching sessions are a dynamical interaction between coach and coachee (Rocchi, 2017; Kupers, 2015), therefore, research is needed to provide valuable insights into the

interactions of empathy and autonomy support in the coaching context. Specifically observational qualitative research can give a comprehensive overview of these interactions. This research will adapt an observational approach and investigate the interaction of empathy and autonomy support on the intra-individual level as shown in Figure 1. Moreover, the existing knowledge about the interaction of empathy and autonomy on the inter-individual level, so on the level between the coach and the coachee, will be examined and augmented (Figure 1).

Figure 1

Conceptive Framework
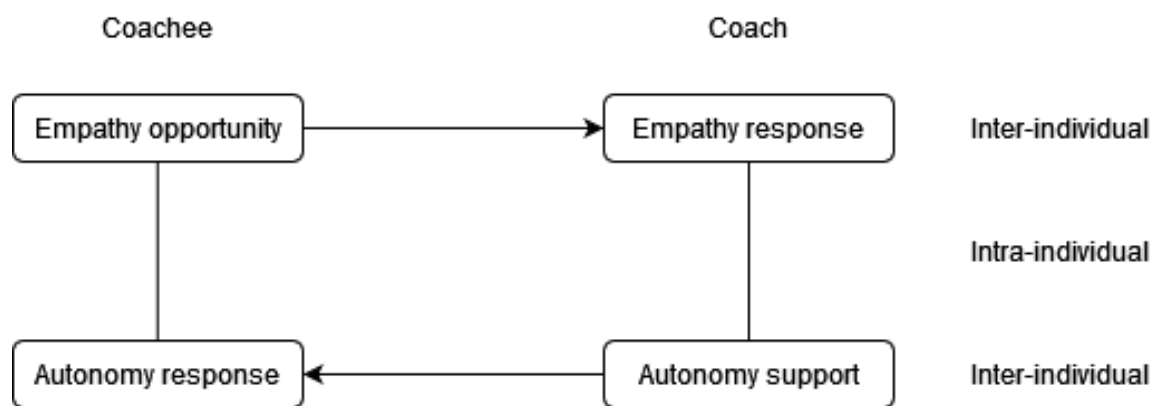
Positive Effects of Coaching

In recent years, studies on the dynamics within coaching have become a growing branch within psychology, especially in the current century, the field is developing fast with ever-growing sub-branches (Jones et al., 2016). The goals and effects of coaching are achieved by establishing a helping and supportive relationship between the coach and coachee, who agree to work on inter and intrapersonal issues oriented towards the growth and development of the coachee (Erdös & Ramseyer, 2021; Jones et al., 2016; Theeboom et al., 2014). Derived from, and often referred to as a sub-field of positive psychology, coaching yields happiness and self-fulfillment of the individual (Theeboom et al., 2014). To enhance the coaching experience and create the best possible environment for coach and coachee, it is

essential to examine potential underlying mechanisms of the coaching process. Therefore, this study will investigate two key concepts empathy and autonomy support, and how they relate in the coaching context.

Inter-Individual Level of Interaction

Empathy

Empathy has been identified to be a robust predictor of coaching success (Cooper et al., 2020; Elliott et al., 2011). In the literature, an array of different definitions of empathy can be found, depending on the research context and operationalization of the concept (Cooper et al., 2020). One definition that is used in the literature is the ability to take the perspective of the other's emotional states and understand emotionally the impact on another's life (Cooper et al., 2020). More elaborate definitions can be found that describe different neuroanatomical qualities of empathy (Decety & Lamm, 2009; Elliot et al., 2020): Empathy is (1) an emotional stimulation process that stimulates the brain in similar areas than the others and therefore mirrors emotional elements of the others emotional experience; (2) a cognitive perspective-taking process that elicits a more conceptual understanding of the other person's emotions and perspective; (3) a process of emotion-regulation that is expressed between individuals to soothe the other person's painful emotional state, making it possible to initiate compassionate helping behaviours. In the coaching setting, empathy by the coach becomes most salient when it is expressed verbally, therefore, when the emotion-regulation aspect of empathy is elicited (Elliott et al., 2011). Thus, in research on the success of coaching, the expressed conscious perspective-taking aspect of empathy has been emphasized over the bodily emotional process (Bylund & Makoul, 2005; Elliott et al., 2011). Ultimately, all three levels of empathy, namely the emotional and cognitive perspective taking, as well as the expressed empathy are highly correlated (Elliott et al., 2011). Consequently, assessing verbally expressed empathy is a determinant of empathy present in all facets of the definition.

A meta-analysis found that expressed empathy in coaching sessions is a moderately strong predictor of success (Elliott et al., 2011). Empathy is dynamically and spontaneously generated in interactions with the coach and the coachee (Bohart et al., 2002). Moreover, empathy can also not be determined as a static characteristic that is added by the coach to the session, but rather a process that emerges throughout the building of the coach-coachee relationship and during each session (Bohart et al., 2002). As empathy in coaching sessions is seen as this transactional communication process, both the coach and the coachee must be considered (Miller, 2002). To investigate the interplay of empathy between coach and coachee Bylund and Makoul (2005) investigated the empathic response from the coach to an empathic statement by the coachee (empathy opportunity) and found that the nature of the empathy opportunity influences the empathy response and vice versa. Specifically, responding in an empathic manner as a coach to empathy statements of the coachee leads to more empathy statements by the coachee and therefore, more opportunity for further empathic expression.

The current research is interested in this dynamical emergence of empathy in coaching sessions, to determine if an empathy response is related to empathy opportunities throughout the sessions. Empathy is a proven factor in coaching success and an important pillar of meaningful interaction. However, empathy is not the only factor that is predictable of coaching success. To get a comprehensible insight into the underlying dynamics of coaching, it is beneficial to look into other predictable factors of coaching success, such as autonomy support and possible interactions with empathy.

Autonomy and Autonomy Support

Coaching predominantly focuses on the motivation of the coachee to develop and achieve their goals (Athanasopoulou & Dopson, 2018) and the psychological need for autonomy and autonomy support are strong contributing factors at play in achieving this

objective within coaching (Gillet et al., 2013; Pelletier et al., 2001). The psychological need for autonomy is derived from self-determination theory (Deci & Ryan, 2000; SDT), a well-researched and widespread theory on motivation. SDT is based on the notion that motivation stems from the fulfillment of the three innate psychological needs competence, relatedness, and autonomy (Deci & Ryan, 2000). Generally seen, optimal motivation and fulfillment are achieved when all three needs are met (Deci & Ryan, 2000; Ryan & Moller, 2017). However, coaching is not aimed at competence attainment or building of relatedness, as it mainly focuses on goal attainment of self-chosen, self-valued, and self-congruent goals (Grant et al., 2010; Schiemann et al., 2018). These self-chosen goals might be skill and ability-related, but the objective of the coaching is not the attainment of the goal itself, but the mobilization of physical and psychological resources to achieve that goal (Athanasopoulou & Dopson, 2018; Ianiro & Kauffeld, 2014; Jones et al., 2016; Theeboom et al., 2014). Therefore, the need that is most beneficial in coaching is autonomy support.

Autonomy support describes behavior from the coach that involves providing the necessary resources and support for individuals to be motivated to take ownership of their own external and internal environment (Ryan & Deci, 2000). Autonomy support in coaching can lead to more engagement and motivation from the coachee to make self-owned decisions (Ryan & Deci, 2000), which leads to the need for fulfillment of autonomy from SDT. Also, research has shown that autonomy support leads to better health outcomes in coachees as it is associated with higher psychological well-being and lower levels of stress and anxiety (Bartholomew et al., 2011; Van den Broeck et al., 2016a), and rates of burnout (Van den Broeck et al., 2016a). Moreover, it has been found that coaching sessions based on autonomy support are more effective in positive behaviour change compared to other interventions that are based on controlling or directive instructions (Gillet et al., 2013; Pelletier et al., 2001). Autonomy support by the coach is positively associated with the satisfaction of the autonomy

need from the coachee (Deci & Ryan, 2012; Van den Broeck et al., 2016b). Moreover, it is among the key predictors of coaching success and it has been repeatedly shown to have a huge impact on coachee satisfaction after the coaching session and also on life satisfaction (Gagné & Deci, 2005).

Similarly to empathy, autonomy emerges in a transactional process between coach and coachee (Rocchi, 2017; Kupers, 2015). Studies found that a similar impression from coaches and coachees about the autonomy-supportive behaviour of the coach leads to higher coaching satisfaction (Rocchi, 2017). The need for autonomy is a dynamically negotiated process between coach and coachee, meaning that the behaviour of the coach influences the level of autonomy that the coachee achieves during the coaching session (Kupers, 2015). How coachees respond to the autonomy support by the coach, namely autonomy response, is related to the autonomy support by the coach (Kupers, 2015). As argued, autonomy support is essentially contributing to positive outcomes within coaching. The interest of the current research is to further investigate the emergence of autonomy support and to examine how autonomy support and autonomy response relate to each other.

Intra-individual Level of Interaction

There is very scarce research on the relationship between autonomy and empathy in the coaching setting. Therefore, in the following the existing literature on autonomy and empathy will be reviewed and extrapolated to the current research interest. Doing so will give an estimation of the relationship between autonomy support and empathy on the intra-individual level of coach and coachee respectively.

Empathy Response and Autonomy Support within the Coach

The coach has the vital role of coaching to provide a space where the coachee can grow and focus on achieving their goals (Jones et al., 2016; Theeboom et al., 2014). The empathy and autonomy that have been shown to foster coaching success are in the main

responsibility of the coach to provide the coachee with sufficient stimulation of empathy and autonomy (Nienhuis et al., 2018). Research has shown that more empathic individuals are more likely to initiate helping behaviors, such as autonomy support (Batson & Shaw, 1991). Moreover, it has been found that autonomy support and empathy are positively related and that their interaction facilitates positive outcomes (Deci et al., 1996; Nienhuis et al., 2018). One study found that coaches who provide higher autonomy support, tend to act more empathic in the coaching session, which is linked to greater goal satisfaction and coaching success (Nienhuis et al., 2018). Also, it has been found that in sessions where both high autonomy support and empathy are present, coaches had a higher chance of supporting coachees' growth and change (Deci et al., 1996). Moreover, expressed empathy is an important attribute in autonomy support interventions, therefore, successful autonomy support coaching sessions have been shown to consist of higher empathy expression by the coach (Kayser et al., 2014). Other studies have found that coaches who are considerate and understanding of the coachees emotions, therefore have a higher empathy response, tend to be more autonomy supportive (Gillet et al., 2010). The opposite has been found as well, namely that motivational, thus autonomy supportive environments are more often fostered by people who can be empathic with coachees (Raabe et al., 2019). As the literature on the relationship between empathy response and autonomy support is scarce, the current research interest is to investigate how empathy response and autonomy support are related and if the occurrence of one concept leads to a higher occurrence of the other. To this day, this research is the first to investigate a potential dynamical interplay between empathy response and autonomy support on the intra-personal level.

Autonomy Response and Empathy Opportunity within the Coachee

Recipient of the empathic and autonomy supportive behaviors of the coach is the coachee. The coachees goals, well-being, emotions and autonomy are central topics in

coaching sessions. Looking at the coachees behavior for the emergence of empathy and autonomy is essential to grasp the full interaction present in sessions. Research has shown that interactions that are primed for autonomy have, on average more empathy expression compared to interactions that were not primed for autonomy (Weinstein et al., 2010). Therefore, in a situation where the coachee responds to autonomy, the chance of an empathic expression is higher. Moreover, the opposite has been found, meaning that a more controlled environment led to less empathic expression. Moreover, the same study found that empathy in autonomy-primed contexts is more attuned between individuals who interact towards a shared goal, compared to individuals interacting in a more controlled primed environment (Weinstein et al., 2010). Therefore, it can be expected that empathy expression is heightened when more autonomy response is present. Individuals who show signs of need fulfillment of autonomy have been shown to have a heightened ability to express their emotions in distinction to emotions from others (La Guardia et al., 2000). Therefore, when the coachee's response to autonomy support becomes salient, it can be expected that they show a heightened expression of emotions, therefore, creating empathy opportunities. Finally, it has been shown that emotional reliance is predicted by autonomy support (Ryan & Deci, 2006). Therefore, when a coachee responds to autonomy, thus, showing a sign that the autonomy support by the coach was received well, it can be expected that the coachee opens up more emotionally, creating empathy opportunities. The current research interest is to investigate how autonomy support and autonomy response are related and it will be examined whether more autonomy response leads to more empathy opportunities within the coachee.

Research Questions

(1) The first research interest is rooted in the interpersonal level of empathy, namely understanding how empathic opportunity by the coachee is related to empathy response by

the coach on a macro and micro level. Based on the literature review it is expected that empathy opportunity and empathy response are positively related on both levels.

(2) The second research interest is concerned with the interpersonal level of autonomy, namely how autonomy support from the coach relates to autonomy response by the coachee on a macro and micro level. Based on the literature review it is expected that autonomy support is positively related to autonomy response on both levels.

(3) The third research interest is rooted in the intra-personal level of the coach, namely how empathy response and autonomy support are related. Based on the literature review it is expected that empathy response and autonomy support are positively related on both levels

(4) The fourth and final research interest is rooted in the intra-individual level of the coachee, namely how autonomy response and empathy opportunity are related on a macro and micro level. Based on the literature review it is expected that autonomy response and empathy opportunity are positively related on both levels.

Methods

Sample

The sample consists of 21 audio recordings of beginning teacher coaching sessions from 8 individual coach-coachee dyads. All coaches ($M_{coaches}$ = 24.5, SD = 1.13) were students from the Coaching course (PSMAV-5) of the University of Groningen Masters Track in Psychology. The purpose of this coaching course was to establish and implement a coaching program for beginning coaches (i.e., from the Masters Track Talent Development and Creativity). The coachees were beginning teacher students ($M_{teacher}$ = 22.9 years old, SD = 2.13) from the Teaching Skills class (PSB3E-M17). The beginning teachers (i.e., BA-level and MSc-level student-teachers, Ph.D. candidates, and newly employed teachers) were

trained for a teacher-assistantship in first-year and second-year undergraduate courses. The audio recordings were between 41 and 94 minutes long (M $_{Recordings}$ = 63.8, SD = 8.8).

Coding measurements

Empathy

In this study a deductive and inductive method for the coaching scheme will be deployed, meaning that coding schemes and evidence that have been used in previous studies and contexts will be combined and applied to the current objective. The dyadic interaction of empathy in the coaching sessions was coded using the framework of the Empathic Communication Coding System (ECCS) by Bylund and Makoul (2005). This coding scheme was originally used to code physician-client interactions in the medical context and was for the study adapted to the coaching setting. Every utterance by the coach and coachee will be identified and given a code.

Empathy Opportunity. Utterances from the coachee will be coded with a number between 0 and 3, where 0 is *neutral,* hence no empathic content, and a number between 1 and 3 when there is empathic content. Originally, the ECCS divides empathic utterances by the coachee between emotional feeling, progress, and challenge statements. For this study, these categories are quantified regarding how explicit or implicit an utterance by the coachee is, hence how salient an emotional expression is. An emotional feeling statement is a direct statement of emotions and it simply is the direct expression of a feeling such as "I felt sad". Explicit expressions like that will get the code 3 – *Explicit emotional statement*. For level 1 and 2 of this code, it will be differentiated between implicit and explicit progress or challenge statements. An explicit progress or challenge statement is defined by stating progress and/or a challenge and the personal affect, e.g. "The students said my teaching is boring which makes me feel like I failed them". An implicit progress or challenge statement refers to an indirect

expression of progress or challenge such as "The students said my teaching is boring", which because it was mentioned is an expression of underlying emotions.

Empathy Response. In the ECCS, the empathy responses of the coach are hierarchically categorized as illustrated in the Appendix (Table 2). Also, every utterance by the coach will be coded for empathy with the neutral option of 0 when there is no content related to empathy in the coach's utterance. The seven categories of responses are divided between -3 – *Denial/disconfirmation (*which means that) and 3 – *Shared feeling or experience.* Positive values refer to an empathy response by the coach that is valuing and acknowledging the emotional experience of the coachee and therefore shows explicit empathy. On the other hand, negative values are given when the coach diminishes and questions the emotional experience of the coachee and therefore does not show empathy. The different levels were matched with the skills of interlocutory form related to empathy response that is taught in the coaching course curriculum based on explained skills from Young (2017), such as *reflecting content* or *confrontation*. These are the skills that the coaches learned throughout their academic study at the University of Groningen and are therefore common skills to be identified in the coaching sessions

Autonomy

The interaction of autonomy will be coded based on the literature on behavioral indices of autonomy support by Kupers and colleagues (2015). The coding scheme was originally applied in musical teaching lessons, ranging from *explicit autonomy diminishing* to *explicit autonomy supportive*.

Autonomy Support. Just as in the applied coding scheme used by Kupers and colleagues (2015), every utterance by the coach will be coded for autonomy support. There is the option of 0 — *neutral* when the utterance has no content that is related to autonomy support. Values range between -3 and 3, while positive values represent autonomy-supportive

behaviors such as *scaffolding* or *explicit autonomy support*, while negative values represent autonomy-diminishing behaviors such as *directive instruction.* Similarly, to the coding scheme for empathy response, the different levels on the autonomy scale were matched with the skills from Young (2017), such as *positive relabelling* and *psychoeducation* that are related to autonomy support.

Autonomy Response. The autonomy response by the coachee is coded following the approach of Kupers and colleagues (2015) where the response is coded for values of 1, 0, and -1, 0 meaning *neutral* and 1 meaning *taking initiative,* and -1 meaning *dismissing.* Therefore 0 represents an utterance with no autonomy-related content, while 1 represents a response that is accepting and engaging with the autonomy support, such as "I can make my presentation more engaging". Negative values represent a dismissing of the autonomy support by e.g., criticizing the autonomy-supportive behavior.

Procedure

Recruiting

The coaches from the Coaching course were approached at the first lesson of the block, shortly before they were about to start the 3x60-minute coaching trajectory with the beginning teachers. The purpose of the study and procedure of the recruitment were introduced and explained to the class. The purpose of the study was not fully enclosed, so that the coaches would not potentially be influenced in their coaching performance. Therefore, the purpose of the study was enclosed to be "about the dynamical emergence of empathy and autonomy in the coaching process". There was a special emphasis put on the fact that for this study the coaches would need to share the audio recordings of the coaching sessions that they will have to record regardless for the reflection report of the course. Also, it was enclosed that the recordings will be kept as confidential as possible and only be listened to by the coders. During the introduction lesson, the coaches were provided with detailed information about

the study for them and also for their coachees. Two to four weeks after that introduction lesson when the coaches had one or two coaching sessions, the coaches as well as the coachees were approached via email with detailed information and a digital consent form. If a coachee-coach dyad was interested, a digital consent form was sent to them via Qualtrics. The coaches were instructed to send the recordings to a separate email address together with their coach coachee dyad. When coaches and coachees signed the consent form, the recordings were forwarded and saved on a hard drive only recognizable by the coach-coachee code for anonymity.

Coding

The coding will be done from minute 10 to minute 20 of every coaching session to make sure that the conversation already evolved and the coaching session went into a natural flow. The 10-minute excerpt of every session is a sufficient representation of the interaction in the coaching progress while being short enough to make the coding feasible. MediaCoder will be used to code the 10-minute excerpt of every coaching session (Mediacoder, 2017). The coding of each of the four variables for the entire sample entails a sequential approach, where the first variable is coded across all recordings before moving on to the second. Namely, first empathy opportunity will be coded for all recordings of the whole sample, before moving on to empathy response. By following this approach, the coder will develop a comprehensive understanding of the coding scheme, ensuring their focus is directed towards the relevant nuances and aspects of the concept at hand.

Empathy Opportunity. Every utterance by the coachee will be coded for empathy opportunity (Figure 2). A difference will be made between an utterance that has no emotional value and an utterance with emotional value. If the coachee's statement involves an emotional value it will be coded for how implicit or explicit the emotional statement was (Table 1). Statements with no emotional values will be coded with 0 – *neutral.* Implicit and

explicit emotional statements will be coded with values between 1 and 3, where 1 is *implicit progress or challenge statement* and 3 is an *explicit emotional feeling statement*. A comprehensive example of the qualitative difference between the three levels will be made by the situation of a beginning teacher that wants to express that they had positive emotions about the students explicitly saying that they understood a concept well due to the teacher's explanation. A level 1 (implicit progress) statement would be: "The students said that they understood the concept well after my explanation; that was good!", while a level 2 (explicit progress) statement would be: "The students said they understood the concept well, which is a success to my goal". It can be seen by these two examples that the difference between level 1 and level 2 is that the teacher mentions progress, however, for level 1 the progress is implicitly expressed by classifying it as "good", while for level 2, the teacher explicitly states that progress has been made. Level 3 (explicit emotional) statements are characterized by the direct mentioning of an emotional state, such as "I am/was happy that the students could understand the concept better through my explanation". In this example the emotion that the teacher has/had is expressed and named directly.
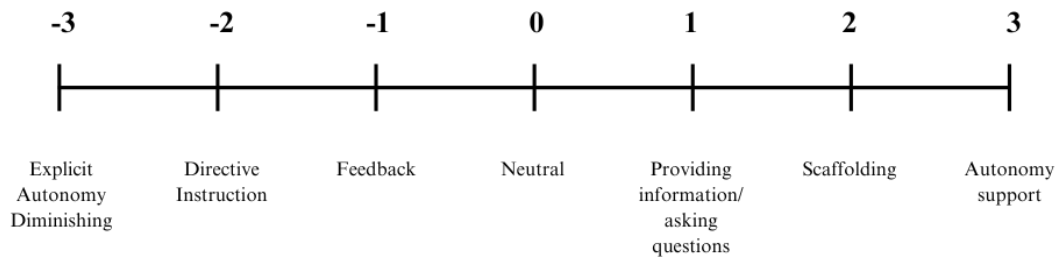
Figure 2

Empathy Opportunity Coding Scale
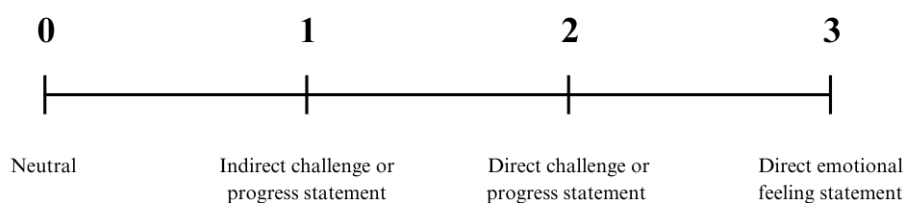
Empathy Response. The empathy response by the coach will be coded on every utterance by the coach (Figure 3). Utterances with no content related to an empathy response or with minimal involvement in the empathic issue will be coded with a 0 – *neutral*. Moreover, it will be differentiated between empathically supportive utterances (positive

values), or unsupportive/discouraging (negative values). Positive values on the empathy response scale relate to empathically supportive utterances such as confirmation or stimulation of the emotional expression. *Stimulation and reconstruction* (+3 on the scale; Figure 3) refers not only to the deep understanding of the emotional expression, but also to recognition of what the coachee meant, but has not said and stimulates the deeper understanding of the emotion within the coachee. If a coachee expresses happiness about getting good feedback from their students an empathy response of level 3 would be "You feel happy about good feedback, because it fulfills you to see that the goal of being helpful to the students is reached which is congruent with your values of being helpful" (reflecting meaning, see Table 2). Compared to that, *confirmation* (+2 on the scale; Figure 3) refers to the coach's active effort to understand the coachee's emotion and worldview and evidence of accurate understanding is present, although limited to explicit content. An empathy response of level 2 to the same expression of happiness can be: "You have a good feeling about the positive feedback you got from your students" (paraphrasing, see Table 2).

Negative values represent expressions that diminish the emotional experience of the coachee. *Implicit recognition* (-1 on the scale, Figure 3) refers to the coach giving advice, responding with clichés, or using distracting questions. An example of an implicit recognition from the earlier used example of happiness could be: "That is normal that students give positive feedback when they want good grades" (cliché). *Denial and disconfirmation* (-3 on the scale; Figure 3) refer to ignorance or disconfirming a statement of the coachee. Regarding the earlier used example of happiness a disconfirming statement would be: "Well, you should not be happy, because your students seem to usually not like your teaching as much."

Figure 3

Empathy Response Coding Scale
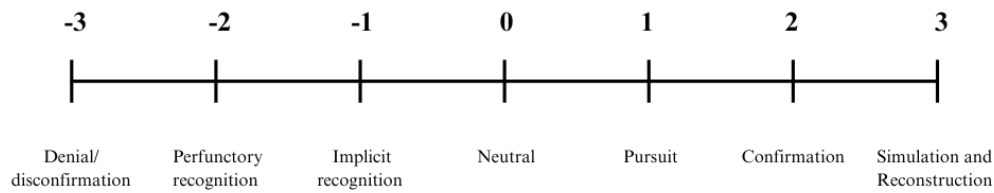
Autonomy Support. For autonomy support, every utterance from the coach will be coded with a responding code. It will be differentiated between statements that are unrelated to autonomy support that are coded with a 0 – *neutral*, statements that are autonomy supportive (positive values), or autonomy diminishing (negative values). The part of the scale that has positive values is applied to statements that have different levels of autonomy support. An example of an *autonomy support* phrase (+3 on the scale; Figure 4) stimulates the coachee to expand their mind freely toward their options. When the coachee struggles with ways to motivate their students, *autonomy support* would be: "Can you think of ways you can actively motivate your students in your next session?". Compared to that a level 2 statement would be *scaffolding* which focuses on autonomous choices, but gives the coachee a frame to focus on, such as: "You said that your students were motivated when you did exercise A, how do you feel about that option?". Negative values on the autonomy support scale refer to expressions that are diminishing the coachee's autonomy. A *feedback statement* (-1 on the scale; Figure 4) would be to utter solutions and use deadline statements. Applied to the earlier used example of motivated students that would be: "A solution to that would be to have different playful exercises that give a new viewpoint to the content". Moreover, an *explicit autonomy diminishing* statement (-3 on the scale; Figure 4) would be explicitly controlling the choices of the coachee and criticising, such as "Focus on the exercises that you do, they are not interesting enough".

Figure 4

Autonomy Support Coding System Levels

-3	-2	-1	0	1	2	3
Explicit Autonomy Diminishing	Directive Instruction	Feedback	Neutral	Providing information/ asking questions	Scaffolding	Autonomy support

Autonomy response. For autonomy response, all utterances by the coachee are coded to be either 0 – *neutral*, 1 – *taking initiative,* or -1 – *dismissing*. *Taking initiative* (+1 on the scale; Figure 5) of the coachee refers to an active engagement with the content of the autonomy support of the coach. If, for example, the coach has asked the question whether the coachee can think of anything they could do to enhance the student's motivation, a level 1 response could be "Now that I think about it, they gave me feedback that they enjoy open discussions on topics, maybe I can try that." A *dismissing* (-1 on the scale; Figure 5) statement could be to just change the topic entirely and deviate from the question.

Figure 5

Coding Scheme Scale for Autonomy Response by the Coachee

1	0	-1
Taking initiative	Neutral	Dismissing
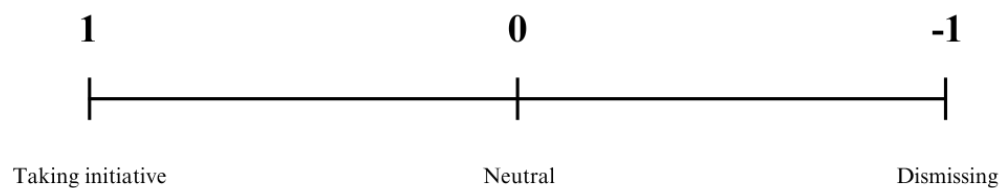
Data Analytical plan

General Analyses on the Macro-Level

The data will be analyzed on a macro and micro level to ensure a comprehensive understanding of the data regarding the different research questions. To get a good overview

of the general interactions of empathy and autonomy support, the first step of the analyses will be to review the overall frequency of empathy and autonomy-related utterances in total and more specifically by the coach and the coachee respectively. Specifically, this will give an overview of how the different concepts that were assessed were present during the coaching session and which of them might be more dominant.

Interpersonal Level

Empathy. The interaction regarding empathy between coach and coachee, namely empathy opportunity and empathy response, will be examined via regression analysis to determine if empathy opportunity predicts empathy response. Moreover, the interaction will be visualized in a state space grid to have a structured overview of the interaction of empathy opportunity and empathy response. Potential attractor states will be examined, meaning that vidual examination will determine if the interaction often returns to the same pattern of responses. The data will be visualized on a timeline and remarkable patterns will be identified and reported via sequential analysis and time series analysis. Patterns of interest could be synchronicity (more than 2 data points after each other that both have positive values), asynchronicity (more than 2 data points after each other where one variable has positive values and one has negative values), salient irregularities, or unexpected dynamic changes.

Autonomy. Interpersonal interaction between the coach and coachee regarding autonomy, namely autonomy support and autonomy response will be examined through regression analysis. Regression analysis will give insight if autonomy response can be predicted by autonomy support. The interaction will be visualized in a state space grid, where potential attractor states can be examined. Furthermore, the data will be visualized on a timeline, and remarkable patterns will be identified and reported through sequential and time series analysis. Patterns of interest could be synchronicity (more than 2 data points after each other that both have positive values), asynchronicity (more than 2 data points after each other

where one variable has positive values and one has negative values), salient irregularities, or unexpected dynamic changes.

Intrapersonal Level

Empathy Response and Autonomy Support within the Coach. On the intrapersonal level, the first interest is the relationship between empathy response and autonomy support from the coach. To examine that relationship the Pearson correlation will be calculated. Moreover, a state space grid will be used to examine the relationship between the two concepts within the responses of the coach. Furthermore, a visual inspection of a timeline and the state space grid will be used to identify potential patterns. A sequential analysis and time series will follow, examining potential patterns like synchronicity (more than 2 data points after each other that both have positive values), asynchronicity (more than 2 data points after each other where one variable has positive values and one has negative values), salient irregularities or unexpected dynamic changes.

Autonomy Response and Empathy Opportunity within the Coachee. The intrapersonal interaction of autonomy response and empathy opportunity for the coachee will be examined through the Pearson correlation. Moreover, a state space grid will be examined to identify potential attractor states within the coachee. A visual examination of the timeline of interaction will be followed by a sequential and time series analysis of potential patterns that can be found in the connection of autonomy response and empathy opportunity. Potential patterns of interest could be synchronicity (more than 2 data points after each other that both have positive values), asynchronicity (more than 2 data points after each other where one variable has positive values and one has negative values), salient irregularities or unexpected dynamic changes.

Results

General Analyses

The analyses revealed 3700 total utterances from coaches and coachees throughout all 10-minute excerpts of the 21 coaching sessions. Throughout the sessions, the coachees had 2030 utterances, which is 54.8% of all utterances, while the coaches had 1670 utterances, which is 45.2% of all utterances. Of all utterances, 794 were related to empathic expression, which is 21.4% of all utterances. Autonomy-related were 545 utterances, which is 14.8% of all utterances, which sums up to 1339 utterances (36.2%) related to one of the four concepts of interest (concept-related-utterances) and 2361 neutral utterances (63.8%). More specifically, 513 utterances (38.3% of concept-related utterances) were an empathy opportunity by the coachee, and 281 (21% of concept-related utterances) were an empathy response by the coach. Autonomy support utterances were 331 utterances (24.7% of concept-related utterances) by the coach and 214 utterances (16% of all utterances) were autonomy responses from the coachee.

Interpersonal Level

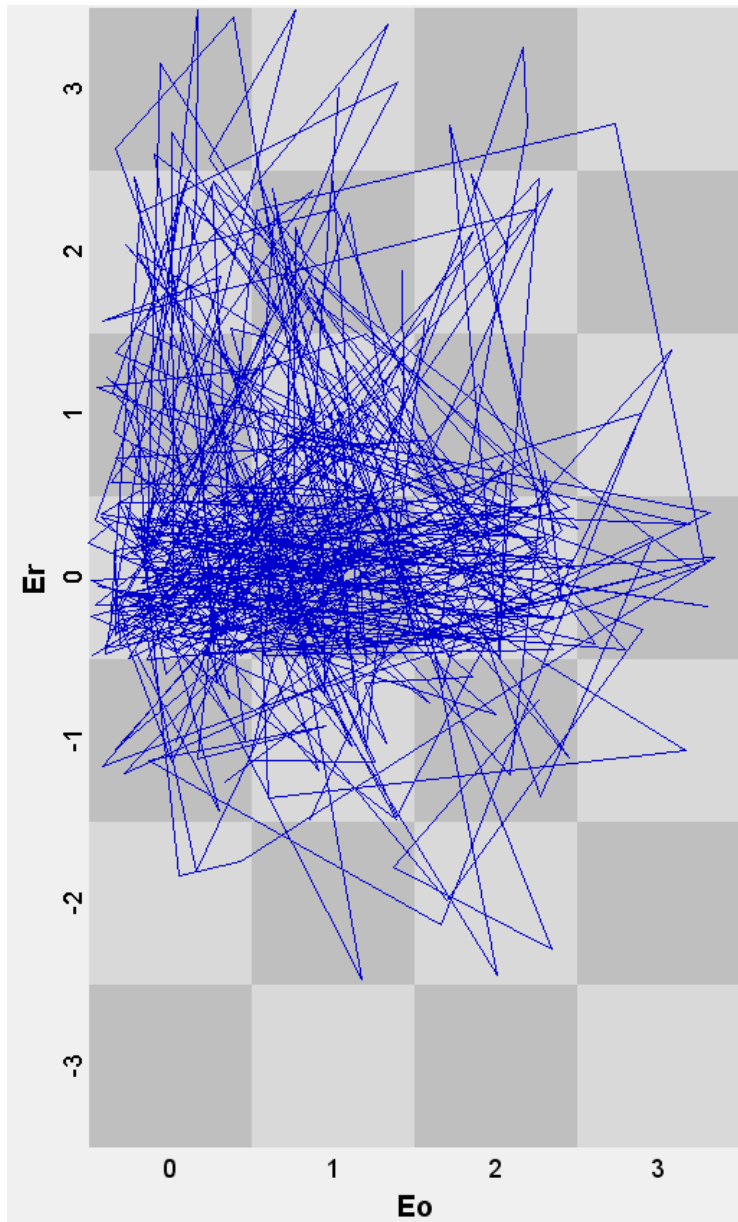*Empathy Opportunity and Response*

Macro -Analysis. For the relationship between empathy opportunity and empathy response, it was planned to conduct a regression analysis to examine their relationship. The first examination of the data showed that there is no significant correlation between empathy opportunity and empathy response, $r = -0,002$; $\alpha = .971$. Therefore, no regression analysis was conducted as there seemed to be no relation between empathy opportunity and empathy response. In the examination of the state space grid of all coaching sessions (Figure 6) it can be observed that empathy opportunity from the coachee was most often met with a neutral response from the coach. Moreover, a lot of interactions were double neutral where the utterance from the coach and coachee were both neutral. Positive values of empathy

response, such as 1 - *confirmation*, were evenly spread via 0 - *neutral* responses and 1-*implicit challenge and progress statement*s from the coachee at face value. However, 3 - *explicit emotion statement* empathy opportunities from the coachee were most often met with a neutral response. Empathy opportunities from the coachee in general derived often from neutral empathy responses from the coach.

Micro-Analysis. The state space grid micro examination per coach-coachee dyad shows that there seemed to be different dynamics that arose in individual interactions. These dynamics can be summarized in three categories: neutral utterances from the coach, neutral utterances from the coachee, and overall positive dynamics. Dynamics that were characterized by neutral utterances from the coach showed that the coach often responded neutrally seemingly unrelated to the quality of empathy opportunity that the coachee provided (Figure 7, dyad 627). Moreover, dynamics that were characterized by neutral utterances by the coachee showed that the coachee mostly provided neutral utterances unrelated to the quality of empathy responses by the coach (Figure 7, dyad 631). Finally, the last category of dynamics was overall positive dynamics and was characterized by empathy opportunities by the coachee (positive values) mostly paired with empathy responses from the coach (positive values; Figure 7, dyad 629).
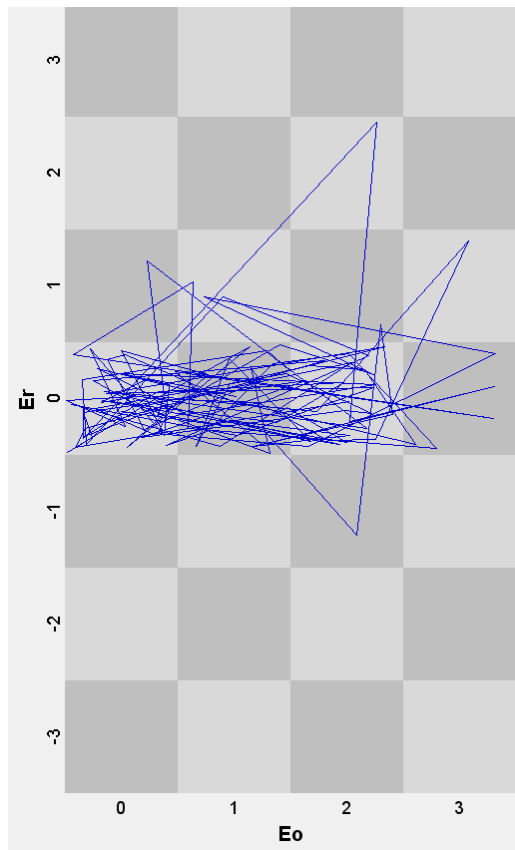
Figure 6

State Space Grid of all Coaching Sessions Showing Empathy Opportunity (EO) and Empathy
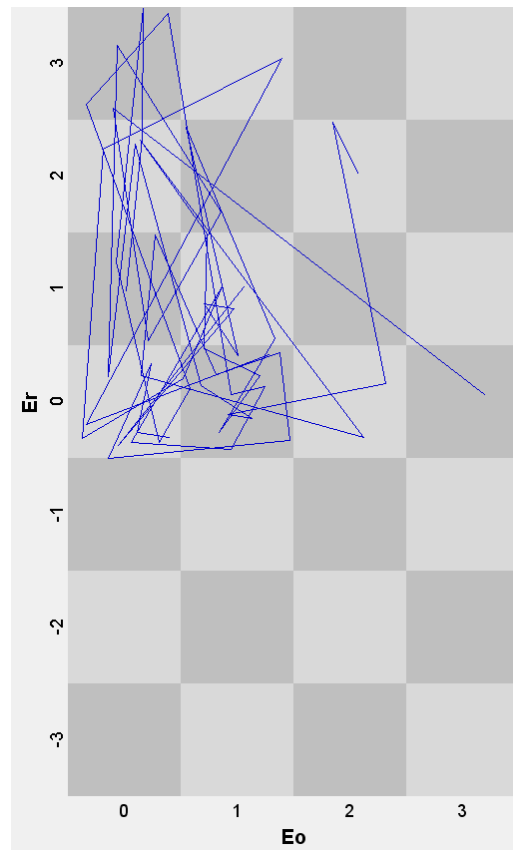
Response (ER)

Note. Empathy opportunity (EO), 0 = neutral, 1 = implicit challenge or progess statement, 2 = explicit challenge or progress statement, 3 = explicit emotion statement; Empathy response (ER), -3 = Denial, -2 = Perfunctory recognition, -1 = Implicit recognition, 0 = neutral, 1 = Pursuit, 2 = Confirmation, 3 = Stimulation and reconstruction
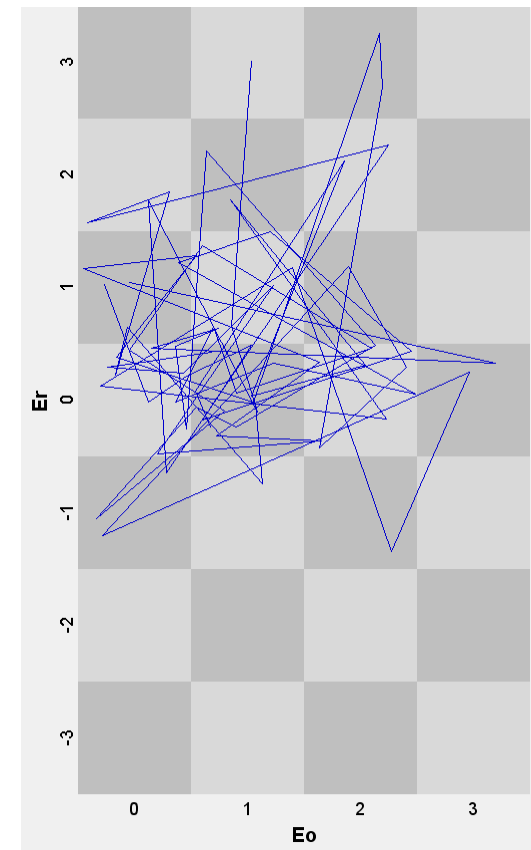
Figure 7

State Space Grid of Coach-Coachee Dyad for Empathy Opportunity and Response

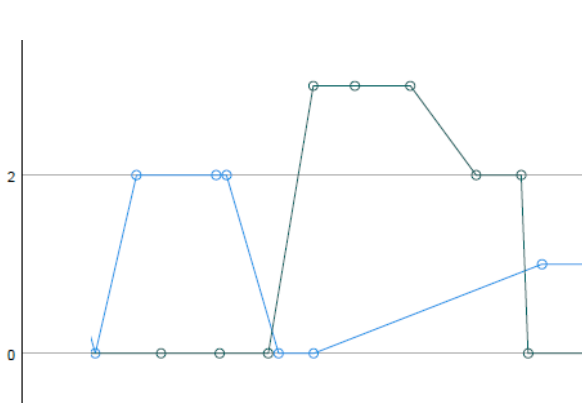| *Coach-Coachee Dyad 627* | *Coach-Coachee Dyad 631* | *Coach-Coachee Dyad 629* |

Note. Empathy opportunity (EO), 0 = neutral, 1 = implicit challenge or progess statement, 2 = explicit challenge or progress statement, 3 = explicit emotion statement; Empathy response (ER), -3 = Denial, -2 = Perfunctory recognition, -1 = Implicit recognition, 0 = neutral, 1 = Pursuit, 2 = Confirmation, 3 = Stimulation and reconstruction

In the time series analysis, the data was examined for potential patterns in dynamical interactions. The time-series data for empathy opportunity and response showed several patterns that were found across all recordings. These patterns can be categorized as short interactions of synchronicity and asynchronicity, longer periods of synchronicity, and periods that had no empathy interaction for a longer time. The short moments of synchronicity were characterized by either a more explicit empathy opportunity (higher values) followed by a more supportive empathy response (positive values; 36 times across all sessions) and vice versa (30 times across all sessions). An example of short moments of synchronicity can be found in Figure 8 (Dyad 631, session 3). Short moments of asynchronicity were characterized by either a more explicit empathy opportunity (higher values) followed by a dismissive empathy response (negative values; 35 times across the data) or vice versa (15 times; Figure 8, Dyad 651, session 2). Moreover, longer moments of synchronicity have been observed, where empathy opportunity and empathy response have been in synchronicity (same or similar values) for more than four interactions. This has been observed 15 times across all recordings (example in Figure 8, Dyad 651, session 3). Finally, five times across all recordings, the utterances from the coach and coachee were neutral for a period that is apparent on face value (Example in Figure 8, Dyad 637, session 2).
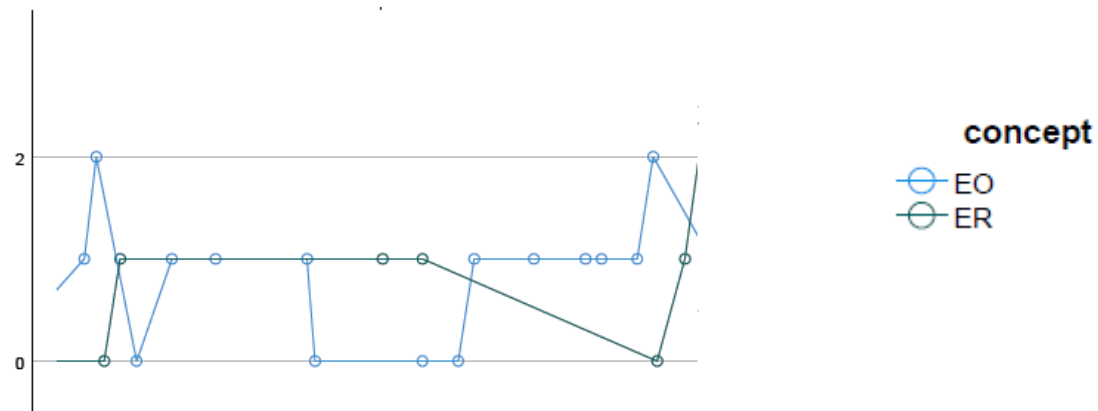
Figure 8

Excerpts from Coach-Coachee-Dyads showing Empathy Opportunity (EO) and Empathy Response (ER)

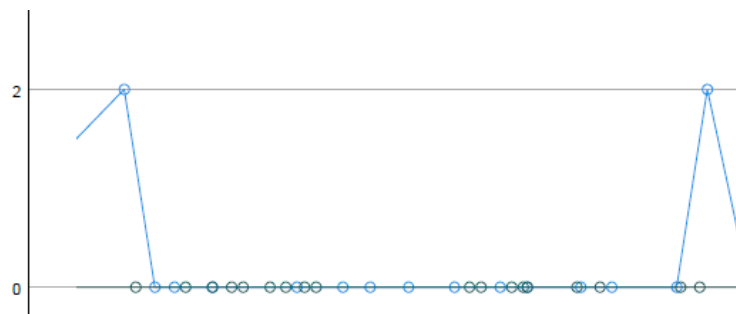
Dyad 631, Session 3 showing short synchronicity
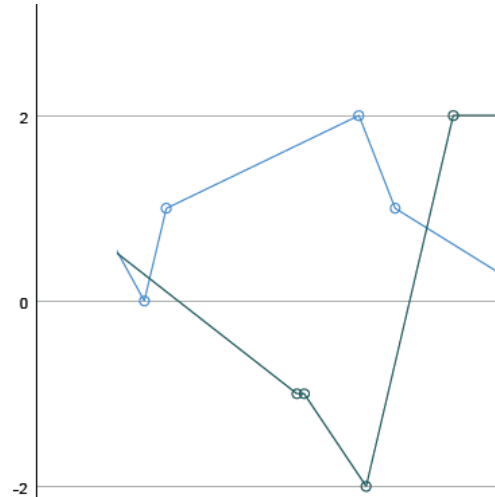
Dyad 651, Session 3 showing short asynchronicity

651, Session 2 showing longer acrsynchronicity

concept
EO
ER

Coach-Coachee-dyad 627, Session 2 showing a neutral interaction

Note. Empathy opportunity (EO), 0 = neutral, 1 = implicit challenge or progess statement, 2 = explicit challenge or progress statement, 3 = explicit emotion statement; Empathy response (ER), -3 = Denial, -2 = Perfunctory recognition, -1 = Implicit recognition, 0 = neutral, 1 = Pursuit, 2 = Confirmation, 3 = Stimulation and reconstruction
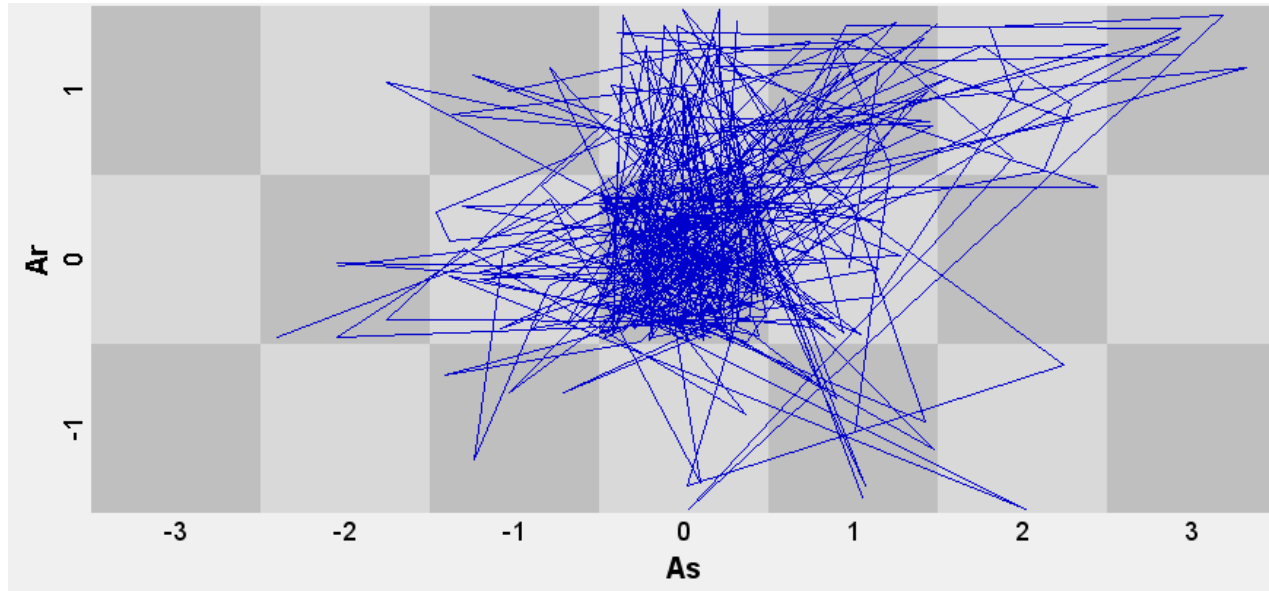
Autonomy Support and Response

Macro -Analysis. Simple linear regression was used to test if autonomy support predicts autonomy response. The fitted regression model was: Autonomy response = 11.52 + 9.34 * Autonomy support. The overall regression was statistically significant ($R^2 = 0.089$, $p <$ .001). Therefore, autonomy support significantly predicted autonomy response. In the examination of the state space grid of all coaching sessions (Figure 9) it can be observed that most interactions between coach and coachee were neutral. Moreover, it can be observed that positive autonomy support from the coach almost always elicited an engaging response from the coachee. Also, engaging responses from the coachee were often connected with a neutral utterance from the coach.

Micro-Analysis. The state space grid micro examination per coach-coachee dyad showed that there seemed to be different dynamic patterns that arose in individual interactions. These dynamics can be summarized in three categories: Neutral interactions, engaged autonomy support, and disorganized dynamics. Neutral interaction dynamics were characterized by interactions that are mostly in the neutral-neutral quadrant (example in Figure 10, Dyad 627). Engaged autonomy support dynamics were characterized by interactions in positive values of autonomy support and autonomy response, for example for coach-coachee dyad 629 (Figure 10). Finally, the last category of dynamics was disorganized dynamics which was characterized by interactions that spread all over the state space grid and did not seem to follow any pattern (Figure Figure 10, Dyad 608).
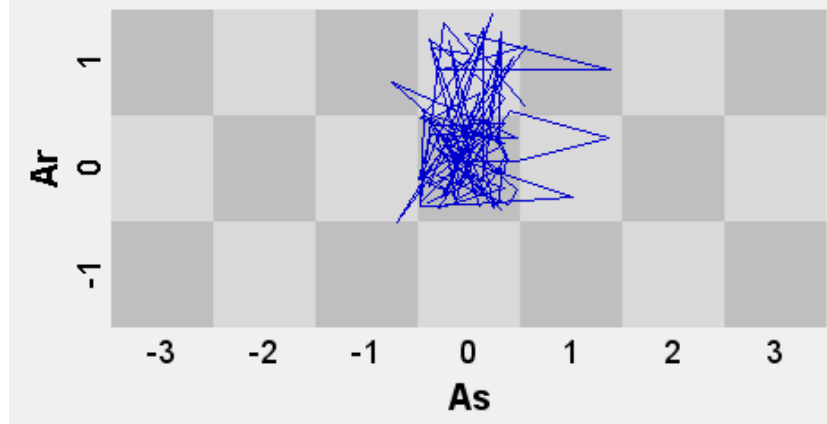
Figure 9

State Space Grid of all Coaching Sessions Showing Autonomy Support and Autonomy Response

Note. Autonomy support (AS), -3 = Explicit Autonomy Diminishing, -2 = Directive Instruction,
 -1 = Feedback, 0 = Neutral, 1 = Providing information/Asking Questions, 2 = Scaffolding,
3 = Autonomy support; Autonomy Response (AR), -1 = Dissmissing, 0 = Neutral, 1 = Taking Initiative

Figure 10

State Space Grid of Individual Coach-Coachee Dyads showing Autonomy Interaction

Coach-Coachee Paring 627
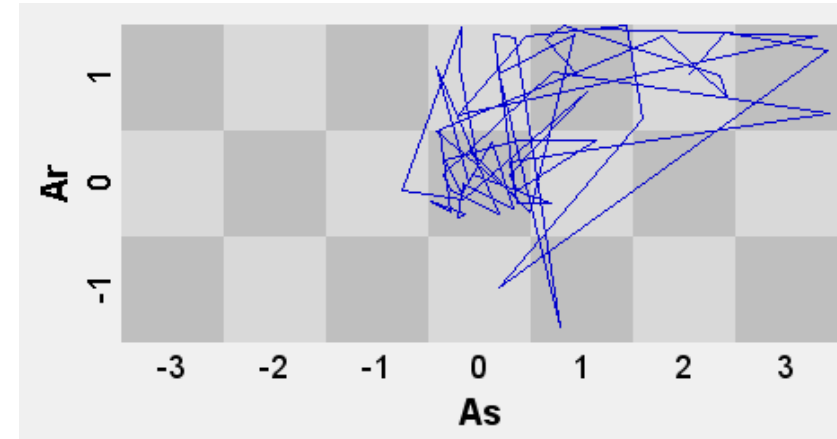

Coach-Coachee Dyad 629

Coach-Coachee Dyad 608

Note. Autonomy support (AS), -3 = Explicit Autonomy Diminishing, -2 = Directive Instruction -1 = Feedback, 0 = Neutral, 1 = Providing information/Asking Questions, 2 = Scaffolding, 3 = Autonomy support; Autonomy Response (AR), -1 = Dissmissing, 0 = Neutral, 1 = Taking Initiative
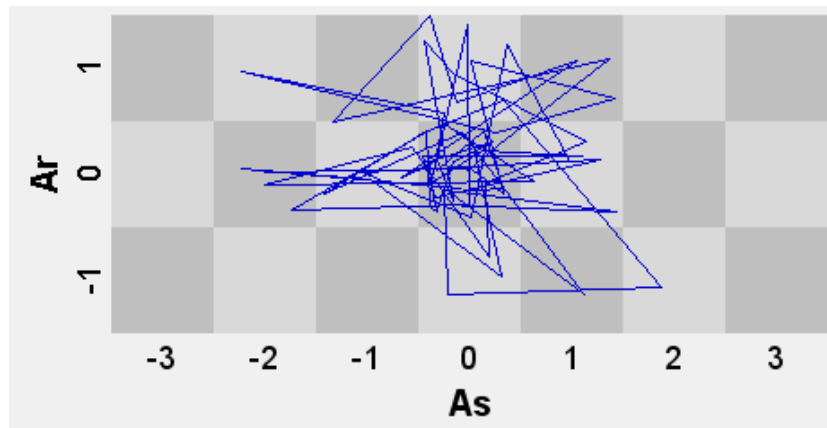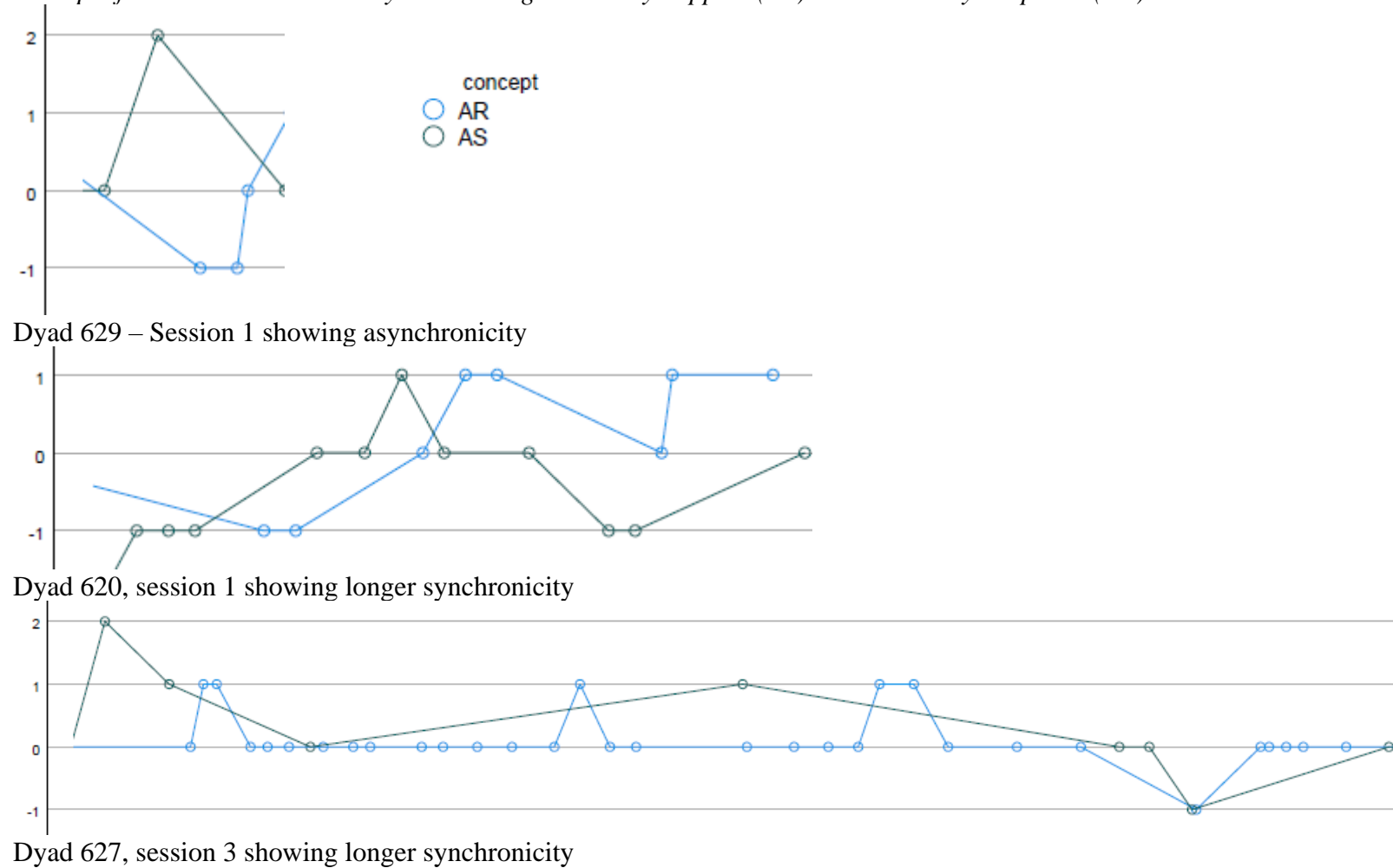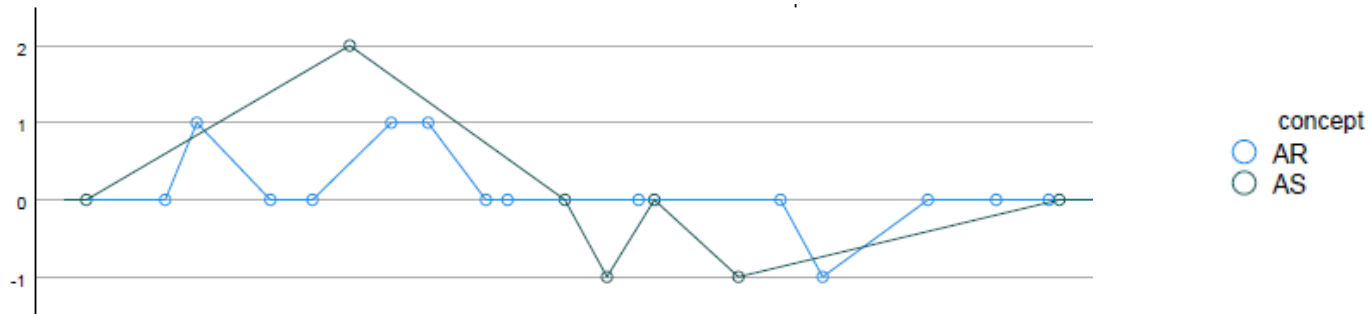
In the time series analysis, the data was examined for potential patterns in dynamical interactions. The time-series data for autonomy support and autonomy response showed several patterns that were found across all recordings. Those can be summarized as short interactions of asynchronicity, longer periods of synchronicity, and periods that had no autonomy interaction for a long period o most of the session. The short moments of asynchronicity were characterized by 2 – 4 utterances after each other where one concept had positive values followed by the other having negative values or vice versa (example in Figure 11, Dyad 629, Session 1). High autonomy support followed by a dismissive autonomy response was observed 6 times across the data. Low autonomy support followed by an engaging autonomy response was observed 4 times across the data. An engaged autonomy response was followed by negative autonomy support was observed 5 times and finally, a dismissive autonomy response was followed by positive autonomy support was observed 2 times. The overall data shows several points where longer synchronicity (more than four data points synchronized) is visible in the time-series data. There are 8 observed times of longer synchronicity in the data overall, where positive values of autonomy support were in synch with engaged autonomy responses. Moreover, there have been three specific interactions that followed patterns of synchronicity from either lower values followed by higher values in synch and vice versa. These interactions were from three individual coach-coachee dyads and varied between 9 and 18 following interactions (shown in Figure 11, Dyad 620, Session 1; Dyad 627, Session 3; Dyad 651, Session 3). In 12 out of the 21 recorded sessions, there were visual salient periods of only neutral interactions, sometimes even lasting for a whole session (Example in Figure 11, Dyad 627, Session 2)

Figure 11

Excerpts from Coach-Coachee-Dyads showing Autonomy Support (AS) and Autonomy Response (AR)

Dyad 629 – Session 1 showing asynchronicity

Dyad 620, session 1 showing longer synchronicity

Dyad 627, session 3 showing longer synchronicity

Dyad 651, session 3 showing longer synchronicity
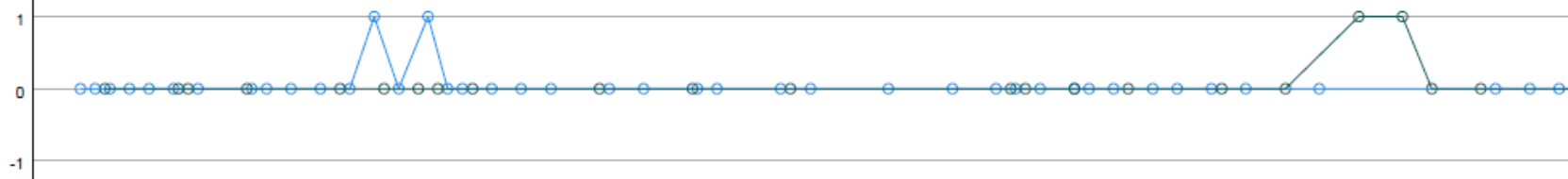
Dyad 627, session 2 showing almost no interaction

Note. Autonomy support (AS), -3 = Explicit Autonomy Diminishing, -2 = Directive Instruction -1 = Feedback, 0 = Neutral, 1 = Providing information/Asking Questions, 2 = Scaffolding, 3 = Autonomy support; Autonomy Response (AR), -1 = Dissmissing, 0 = Neutral, 1 = Taking Initiative

Intrapersonal Level

Empathy response – Autonomy support

Macro -Analysis. To examine the relationship between empathy response and autonomy support the correlation between the two variables was calculated. The correlation was statistically significant and positive ($r = .171$, $p < .001$). In the examination of the state space grid of all coaching sessions (Figure 12), it can be observed that many empathy responses by the coach were associated with neutral autonomy support by the coach. Moreover, interactions with positive values are more often met with positive values than with negative values when neutral interactions are excluded.

Micro-Analysis. The state space grid micro examination per coach shows that there seemed to be different dynamic patterns that arose in individual interactions. These dynamics can be summarized in three categories: Neutral interactions, empathy response-neutral interactions, and overall positive interactions. Neutral interaction dynamics were characterized by interactions that are mostly in the neutral-neutral quadrant (example in Figure 13, Dyad 627). Moreover, there were dynamics where most interactions were empathic, while being neutral on autonomy support (example in Figure 13, Dyad 651). Finally, overall positive interactions were characterized by interactions that are in the quadrant of positive empathy response and autonomy-supportive interactions (example in Figure 14).

Figure 12

State Space Grid of all Coaching Sessions Showing Autonomy Support and Autonomy Response
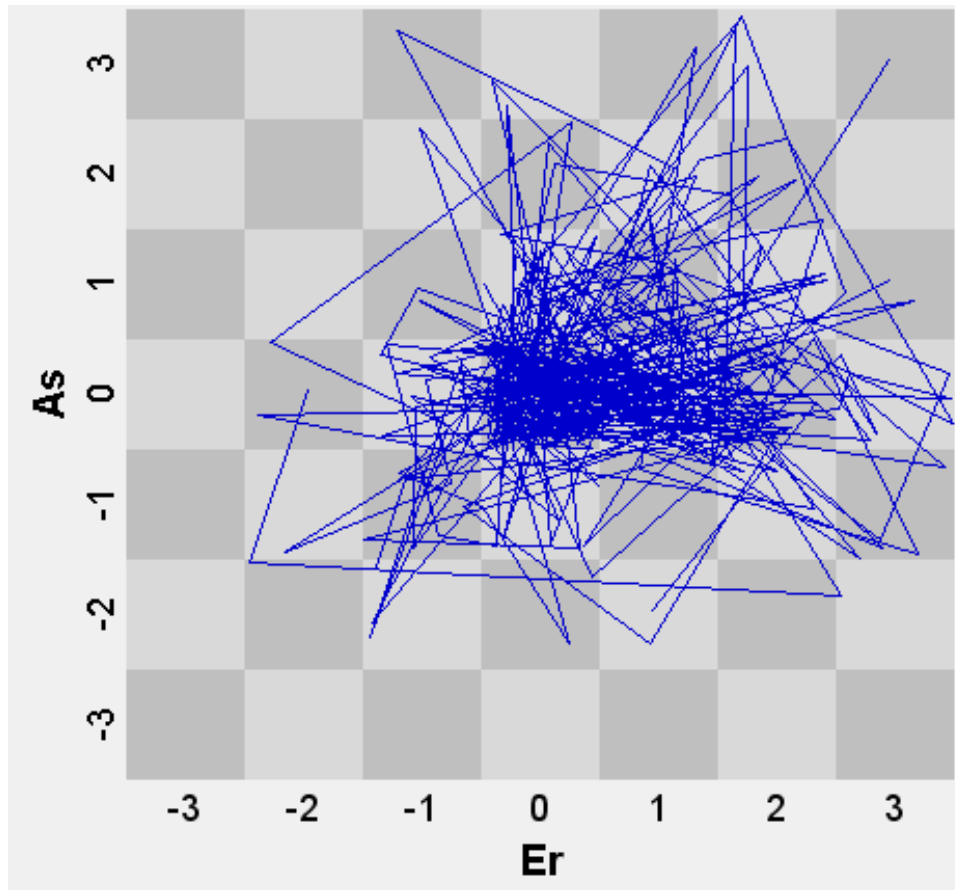
Note. Empathy response (ER), -3 = Denial, -2 = Perfunctory recognition, -1 = Implicit recognition,
0 = neutral, 1 = Pursuit, 2 = Confirmation, 3 = Stimulation and reconstruction; Autonomy support (AS),
 -3 = Explicit Autonomy Diminishing, -2 = Directive Instruction -1 = Feedback, 0 = Neutral,
 1 = Providing information/Asking Questions, 2 = Scaffolding, 3 = Autonomy support

Figure 13

State Space Grids of all Individual Coach-Coachee Dyad Sessions Showing Autonomy Support and Autonomy Response

Dyad 627

Dyad 651

Note. Empathy response (ER), -3 = Denial, -2 = Perfunctory recognition, -1 = Implicit recognition, 0 = neutral, 1 = Pursuit, 2 = Confirmation, 3 = Stimulation and reconstruction; Autonomy support (AS), -3 = Explicit Autonomy Diminishing, -2 = Directive Instruction -1 = Feedback, 0 = Neutral, 1 = Providing information/Asking Questions, 2 = Scaffolding, 3 = Autonomy support
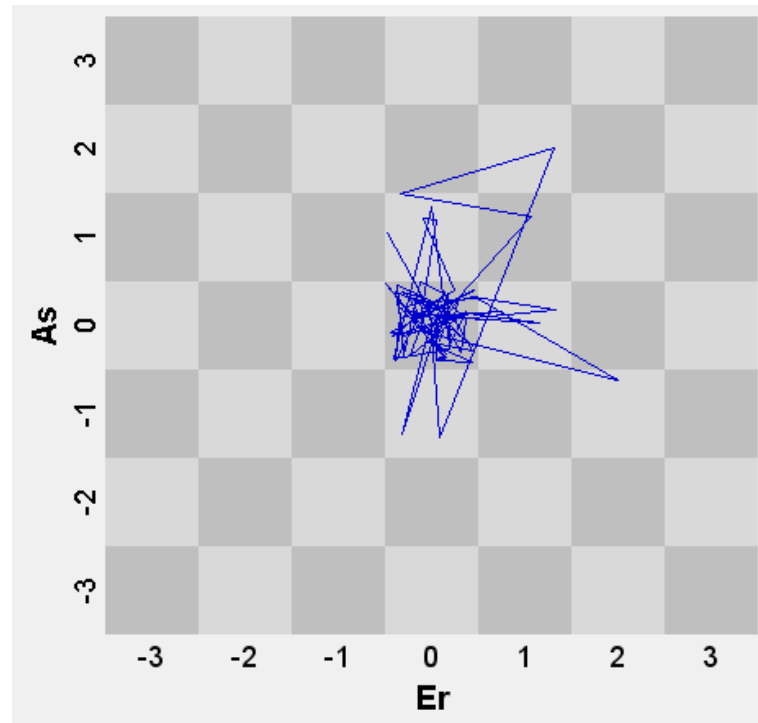
Figure 14

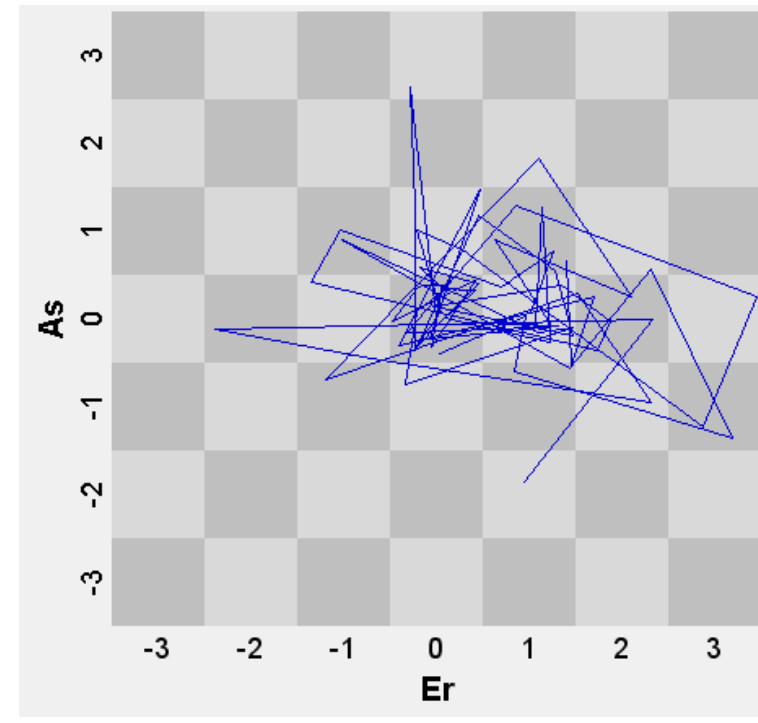*State Space Grid of Coach-Coachee Dyad 629 Showing Autonomy Support and Autonomy Response*
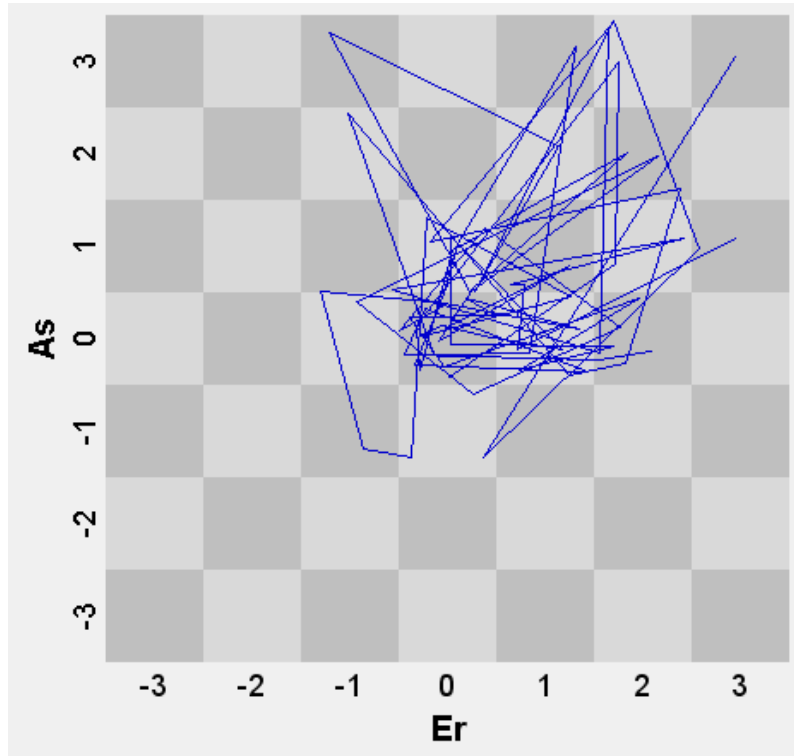

Note. Empathy response (ER), -3 = Denial, -2 = Perfunctory recognition, -1 = Implicit recognition,
0 = neutral, 1 = Pursuit, 2 = Confirmation, 3 = Stimulation and reconstruction; Autonomy support (AS),
-3 = Explicit Autonomy Diminishing, -2 = Directive Instruction -1 = Feedback, 0 = Neutral,
1 = Providing information/Asking Questions, 2 = Scaffolding, 3 = Autonomy support

In the time series analysis, the data was examined for potential patterns in dynamical interactions. The time-series data for empathy response and autonomy support showed several patterns that were found across all recordings. These dynamics can be summarized in four categories: short interactions of asynchronicity, short interactions of synchronicity, longer periods of synchronicity, and periods that had almost no empathy response and autonomy support. The short moments of asynchronicity were characterized by 2 – 4 utterances after each other where one concept had positive values followed by the other having negative values or vice versa (example in Figure 15, Dyad 644, Session 2). In 16 instances, high empathy response was in asynchronicity with low autonomy support, and in 11 instances high autonomy support was in asynchronicity with lower empathy response. Moreover, short moments of synchronicity were characterized by 2 – 4 utterances after each other where either positive values or negative values were matched (example in Figure 15, Dyad 631, Session 3). There were 58 points of short synchronicity with positive values and 30 points of short synchronicity with negative values. The overall data showed several points where longer synchronicity (more than four data points synchronized) was visible in the time-series data. There are 10 observed times of longer synchronicity in the data overall. These patterns were characterized by either lower values followed by higher values in synch, or vice versa (example in Figure 15, Dyad 644, Session 2). In four recorded sessions, there were visual salient periods of neutral interactions, sometimes even lasting for a whole session (example in Figure 15, Dyad 627, Session 2)

Figure 15

Excerpts from Coach-Coachee-dyads showing Empathy Response (ER) and Autonomy support (AS)

Dyad 644, Session 2

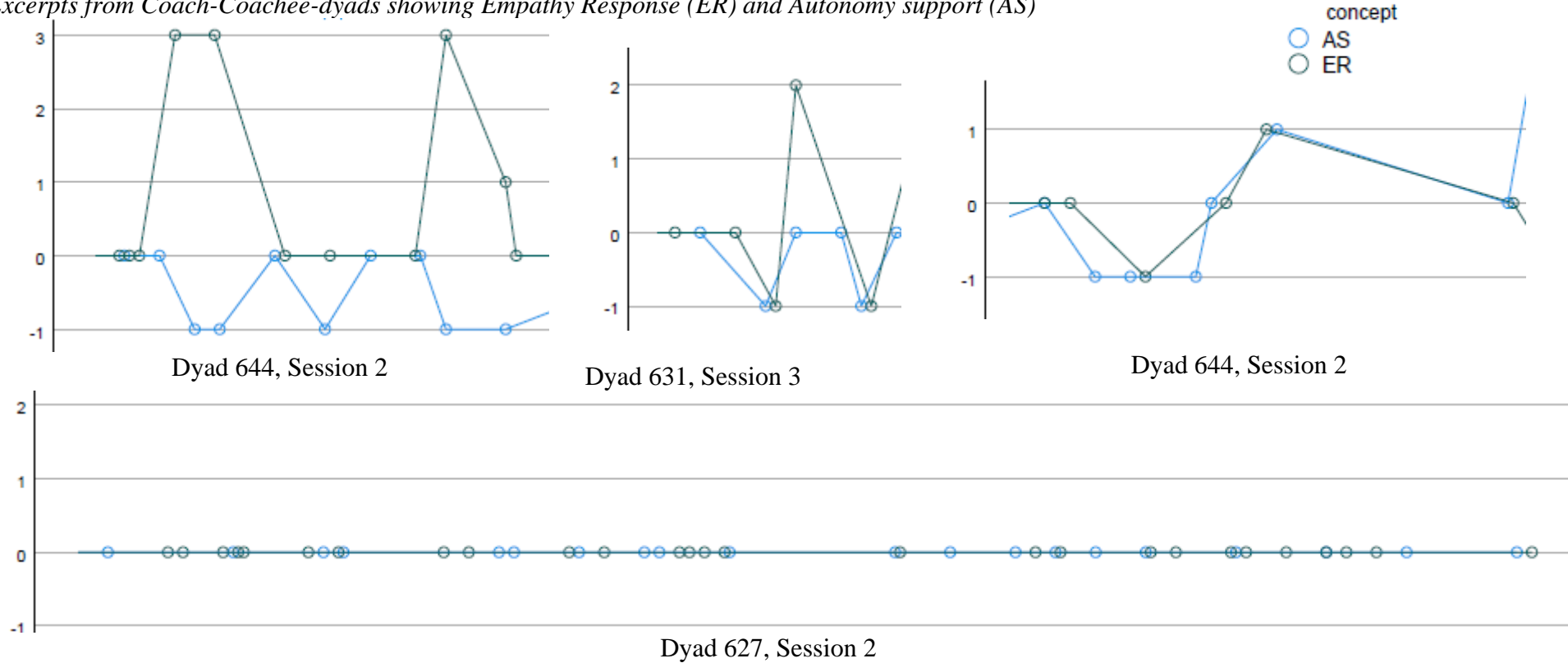Dyad 631, Session 3

Dyad 644, Session 2

Dyad 627, Session 2

Note. Empathy response (ER), -3 = Denial, -2 = Perfunctory recognition, -1 = Implicit recognition,
0 = neutral, 1 = Pursuit, 2 = Confirmation, 3 = Stimulation and reconstruction; Autonomy support (AS),
-3 = Explicit Autonomy Diminishing, -2 = Directive Instruction -1 = Feedback, 0 = Neutral,
1 = Providing information/Asking Questions, 2 = Scaffolding, 3 = Autonomy support
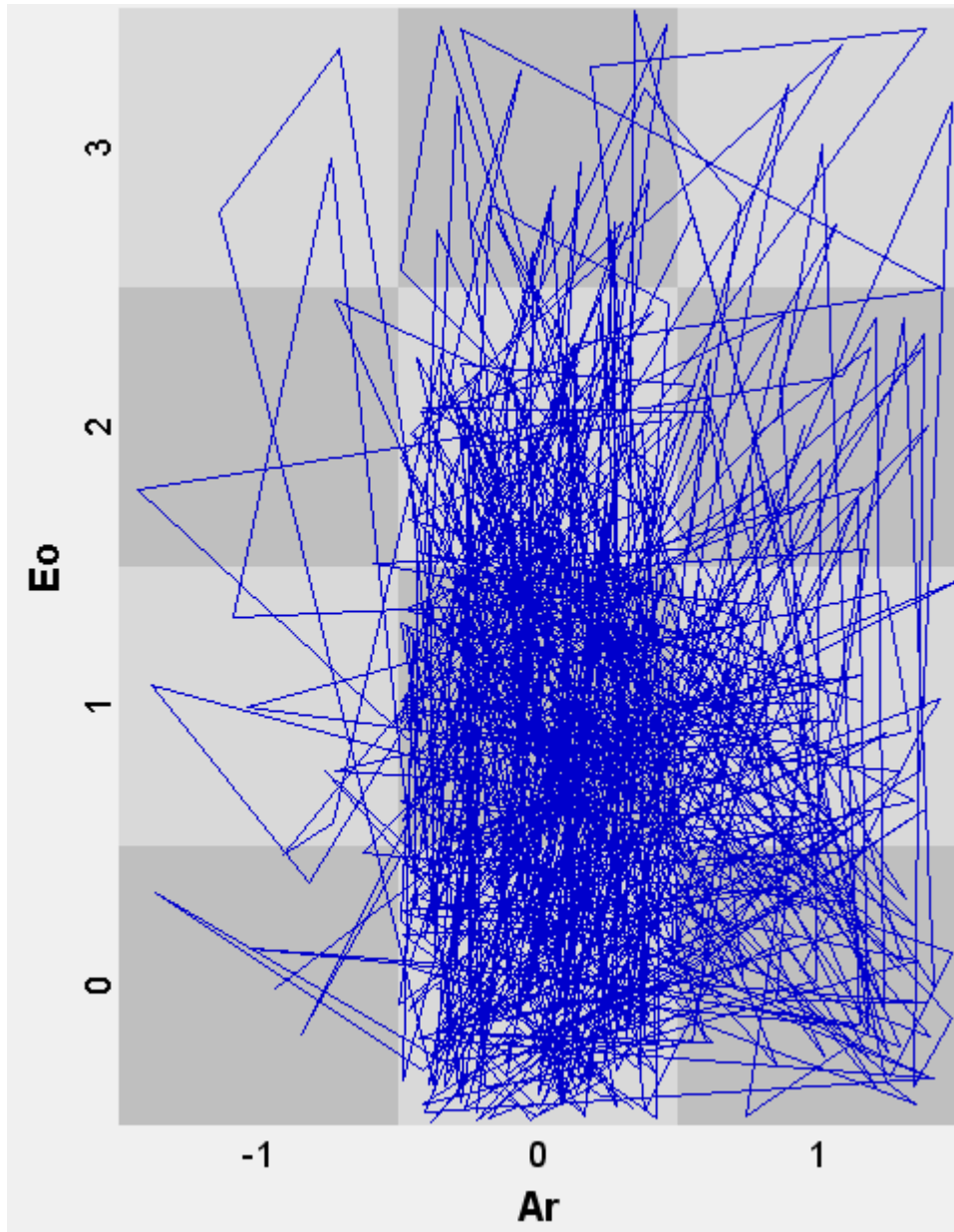
Autonomy Response – Empathy Opportunity

Macro -Analysis. To examine the relationship between autonomy response and empathy opportunity within the coachee, the correlation coefficient was calculated between the two variables. The correlation was not statistically significant (r = -.017, p = .658). In the examination of the state space grid of all coaching sessions (Figure 16), it can be observed that most autonomy response by the coachee was neutral, while empathy opportunity was evenly spread across 0 –*neutral,* 1 – *implicit challenge or progress statement* and 2 – *explicit challenge or progress statement.* Moreover, 1 – *engaged* autonomy support was also associated with evenly spread empathy opportunity spread across values from 0 to 3. A -1 – *dismissive* autonomy response was less common across the data.

Micro-Analysis. The state space grid micro examination per coachee shows that there seemed to be different dynamic patterns that arose in individual interactions. These dynamics can be summarized in three categories: empathy opportunity – neutral dynamic, overall positive dynamic, and disorganized dynamic. Empathy opportunity – neutral dynamics were characterized by more explicit empathy opportunities that occurred mostly with neutral autonomy response within the coachee (example in Figure 17, Dyad 631). Moreover, an overall positive dynamic was characterized by many interactions in the positive value quadrant, meaning that explicit empathy opportunities were met with an engaging autonomy response within the coachee (Example in Figure 17, Dyad 629). Finally, disorganized dynamics were characterized by interactions that were spread across positive and negative values with no apparent pattern (Example in Figure 17, Dyad 620).

Figure 16

State Space Grid of all Coaching Sessions Showing Autonomy Response (AR) and Empathy

Opportunity (EO)

Note. Autonomy Response (AR), -1 = Dissmissing, 0 = Neutral, 1 = Taking Initiative;
Empathy opportunity (EO), 0 = neutral, 1 = implicit challenge or progess statement, 2 =
explicit challenge or progress statement, 3 = explicit emotion statement

Figure 17

State Space Grids of Coach-Coachee Dyads showing Autonomy Response (AR) and Empathy Opportunity (EO)
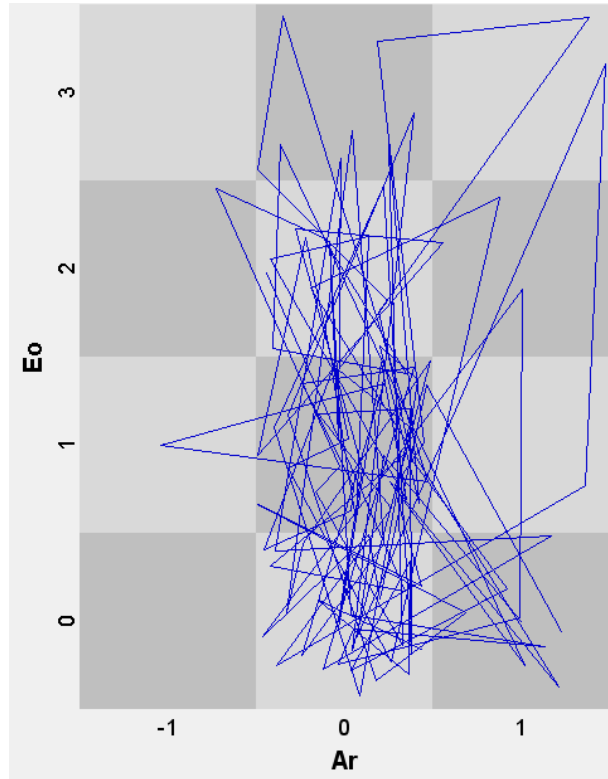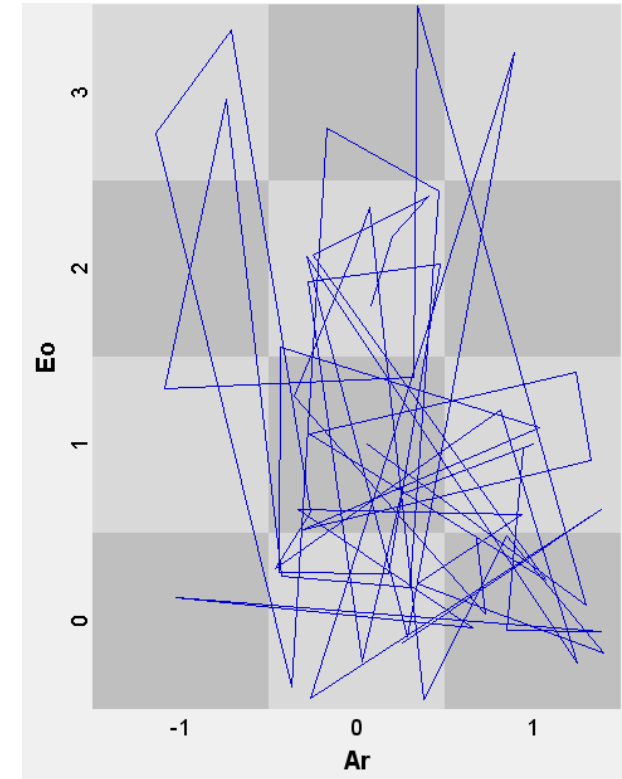
Dyad 631   Dyad 629   Dyad 620

Note. Autonomy Response (AR), -1 = Dissmissing, 0 = Neutral, 1 = Taking Initiative; Empathy opportunity (EO), 0 = neutral, 1 = implicit challenge or progess statement, 2 = explicit challenge or progress statement, 3 = explicit emotion statemen

In the time series analysis, the data was examined for patterns in dynamical interactions. The time-series data for autonomy response and empathy opportunity within the coachee showed four distinct patterns: short moments of synchronicity, short moments of asynchronicity, longer periods of synchronicity, and neutral interactions. Short moments of synchronicity were characterized by 2 – 4 utterances where positive values were matched (example in Figure 33). There were 37 points of short synchronicity in the time series data. The overall data showed several points where longer synchronicity (more than four data points synchronized) was visible in the time-series data. There were 7 observed times of longer synchronicity in the data overall (example in Figure 34). Moreover, the short moments of asynchronicity were characterized by 2 – 4 utterances where empathy opportunities were present while a dismissive autonomy response was present (example in Figure 34). Interestingly, across the data, there were only 22 times that autonomy response was dismissive throughout the data. Of these 22 dismissive autonomy responses, 15 were in asynchronicity with empathy opportunity. Therefore, when a dismissive autonomy response occurred, it was most often in asynchronicity with empathy opportunity. In eight recorded sessions, there were visual salient periods of only neutral interactions, sometimes lasting for a whole session. An example of a neutral interaction can be found in Figure 35.

Figure 18

Excerpts from Coach-Coachee-Dyads showing Autonomy Response (AR) and Empathy Opportunity (EO)

Dyad 629, Session 2

Dyad 620, Session 3
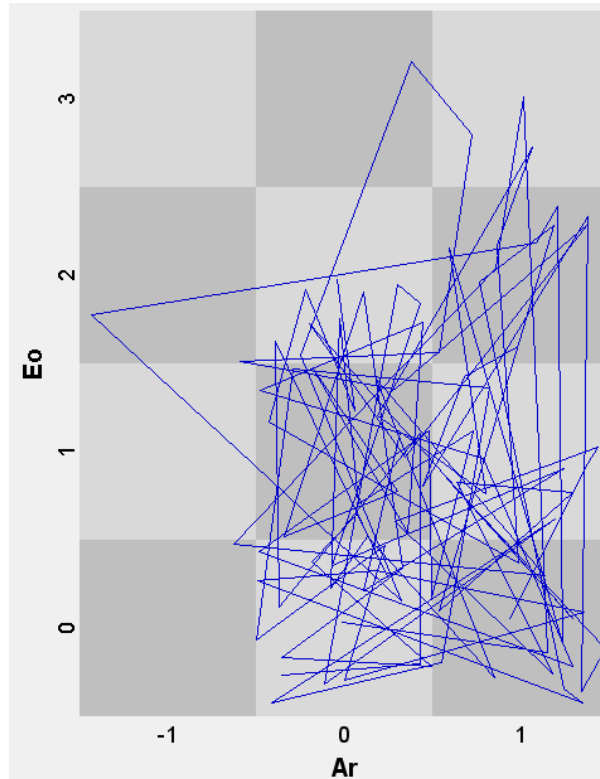
Dyad 629, Session 3

Dyad 644, Session 1

Note. Autonomy Response (AR), -1 = Dissmissing, 0 = Neutral, 1 = Taking Initiative; Empathy opportunity (EO), 0 = neutral, 1 = implicit challenge or progess statement, 2 = explicit challenge or progress statement, 3 = explicit emotion statemen
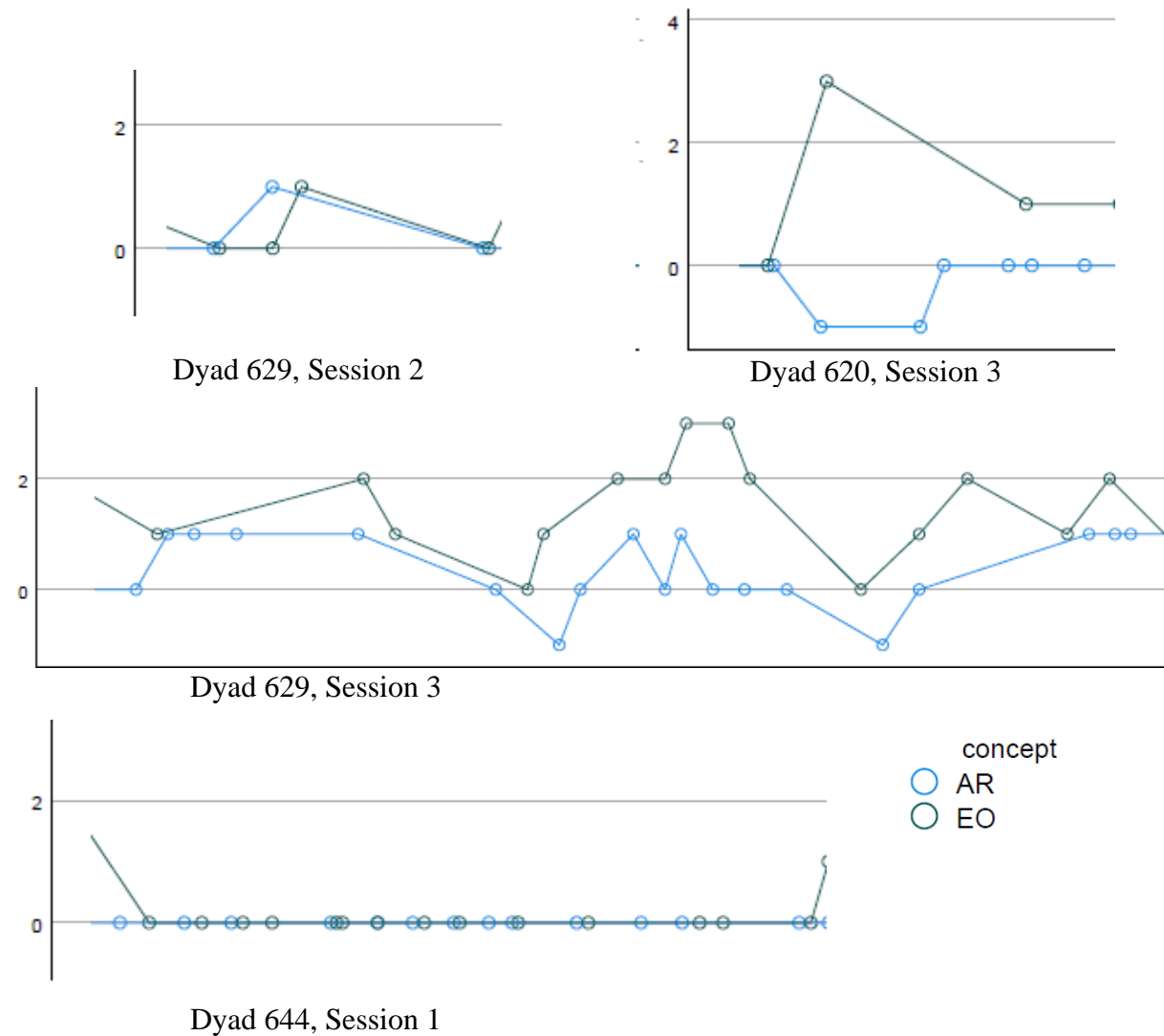
Discussion

Figure 19

Conceptive Framework Completed with Results of this Study
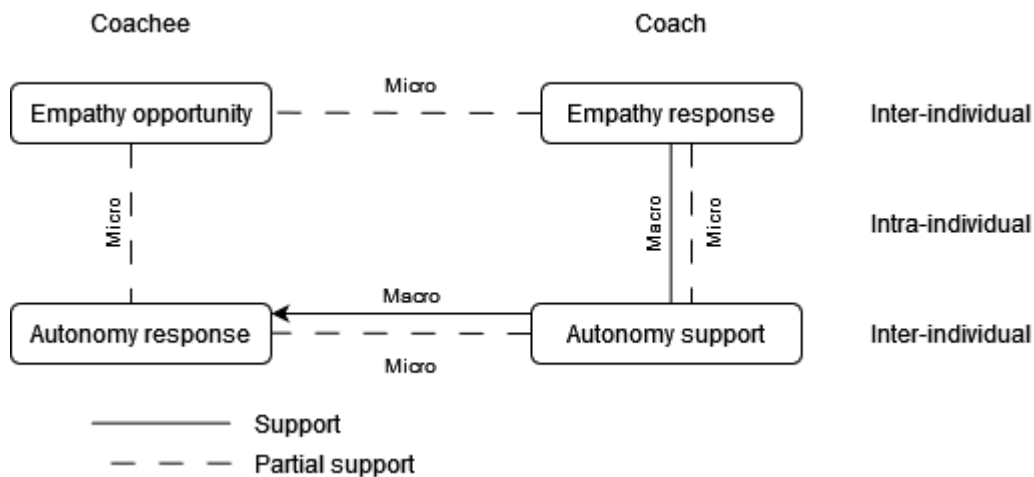
Interpersonal level

Empathy Opportunity by the Coachee – Empathy Response by the Coach

The interest of the current research was to investigate how empathy opportunity by the coachee is related to the empathy response of the coach on a micro and macro level. It was expected that more empathic expression by the coachee leads to more empathy response by the coach and that both concepts are positively related. Our analysis showed that empathy opportunity and empathy response had no relation on a macro level. Although there were overall consecutive interactions, most interactions were neutral. On a macro level, there was no evidence for the hypothesis that empathy opportunity by the coachee was related to empathy response by the coach. On a micro-level there was a mismatch between empathy opportunity and empathy response in different dyads: The coach or the coachee showed mostly neutral responses to empathy opportunities or responses. Finally, some coach-coachee dyads showed indeed that more explicit empathy opportunities lead to more empathy responses. Interestingly, periods of synchronicity (both concepts were relational for more than two points, hence both had positive or negative values simultaneously), as well as asynchronicity (both concepts were inversely proportional for more than two points, one had

high, while the other had low values, or vice versa), were present. Therefore, on the micro level, empathy opportunity by the coachee lead to more empathy response by the coach, however, that was only found for a minority of coach-coachee dyads. This implies that only some dyads matched their empathy expression to each other, meaning that the coach responded in an empathic manner to an empathic opportunity, and vice versa. There seemed to be dyadic emergence of empathy for these coach-coachee-dyads where the expression of empathy of either side led to more empathy expression.

The finding that different coach-coachee dyads have fundamentally different interactive dynamics for empathy is in line with research in the field that empathy emerges throughout the coaching sessions and is determined by contributions from the coachee and the coach (Bohart et al., 2002). Moreover, these findings are partly in line with research from the coaching domain that found that a more empathic response from the coach leads to longer periods of empathic expression by the coachee (Bylund & Makoul, 2005), which has been shown by some coach-coachee dyads. Furthermore, Bylund and Makoul (2005), also found that there is no overall relation between empathy opportunity by the coachee and empathy response by the coach, against their expectations. The researchers stated that more explicit empathy opportunities might make the coach uncomfortable, so they try to neutralize feelings. This study also found that more explicit empathy opportunities were mostly met with neutral responses instead of empathic responses (Figure 6).

Finding no overall relation between empathy opportunity and empathy response is unexpected and the micro-analysis data can give possible insights into that. It can be seen in the state space grid analysis and the time-series data that the emergence of empathy in coaching sessions is highly dependable on the context. There are coach-coachee dyads where empathy emerges as expected, but also dyads where empathy develops unexpectedly, or dyads where empathy is barely emerging at all. This can have several possible explanations. One explanation can be that the coaches were part of the coaching course to learn the skills to

effectively coach, therefore, beginners. Although they were already at the end of the coaching course, they still potentially lack the experience and routine to reliably react to empathy opportunities. Moreover, there might have been differences in the way a working relationship was established. Empathy can depend on the way the coach establishes a safe environment for the coachee and makes the coachee comfortable with sharing their emotions (Elliot et al., 2011). Furthermore, social context can play a role. The coaching trajectory was a mandatory part for the beginning teachers as well as the coaches. Therefore, there might have been power dynamics, or feelings of pressure at play that have been shown to influence the emergence of empathy in an interactional context (Verhofstadt et al., 2008). For example, through the fact that the coaching was mandatory, the coachees might have perceived the coach as somewhat asserting authority. Finally, studies have shown that more empathy is present between coach-coachee dyads that share more similarity in their behavior and mimic (Elliot et al., 2011), which can lead to individual differences between dyads.

The finding in the data that there is asynchronicity between empathy opportunities from the coachee and empathy response from the coach is unexpected. Interestingly, negative values for the coach, e.g., -1 – *Implicit recognition* were following and preceding more explicit empathy opportunities by the coachee. Negative values in empathy response are characterized by using clichés, giving advice, labeling, or giving little to no attention to what the coachee said. Possible explanations for implicit recognition following an empathy opportunity could be missing skills from the coach, e.g., that the coach does not know how to respond in an effective empathic manner, so they respond with less qualitative empathic responses, which are clichés or advice. This would be in line with research from Kramers and colleagues (2020), which found that experienced coaches skills transfer better into the coaching sessions than coaches with less experience.

Autonomy Support by the Coach – Autonomy Response by the Coachee

The second research interest of this study was how autonomy support by the coach and autonomy response by the coachee are related on a macro and micro level. It was hypothesized that both concepts are positively related and more autonomy support is associated with more autonomy response and vice versa. The analysis showed that autonomy support significantly predicts autonomy response on the macro-level. Therefore, there is evidence for the hypothesis that autonomy support and autonomy response are positively related on a macro level. Micro-level analysis revealed that there were different dynamics between different coach-coachee dyads. In some dyads, autonomy support led to a more engaged autonomy response and vice versa, while in some dyads the interaction was disorganized and not following a recognizable pattern. Moreover, there were many neutral interactions, showing that when one concept was not present, the other one also was not present. Finally, the time series data analysis showed that there were long periods of synchronicity in the data, with limited moments of asynchronicity. Therefore, there is evidence for the hypothesis that autonomy support and autonomy response are positively related on a micro-level, although there were different dynamics between different dyads. This implies that when the coach provides autonomy support to the coachee, the coachee reacts to that autonomy support in an engaged manner. Moreover, also the coach responds to an engaged autonomy response with more autonomy support. Autonomy support is giving the coachee active stimulation of their autonomous choices. Therefore, the coachee reacting to the autonomy support shows that the coachee was inspired and stimulated in their autonomy by the support that the coach provided. Consequently, it seems that when the coach noticed that the coachee is engaging to the autonomy response, the coach provided more support to further lead the coachee to more autonomy.

This evidence is in line with past research that showed that the coach's level of autonomy support directly influences the autonomy response from the coachee (Kupers et al.,

2015). Moreover, it has been shown that autonomy support from the coach and autonomy response from the coachee are a dynamical process that develop over time throughout several sessions (Kupers et al., 2015; Rocchi et al., 2017). The findings in this study for autonomy support and response were overall expected. However, it was unexpected that there was not a clear pattern of more occurrence on the macro level of autonomy support and response in the coach-coachee dyads where autonomy support and response was found often. From the existing research body, it could be expected that not only autonomy support and response are related, but also that there would be reliably more autonomy expression over time (Kupers et al., 2015; Rocchi et al., 2017). Moreover, micro-analysis has shown that indeed autonomy support and response can occur more often, as individual micro-patterns have shown. One potential reason for this unexpected finding is, as already mentioned earlier, that the coaches were involved in their first coaching sessions after training and might have not had enough experience to sufficiently focus on autonomy support. Therefore, autonomy expression might be dependent on the skill level of the coach which is in line with studies showing that less experienced coaches show less autonomy support (Reynders et al., 2019) Moreover, the coachee themselves might have not been that focused on their goals, which then led them to be less engaged in general towards the utterances from the coach. It has been shown that people that are less goal-focused in one domain (here potentially their skills as teachers) are also less engaged in related content (So potentially information that is related to teaching, Jones et al., 2017). Another potential reason can be that the coaching sessions were not specifically focused on autonomy support. The syllabus of the coaching course involved several autonomy focused interventions such as motivational interviewing and solution-focused coaching. However, also coaching styles such as cognitive behavioural coaching and psychodynamic coaching has been taught. Therefore, the focus of the coaches in this study might not have been to support the autonomy of the coachee per se, although they were instructed to focus on the goal of the coachee.

Intrapersonal level

Empathy Response and Autonomy support within the coach.

The third research interest was, initially in the research body, to investigate whether empathy response and autonomy support from the coach were related. It was hypothesized that more empathy response leads to more autonomy support and vice versa and that these two concepts are positively related on a macro and micro level. The results revealed that empathy response was indeed positively related and that more empathy response was associated with more autonomy support was observed, although there was much neutral interaction present. Therefore, the hypothesis was supported on a macro level. Micro-level analyses revealed that empathy response and autonomy support were positively related only for some coaches. Periods of asynchronicity and purely neutral interactions have been observed across the sessions. Therefore, there was partial evidence on the micro-level for autonomy support and empathy response being positively related. This finding implies that coaches that are skillful in empathy response are also skillful in autonomy support, and vice versa. These coaches show high application of coaching skills. On the other hand, coaches that show less empathic responses also are less autonomy-supportive, and vice versa.

These findings are in line with research that claims that empathy and autonomy support are related and that they both develop throughout interaction (Deci et al., 1996; Nienhuis et al., 2018). Moreover, especially the mixed finding regarding that there was evidence only found for some coaches is in line with research that showed that specific coaches that show higher autonomy support respond with higher empathy towards the coachees (Nienhuis et al., 2018). Furthermore, the research is in line with previous research finding that autonomy support is more often elicited from individuals that are more empathic (Batson & Shaw, 1991; Gillet et al., 2010). For example, when an individual can take the perspective of the other, it might be easier to also give autonomy support fitting to their perspective. These findings were overall expected, except for the finding that this relationship

is only observed for some coaches, while not for others. This might be explained by the earlier explained argument that the coaches might not have enough training and experience to respond well and connect empathy response with autonomy support.

Autonomy Response and Empathy Opportunity within the Coachee

Finally, the last research interest was in examining the relation between autonomy response and empathy opportunity within the coachee. It was expected that more autonomy response leads to more empathy opportunities and vice versa. It was found that there was no relation between autonomy response and empathy opportunity on a macro-level, therefore, no evidence was found for the hypothesis on the macro-level. Micro-level analysis revealed mixed results. On one hand, clear interactions and relatedness have been observed through synchronized interaction for some coachees. On the other hand, there were clear opposing interactions where dismissive autonomy response was mostly met with empathy opportunities. Therefore, evidence for and against the hypothesis that autonomy response and empathy opportunity are related was found. This implies that autonomy response and empathy opportunity have little relation with each other. Coachees who are talking about their emotions are not engaged in autonomy. On the other hand, coachees who are engaged in autonomy do not often share their emotions simultaneously.

The findings on the macro-level are partly in line with previous research showing that when autonomy is primed in interaction, more empathy expression is observable (Weinstein et al., 2010). The finding that more controlled environments, so environments that are primed for the opposite of autonomy, lead to less empathic expression could not be thoroughly examined in this study as there was very little dismissing autonomy response. However, when autonomy dismissing response was present, it was most often associated with empathy opportunities, which is contrivers to the finding by Weinstein and colleagues (2010). The mixed result is partly in line with research showing that autonomy response is related to empathic expression (La Guardia et al., 2000). The results of the current study were partly

expected. However, it was unexpected to find that only some coachees have had the expected interaction of autonomy response and empathy opportunity on the micro-level.

One possible reason for that finding is that individual differences between coachees might hinder the link between autonomy response and empathy opportunities. It has been found that self-awareness (Salovey et al., 1996; Wranik et al., 2007), and knowledge about emotions (Wranik et al., 2007) are predictors for empathy expression. These factors might be important predictors for coachees to have a predictable link in autonomy response and empathy opportunity. When coachees lack selfßawareness or do not have in-depth knowledge about their emotions, they might not give that many empathy opportunities. Another potential reason is individual differences in autonomy beliefs such as self-efficacy can potentially be a moderator for the link between autonomy response and empathy opportunity. Teachers with higher self-efficacy showed more empathy expression (Goroshit & Hen, 2016). Therefore, low self-efficacy might be a limiting factor for the belief that one can be autonomous and weaken the link between autonomy response and empathy expression. Finally, as already mentioned earlier, the coaching was mandatory for the coachees and that might have several potential implications for this obtained result. First, the mandatory aspect of the coaching might have decreased feelings of autonomy. Second, there might have been felt, which can inhibit the expression of empathy (Verhofstadt et al., 2008), or finally, they might not have taken the coaching as seriously.

Another unexpected finding was that a dismissing autonomy response was mostly connected to an empathic opportunity, while the opposite was predicted. For a possible explanation, it is worth taking a closer look at how exactly dismissive autonomy responses are characterized. A dismissive response is characterized by resistance to autonomy support or the change to an unrelated topic (Appendix 1, Table 4). Either, the coachee argues against the coach's autonomy support or is starting with a new topic. Especially the latter can be a possible explanation. When the coachee does not know how to respond to a question from the

coach, or when the coachee wants to introduce a different topic to talk about, they might dismiss the autonomy support and share an empathic opportunity instead.

Practical Implications

The findings of this study suggest several practical implications. First of all, this knowledge can be used and applied by coaches to enhance the quality of their coaching sessions. The focus can be on a qualitative empathy response such as stimulation and reconstruction, meaning that the coach takes the emotion of the coachee and relates it to the bigger context (Young, 2017). For example, a coach can focus more consciously on identifying an emotion in what the coachee has said, to then respond to it in an empathic way. More concrete that would mean that when the coachee provides a more implicit opportunity such as: "The students thought my teaching was boring, that was bad.", the coach can respond by identifying the underlying emotion and setting it to the context of the coachee's goals such as: "I see that you are frustrated that your students said your teaching was boring because that collides fundamentally with your wish to be an interesting teacher." Moreover, coaches can consciously focus on the quality of their autonomy response so that they provide more autonomy-supportive answers. Autonomy support helps the coachee to broaden their view on their options, without giving them direct advice (Young, 2017). For the example examined earlier about the students finding the teaching of the teacher boring this could mean asking the coachee: "Can you think of possibilities to make your teaching more interesting to your students?"

Beginning teachers and coachees can benefit from coaching sessions when they are open to the process of coaching, sharing their emotions, and engaging with the responses from the coach. This study showed that coaching is a developmental process between the coach and the coachee. Coachees can enhance their experience and outcomes by being active in the sessions and communicating with their coaches. As it has been shown, more empathy opportunities and autonomy response are connected to empathy response and autonomy

support. Therefore, they get more empathy responses and autonomy support from the coach when they are opening up more about their emotions and engaging more with the suggestions by the coach.

For universities and institutions that train coaches, the results of this study imply that coaches can be trained more specifically for empathy response and autonomy support. Coaches can be educated more on the importance of empathy responses and autonomy support in the coaching setting and the dynamic emergence of empathy and autonomy. The coaching skills learned such as the ones used for the University of Groningen by Young (2017) can be put in the context of empathy and autonomy response. It can be explained that skills such as reflecting meaning are highly empathic and the potential impact this empathy response can have on the coachee. Moreover, the focus of the programs can be on techniques that amplify empathy by the coach, such as emotion-focused coaching (Greif et al., 2022). Furthermore, another focus in programs can be on techniques that entail autonomy support as a main pillar for coaching such as motivational interviewing (Greif et al., 2022). When institutions emphasize techniques such as emotion-focused coaching and motivational interviewing, this can lead to not only enhancing empathy and autonomy expression in coaching sessions but also in more stimulation of empathy and autonomy for coachees.

Strengths and Limitations

This study gives insights into the complex moment-to-moment interactions of empathy and autonomy expression in coaching sessions. More specifically, it was the first study to date to examine the interplay of empathy and autonomy. Another novelty was, that the interaction of empathy and autonomy was examined on the intra-personal level of the coach and the coachee respectively. Examining different essential concepts that are present in coaching sessions can help to understand the dynamics that potentially lead to successful results in coaching and to the best possible outcome for coachees and their goals. These findings are

relevant as the research on coaching is growing but still scarce (Jones et al., 2016), especially on moment-to-moment interactions and the dynamic that is present in individual sessions.

One strength of this study is the observational approach. As evident in the results of this study, there can be large inter-individual differences in different coach-coachee dyads which make relationships harder to examine. Some of these results show evidence on the micro-level, but not on the macro-level. The advantage of this observational approach was that moment-to-moment interactions and dynamics such as synchronicity were observed and documented so that their relation was made salient. Another advantage was the data analysis to investigate the relationship between empathy and autonomy. Using two different ways of visualizing the data through the state space grid analysis and the time series data gave a comprehensive and integrated overview of the interaction between the coach and coachee. As evident in the results and discussion of this study, both measures to visualize and analyze the data gave different insights and results due to the different approaches to the data.

This study has mentionable limitations that will be discussed in the following. First, as mentioned earlier, the coachees were taking the coaching sessions as a mandatory part of their course. This in itself can be a threat to autonomy and might have influenced the result of autonomy response and dampened the feeling of autonomy. Future research can use a sample of coachees that voluntarily and autonomously choose to get coached, or control for the perception of autonomy to consider that factor. Second, this study took a solely observational approach to coaching sessions. This can be an advantage to assessing empathy and autonomy as self-report measures can sometimes not be accurate (Scapaletti, 2011). However, this study did not investigate if the environment was perceived as empathic and autonomy supportive by the coach and coachee and the potential difference that might make. Future research should consider a mixed method approach where self-report measures and observations can be combined to get an even more comprehensive overview of the interactions between coach and coachee and the results in autonomy and empathy. Finally, one aspect is that there was no

second coder for this study. The author tried to find a colleague that could support them with coding. Unfortunately, as the current project took longer than expected, no one could be found to support the author with the time-consuming task of coding up to 28 hours of material. Missing a second coder potentially inhibits the reliability of the coding progress and the data might be prone to bias. Studies are needed that take at least two coders and the inter-rater reliability into consideration to replicate this study and to further examine the relationship between empathy and autonomy.

This study was assessing empathy and autonomy of coaching sessions led by coaches that were beginners and, therefore, might have lacked the experience to apply empathy and autonomy support adequately. Across the study, it was observed that there were individual differences between dyads and also between coaches, showing that in some dynamics empathy response and autonomy support were more present by the coach. As discussed earlier, inexperienced coaches might improve their technique over time, as they are focused on many different aspects of a coaching session in the beginning and lack practice. Future research should use a sample with more experienced coaches, or control for experience, to potentially yield more generalizable and robust results.

Conclusion

This study used a novel approach to examine the interaction of empathy opportunity and response and autonomy support and response in coaching sessions of beginning teachers. This study found that there were mixed results on the relationship between empathy opportunity by the coachee and the empathy response of the coach. Moreover, there was evidence that autonomy support by the coach and autonomy response by the coachee were predominantly related. Furthermore, empathy response and autonomy support within the coach were predominantly related. Finally, autonomy response and empathy opportunity yielded mixed results. The study used a beneficial holistic approach to data analysis to get a

comprehensive overview of the moment-to-moment interaction of coach and coachee. Future

research should yield mixed-method approaches with experienced coaches.

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Appendix

Table 1

Empathy Opportunity Coding Scheme

Level	Description	Example
Category 0 Neutral	A statement that involves no emotional content	
Category 1 Implicit challenge or progress statement	An indirect statement by the coachee about a positive or negative development in physical or psychosocial condition that had a positive or negative effect on their quality of life.	"The students were not listening to me"
Category 2 Explicit challenge or progress statement	A direct statement by the coachee about a positive or negative development in physical or psychosocial condition that had a positive or negative effect on their quality of life.	"By practicing my teaching skills, I managed to reach out to my students in a better way"
Category 3 Explicit emotional feeling statement	The coachee describes feeling an emotion. The emotion is felt at the present time or has been felt in the past. May be related to a physical problem, a psychosocial concern and may be positive or negative	"I am afraid that my student will not listen to me"; "I am so proud of myself for working so hard on that goal"

Table 2

Empathy Response Coding System Levels

Level	Name	Description	Example	Description of Examples
3	Stimulation and Reconstruction	Coach shows evidence of deep understanding of coachee's point of view, not just for what has been explicitly stated but what the coachee means but not yet said. Coach actively stimulates the coachee to become more self-aware, and to gain a structured overview of the problems, without jeopardizing the cooperative therapeutic relationship.	Self-disclosure; reflecting meaning; challenging skills (giving feedback & confrontation); positive relabeling (reframing); compliment	Self-disclosure: the coach discloses a personal experience; Reflecting meaning: coach grasps deeper insight or the underlying meanings of coachee's story; Challenging skills: (1) *Giving feedback*: providing information and the coach's honest reaction to the coachee; (2) *confrontation*: the coach point out discrepancies or inconsistencies and blind spots in the coachee's story. Positive relabeling (Reframing): the coach comes up with a new, more constructive definition of the problem that fits the facts just as accurately as the old definition. Compliment: a polite expression of praise or admiration.
2	Confirmation	Coach makes active and repeated efforts to understand coachee's worldview. Coach shows evidence of accurate understanding of coachee's point of view, although mostly limited to explicit content.	Reflecting feelings; reflecting content (paraphrasing); summarizing	Reflecting feeling is a helping response that accurately identifies the coachee's emotions based on his or her verbal or nonverbal messages. Reflecting content (paraphrase): is a distilled version of the content of the coachee's message. The content includes significant facts, thoughts, and intentions. Summarizing: is a technique in which the coach provides a distilled version of facts, feelings, and meanings that covers everything the coachee has said up to that point.

| 1 | Pursuit | The coach explicitly acknowledges the central issue in the empathic opportunity and pursues the topic with the coachee by asking the coachee a question | Inducing questions (open &closed questions) door openers | Open questions: direct the coachee to talk about a particular subject but are less demanding in comparison to closed questions. Although they may suggest an area for exploration, they give the coachee a wider range of possible responses. Because of this, they encourage the coachee to open up rather than supply a single piece of data. Closed questions: require short, factual responses, yes/no responses, or a specific answer. Door openers: are invitations to talk. They are requests for the coachee to continue or expand. |

| 0 | Acknowledge-ment | Coach explicitly acknowledges the central issue in the empathic opportunity but does not pursue the topic. | Minimal encouragers; parroting, Statement unrelated to empathy | Minimal encouragers: are short supportive statements that indicate that the coach is paying attention and understands the coachee. They are useful to nudge the coachee to continue yet they do not intrude and distract. Parroting: To merely repeat what the coachee has said is not empathy but parroting. Counsellors who "parrot" what the coachee said, do not understand the coachee, are not "with" the coachee, and show no respect for the coachee. Empathy should always add something to the conversation. |

-1	Implicit recognition	Coach makes sporadic efforts to explore the coachee's perspective. Coach's understanding may be inaccurate, or may detract from the coachee's true meaning, or may not honor the coachee's self-value.	Distracting questions/ statements; using Clichés; giving advice/ suggestion/ teaching; labelling; describing/	Distracting question: the coach response with a distracting question, which ignores key messages in the coachee's story. The coach winds up changing the focus of the conversation. Specifically, it is easy to be distracted from what other people are saying if one allows oneself to get lost in one's own thoughts or if one begins to think what one intends to say in reply. Counsellors are also often distracted because they have problems of their own, feel ill, or because they become distracted by social and cultural differences between themselves and their coachees. All these factors result in distracting questions. Using Clichés: Clichés are hollow, and the coach communicates the message to the coachee that his or her problems are not serious. E.g., saying: "I know how you feel" because the coach doesn't.
-2	Perfunctory recognition	Coach gives an automatic, scripted-type response, giving the empathic opportunity minimal recognition	Little or no attention	Coach gives an automatic, scripted-type response, giving the empathic opportunity minimal recognition
-3	Denial/ disconfirmation	Coach either ignores the coachee's empathic opportunity or makes a disconfirming statement.	Denial/ disconfirmation; irrelevant response; argument with the coachee; judgmental statement	Coach either ignores the coachee's empathic opportunity or makes a disconfirming statement or argue with the coachee

Table 3

Autonomy Support Coding System Levels

Level	Name	Description	Example
3	Autonomy support	Questions fostering direct autonomy Provides opportunity for input Encouraging intrinsic interest Referring back to goals (G, Skill)	"Can you think of possibilities of action you have right now?"; "What part about that goal do you enjoy most doing?"; Referring back to goals and subgoals gives the coach and coachee a chance to evaluate to what extent their goals have been met, and to what extent the problem has been resolved.
2	Scaffolding	Points out meaningful choice Encourages initiative taking Positive relabelling (skill)	"I hear that you seem to have different options here"; "About this option you seemed most optimistic"; Positive relabelling means giving a new, positive name or meaning to the original, negatively viewed issue
1	Providing information/asking questions	Explanatory statements Psychoeducation Asking questions focused on autonomy	Psychoeducation is a form of health promotion aimed at raising a person's awareness of factors that promote or compromise wellbeing. Through psychoeducation, people gain the skills and understanding that lead to behaviour change and better quality of living. Open questions focused clarification and/or elaboration on topics regarding the coachees autonomy.
0	Neutral	Minimal encouragers	
-1	Feedback	Uttering answers/solutions Deadline statements	Statements revealing the solution of a problem without the coachee coming to the conclusion themselves; Stating how many minutes the session has left or pointing out the time the coachee still has left to achieve a goal
-2	Directive Instruction	Extrinsic rewards Uttering instructions Making should statements	Statements of what the coachee should, ought, must, has to do.

| -3 | Explicit Autonomy Diminishing | Controlling language Negative conditional regard Criticizing | Directives posed as a question and voiced with the intonation of a question; Not paying attention to the coachees input; changing the topic; disapprovals of the coachee or coachees lack of compliance to the coaches statements |

Table 4

Coding Scheme for Autonomy Response by the Coachee

Level	Name	Description	Example
1	Taking initiative	Engaged reaction	
0	Neutral	Neutral, related response	
-1	Dismissing	Resistant, not responding, unrelated topic	