

**APPLIED COGNITIVE PSYCHOLOGY DOCTORAL SCHOOL**

**SUMMARY OF THE Ph.D. THESIS**

**THE FUTURE OF WORK: MULTIDISCIPLINARY AND MULTI-  
LEVEL PERSPECTIVES ON MAJOR TRANSITIONS IN THE TIME  
OF SUSTAINABLE DEVELOPMENT GOALS**

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## I. CHAPTER I. THEORETICAL FRAMEWORK

### 1.1. Introduction to the Research Subject

In 2015, the United Nations developed the 2030 Global Agenda and the 17 Sustainable Development Goals (SDGs) in order to strengthen the commitment to sustainable social, economic, and environmental development. Achieving sustainable development also means facing significant global changes and adapting to complexity (Allen & Malekpour, 2023; Mishra et al., 2023). Major transitions such as the COVID-19 pandemic, digital transformation and reliance on technology, the growing implementation and prevalence of hybrid work, as well as organizational changes that span international borders have important consequences in terms of health and well-being (Goal 3), gender equality (Goal 5), decent work (Goal 8), and integrative potential of multi-stakeholder partnerships (Goal 17).

Major transitions entail change and uncertainty and may hinder, accelerate, or have mixed effects on achieving sustainable development. As these events affect our society at multiple levels of analysis (Malekpour et al., 2023), we need to take a multi-level approach and investigate how individuals, teams, and systems react and cope with these major transitions (Chater & Loewenstein, 2023).

Additionally, in order to adequately investigate the complex responses that individuals, teams, and multi-level systems have to such major transitions, we take a problem-driven rather than a theory or method-driven approach. Because of the breadth and complexity of sustainable development and the challenges that slow societal progress towards sustainable goals, we advocate for the importance of advancing multidisciplinary work that addresses the multi-layered nature of these challenges and transitions and spans topics, disciplinary areas, methodological frameworks, and levels of analysis.

### 1.2. The Importance of the Research

The progress towards achieving sustainable development goals has been slow due to unplanned events and major transitions (Sachs et al., 2025), and scientists argue that the targets

will not be achieved as planned, by 2030 (Fuso Nerini et al., 2024). In part, this is due to the COVID-19 pandemic, which directly affected the progress towards goals such as SDG 3 (Good health and well-being) and SDG 5 (Gender equality), as well as indirectly reduced the commitment of the member countries to sustainable development, as they were adapting to the ongoing crisis (Allen & Malekpour, 2023; Fuso Nerini et al., 2024; IGS, 2023).

Other transitions, such as major organizational changes (Allan et al., 2021), the implementation of hybrid work (Moglia et al., 2021), and digitalization and the growing reliance on technology (Allan et al., 2021) are posited to have mixed effects on the progress towards sustainable development. In the context of continuous global changes, the impact of major transitions on individual, team, and system-level adaptation and how they affect sustainable development warrants further investigation.

We argue that applying multidisciplinary perspectives can facilitate the progress towards sustainable development and are better equipped at investigating complex, multi-layered and interrelated problems – such as the impact of major transitions on sustainable development – that are beyond the scope of one single discipline or methodology (Brown et al., 2015; Porter & Rafols, 2009). Accordingly, we aim to take a multidisciplinary approach, incorporating various theories and disciplinary areas.

While characterized by a lack of orthodoxy or conformity to traditional approaches, using a problem-driven, multi-level approach helps generate new insights that address the multi-layered nature of these transitions and can serve as a means for testing and contributing to previous theories and empirical work. Consequently, the main theoretical contribution of this thesis consists of the investigation of multi-level (individual, team, and multi-stakeholder system) responses to different major transitions and shedding light on their effects on the progress towards sustainable development.

We aim and argue for methodological variety as a response to the increasing societal complexity, constant development, and the interdependencies and feedback loops that emerge in dynamic and multi-level systems. By combining multiple approaches, this thesis has the advantage of correcting for the methodological limitations of one particular study or approach.

Overall, we aim to explore how individuals, groups, and organizations engage with, cope with, or embrace changes elicited by major transitions such as the COVID-19 pandemic, major organizational changes, digital transformation, and the transition to hybrid work. Grounded in the evidence-based recommendations we advance, this thesis has practical value by shedding light on and supporting sustainable development.

## II.CHAPTER II. RESEARCH GOALS AND GENERAL METHODOLOGY

### **2.1. Research Goals**

This thesis comprises five studies aiming to shed light on the complex individual, team, and multi-level responses to major transitions such as the COVID-19 pandemic, major organizational changes such as mergers and acquisitions, digitalization, and the switch to hybrid work.

In the first study, we use a panel sample representative of the Dutch population to investigate the extent to which changes in emotional stability triggered by the onset of the pandemic explain changes in self-reported mental health and well-being. This study contributes to SDG 3 (Good health and well-being), aiming to test if changes in personality act as mediating mechanisms impacting well-being in the context of a global pandemic. The COVID-19 pandemic was a major transition that slowed the progress towards the SDGs (Allen & Malekpour, 2023; Fuso Nerini et al., 2024; IGS, 2023), including SDG 3, as the global health risks had negative effects on subjective well-being. Surprisingly, we find that the pandemic prompted positive changes in personality, resulting in an increase in emotional stability. Drawing on stress-related growth (Tedeschi & Calhoun, 2004; Park et al., 1996) and

personality plasticity theories (Jayawickreme et al., 2021; Jeronimus et al., 2014), our results indicate that the increase in emotional stability mediates the changes in subjective well-being (mental health and life satisfaction), indicative of a resilient, stress-related growth mechanism in response to the onset of the pandemic.

In the second study, we use a vignette within-subjects experiment to investigate the malleability of stereotypes about male and female managers, considering the COVID-19 pandemic as a major transition with the potential to trigger societal change processes and prompt changes in the structure of gender stereotypes. This study contributes primarily to SDG 5 (Gender equality) and indirectly to SDG 8 (Decent work and economic growth), highlighting promising results in the perception of women managers. Consistent with previous research on role congruity theory (Eagly & Karau, 2002), the glass cliff effect and the “think crisis, think female” bias (Morgenroth et al., 2020; Ryan & Haslam, 2007; Ryan et al., 2016), our results indicate that for the pandemic context, participants perceive an increase in positive communality and androgynous traits. Male managers are perceived as increasing their communal traits in the pandemic context, while female managers are perceived as maintaining their pre-pandemic level of communal traits. In the future, communality is expected to increase, and leaders are expected to be characterized by more androgynous and more positive attributes, irrespective of gender.

The third study aims to examine how positive beliefs about organizational changes during a foreign acquisition case influence organizational identification, perceptions of ethical organizational culture, and individual performance seven months post-acquisition. Because organizations frequently go through major transitions such as mergers and acquisitions, our findings highlight the role of effective change management and ensuring that employees see value and not threat in organizational change. Using a cross-lagged design with two cross-sectional datasets within a high-intensity telecommuting organization, we found that viewing

organizational changes positively significantly impacted organizational identification, perceptions of ethical organizational culture, and individual performance. This study contributes to SDG 8 (Decent work and economic growth), as major organizational transitions frequently have negative effects on employee well-being and security (Dao & Bauer, 2021; Khaw et al., 2023). Drawing on theories of social identity (Tajfel & Turner, 1986; Turner et al., 1987), organizational change (Armenakis et al., 2007; Haslam et al., 2021; Mühlemann et al., 2022), and Field Theory (Lewin, 1943), we investigate how organizations may foster decent work and ensure job quality in the form of an ethical workplace, employee performance, and organizational identification following change, by targeting change reactions.

In the fourth study, we use a qualitative (focus group) methodology to examine the effects of hybrid work on employees and teams in a post-pandemic context. Drawing on paradox theory (Lewis, 2000; Smith & Lewis, 2011), differentiation–integration theory (Lawrence & Lorsch, 1967), and psychological needs theory (Ryan, 1995; Ryan & Deci, 2017), our analysis reveals that hybrid work has differential effects at the individual and team levels of analysis. At the individual level, hybrid work fosters the integration of work and family roles while hindering balanced need satisfaction in the form of role differentiation. At the team level, hybrid work preserves structural differentiation across work locations, while preventing effective integration and coordination across team roles. Because of the rapid transition to remote work during the pandemic, many organizations, teams, and employees had the chance to experiment with widely implemented flexible work arrangements, and this transition led to a growing preference for remote and hybrid work among employees worldwide. This study contributes to SDG 8 (Decent work and economic growth) by highlighting that although hybrid work can facilitate economic growth through increasing structural differentiation, organizations need to adapt and implement integration mechanisms that reduce coordination

costs, as well as manage the resulting differentiation-integration dynamics in order to ensure decent work and maintain positive effects for employees and teams.

In the last study, we used a behavioral multiparty simulation task in order to test the role of the communication environment and positive interdependence in driving emergent system dynamics (identification and co-presence) and system-level outcomes (integrative problem-solving and goal achievement). The simulation involved five stakeholder teams with varied interests, invited to address a complex regional development case. This study contributes to SDG 17 (Partnerships for the goals), as multi-stakeholder systems that work together towards sustainable goals often deal with wicked problems and need to integrate various economic and environmental interests (Curşeu & Schruijer, 2020). Moreover, the transition to digitalization and the increased reliance on virtual communication for negotiations and multi-stakeholder partnerships are hypothesized to bring additional constraints, such as hindering the development of emergent system dynamics and the achievement of integrative outcomes (Curşeu et al., 2008; Leonardi et al., 2024; Purvanova & Kenda, 2022). Our results show that emergent system dynamics drive integrative system outcomes, yet overall, this effect is not directly contingent on the communication environment. We also found that initial expectations of positive interdependence in the system have no effect on emergent system dynamics and that they negatively predict goal achievement. On the other hand, experienced positive interdependence had the anticipated positive effects on system-level emergent states and outcomes.

## **2.2. General methodology**

Consistent with our aim for methodological diversity, this thesis employs a wide range of quantitative and qualitative methodologies in order to adequately investigate responses to major transitions in light of the various SDGs explored at different levels of analysis.

The first study uses a cross-lagged panel approach on a representative sample ( $N = 3928$ ) of the Dutch population and highlights a growth response following exposure to stress from the COVID-19 pandemic. Panel studies have the advantage of higher external validity, as they provide access to a wide range of participants, and their quality is similar to that of conventionally collected data (Walter et al., 2019). In addition, the LISS panel also has the advantage of having one of the highest response rates (Hays et al., 2015; Scherpenzeel, 2011).

The first study uses a cross-lagged panel approach on a representative sample ( $N = 3928$ ) of the Dutch population and highlights a stress-related growth response to the COVID-19 pandemic. Panel studies have the advantage of having higher external validity, because they offer access to a wide range of participants (Cruz, 2021), and their quality is similar to that of conventionally-collected data (Walter et al., 2019). Moreover, the LISS panel also has the advantage of having one of the highest response rates (Hays et al., 2015; Scherpenzeel, 2011)

The second study uses a vignette experimental design and investigates within-subjects changes in the structure of stereotypes as a response to the COVID-19 pandemic. We used a stratified sampling procedure and achieved a gendered and age-balanced sample ( $N = 1284$ ). Text vignettes are widely used in experimental designs aiming to investigate attitudes, especially ones that would not be directly reported (Aguinis & Bradley, 2014). This study followed a procedure widely used in previous studies on stereotype change (Diekmann & Eagly, 2000; Diekmann & Goodfriend, 2006; Diekmann et al., 2005). Participants were asked to imagine a typical work context before, during, and after the COVID-19 pandemic (10 years in the future, in the year 2033), think about the typical attributes of a male or female manager, and rate how likely they were to possess a set of traits in each of these contexts.

The third study uses a longitudinal, cross-lagged design applied in a high-intensity telecommuting software organization undergoing a foreign acquisition, entailing a case study approach. Participants completed the survey just as the major organizational changes were

taking place ( $N_{T1} = 240$  employees) and seven months after the changes ( $N_{T2} = 209$  employees), resulting in a final matched sample of 55 employees. This approach is commonly used, as the majority of studies of mergers and acquisitions collect data from a single company undergoing organizational transitions (Oreg et al., 2011). Moreover, compared to the studies using a cross-sectional approach (e.g., Giessner, 2011; Edwards & Edwards, 2012; Elstak et al., 2015; Hildisch et al., 2015), our study has the advantage of using a longitudinal approach, with a time lag between the measurement of the predictor and dependent variables (Dao & Bauer, 2021; Oreg et al., 2011) in order to investigate the effects of employee reactions to the transition.

The fourth study uses a qualitative, focus groups design in order to shed light on the individual and team-level effects of hybrid work. We conducted 11 focus groups in which a total of 48 participants discussed individual and team-level effects of hybrid work, as well as ways to improve the experience of working in hybrid teams. Our sample consisted of both working students and professionals who had experience working in hybrid teams. Qualitative approaches such as focus groups allow for in-depth explorations of phenomena and provide analytically rich data (Onwuegbuzie et al., 2009). Additionally, they can provide valuable insight that advances theorizing in a field that is often paradoxical or characterized by conflicting findings, such as hybrid and virtual work (Purvanova & Kenda, 2022). Moreover, focus groups have the advantage of capturing a wide range of views from the participants, highlighting areas of agreement and disagreement as participants justify their responses to each other (Krueger & Casey, 2000; Morgan, 1996; Onwuegbuzie et al., 2009).

The fifth study is based on a behavioral multi-stakeholder simulation in which five parties were tasked ( $N = 441$  undergraduate students distributed in 130 groups across 26 simulations) with attending to a complex regional development case with economic and environmental facets. In order to investigate the effect of the communication format (face-to-face vs online), 15 of the simulations were conducted in a face-to-face setting while 11 were

conducted online. We followed the simulation structure and procedure outlined in Vansina et al. (1998). Such behavioral simulations involve immersive and realistic multi-stakeholder interactions in which participants may reach collaborative goals (Curşeu & Schruijer, 2020). The complexity of the simulation task is similar to actual wicked problems, which require the involvement and participation of multiple stakeholders (Curşeu & Schruijer, 2020).

### III.CHAPTER III. ORIGINAL RESEARCH CONTRIBUTIONS

#### **3.1. Study 1. Stress-related growth in the early stages of the COVID-19 pandemic:**

##### **Evidence from a panel study<sup>1</sup>**

##### ***3.1.1. Introduction***

The Sustainable Development Goals (SDGs) were agreed upon by the United Nations (2015), aiming to address global challenges such as inequality, poverty, and climate change by 2030. SDG 3 (Good health and well-being) aims to “ensure healthy lives and promote well-being for all at all ages”, and one of the key targets (3.4) of SDG 3 is to promote mental health and well-being (United Nations, 2015). The outbreak of the COVID-19 pandemic was a major transition that brought changes in the organization of work (Kilcullen et al., 2022; Kniffin et al., 2021; Nyberg et al., 2021) and created a global threat with important implications for well-being and mental health.

Literature to date shows contradictory findings concerning the impact of the pandemic on mental health and well-being, with some reviews reporting increased well-being (Manchia et al., 2022), while some report no significant changes (Lasheras et al., 2020). Mental health and well-being have important implications for work outcomes, by impacting work-related attitudes such as job satisfaction and turnover intention, as well as employee productivity

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<sup>1</sup> This chapter is based on an article published as Manole, E. C., & Curşeu, P. L. (2024). Stress-related growth in the early stages of the COVID-19 pandemic: Evidence from a panel study. *Personality and Individual Differences*, 222, 112578. <https://doi.org/10.1016/j.paid.2024.112578>

through stress and absenteeism (Rosado-Solomon et al., 2023) and these effects may be amplified by the threat associated with the COVID-19 pandemic (Kniffin et al., 2021).

Neuroticism (or low emotional stability) is a personality trait characterized by a tendency to experience negative affectivity, emotional distress, and anxiety (Costa & McCrae, 1980; McCrae & Costa, 1987). Typically, the previous literature reveals post-traumatic increases in neuroticism following major negative life events or subjectively traumatic events (Boals et al., 2015; Jeronimus et al., 2013), especially if these events affect interpersonal aspects of one's life (Rakhshani & Furr, 2021; Sarubin et al., 2015).

*Hypothesis 1: The outbreak of COVID-19 leads to a decrease in emotional stability.*

Neuroticism is considered a robust predictor of psychopathology, frequently associated with depression, anxiety, substance abuse disorders (Lamers et al., 2012), as well as post-traumatic stress responses after major negative life events (Breslau & Schultz, 2013). Considering the pandemic context specifically, individuals characterized by higher levels of neuroticism were at a greater risk of psychological distress (Fernández et al., 2020), reported higher PTSD symptomatology and increased specific COVID-19-related fears (Di Crosta et al., 2020), anxiety and depression (Nikčević et al., 2021), and more intense negative emotional responses, concerns, and ruminative tendencies related to the pandemic (Aschwanden et al., 2021).

*Hypothesis 2: The change in reported mental health associated with COVID-19 is explained by the change in emotional stability.*

Neuroticism has been robustly associated with lower subjective well-being (Lamers et al., 2012; Steel et al., 2008), decreased quality of life, and long-term difficulties (Jeronimus et al., 2014). During the pandemic, people with high levels of neuroticism perceived more stress (Liu et al., 2021), had reduced coping skills (Fernández et al., 2020), and unfavorable or maladaptive behavioral responses, such as taking fewer health precautions (Aschwanden et al.,

2021). Neuroticism has been consistently associated with lower subjective well-being (Lamers et al., 2012; Steel et al., 2008), decreased life quality, and long-term difficulties (Jeronimus et al., 2014). During the pandemic, individuals high in neuroticism perceived more stress (Liu et al., 2021), had reduced coping skills (Fernández et al., 2020), and undesirable behavioral responses such as taking fewer health precautions (Aschwanden et al., 2021).

*Hypothesis 3: The change in life satisfaction due to COVID-19 is explained by the change in emotional stability.*

Overall, we expect that emotional stability explains differences in resilience, adaptation, mental health, and subjective well-being during the pandemic (Morales-Vives et al., 2020), as longitudinal research shows that participants who initially reported poor mental health had lower odds of reporting high life satisfaction later on (Lombardo et al., 2018). We build on a bottom-up componential approach to life satisfaction (Ilies et al., 2019; Diener et al., 1999) to argue that mental health is one of the specific life domains that contribute to the overall satisfaction with life.

*Hypothesis 4: The change in life satisfaction due to COVID-19 is explained by a serial mediation as the change in emotional stability drives the change in mental health.*

### **3.1.2. Method**

Our sample consisted of 3928 Dutch respondents across two waves, the first just before the onset of the pandemic and the second during the first year of the pandemic. Of the respondents, 47.7% ( $N = 1873$ ) were male, 5.7% ( $N = 223$ ) were aged 18-24 years, 9.9% ( $N = 391$ ) 25-34 years, 10.5% ( $N = 411$ ) 35-44 years, 15.9% ( $N = 625$ ) 45-54 years, 21% ( $N = 825$ ) 55-64 years, and 37% ( $N = 1453$ ) were aged 65 and older. The mean age was 55.6 ( $SD = 17.15$ ). 55.6% ( $N = 2183$ ) of the respondents were married, and 41.4% ( $N = 1628$ ) were employed at T1 (2019 wave). 12.1% ( $N = 475$ ) of the respondents had university-level education, 25.4% ( $N = 998$ ) higher vocational education (college-level), 24% ( $N = 943$ ) intermediate vocational

education, 10.4% ( $N = 410$ ) secondary education (senior high school), 21.6% ( $N = 850$ ) intermediate secondary education (junior high school), and 6.2% ( $N = 243$ ) had primary education.

We extracted data from the LISS (Longitudinal Internet studies for the Social Sciences) panel, which is based on a probability sample of the Dutch population administered by CentERdata. We used two waves collected in 2019 (T1) and 2020 (T2). The personality modules were administered in May and June, while the mental health modules were administered in November and December.

**Emotional stability** was evaluated using the 10-item Emotional Stability scale of the International Personality Item Pool (IPIP, Goldberg, 1999). Cronbach's alpha for this scale was .90 for the 2019 wave and .89 for the 2020 wave, showing very good internal reliability. **Mental health** was evaluated using the 5-item version of the Mental Health Inventory (Berwick et al., 1991). Cronbach's alpha for this scale was .88 for both the 2019 and 2020 waves, indicating good internal consistency. **Life satisfaction** was evaluated using the 5-item Satisfaction with Life scale (Diener et al., 2013). Cronbach's alpha for this scale was .91 for both the 2019 and 2020 waves, showing very good internal reliability.

### **3.1.3. Results**

Our main analysis relied on two waves (2019 and 2020) of data collected from a probabilistic sample selected from the Dutch population. Because we intend to test a serial mediation model, we used the procedure to test mediation in repeated measures designs introduced by Montoya and Hayes (2017) and tested the mediation analysis with the macro MEMORE 2.1 in SPSS version 28 (Montoya, 2019). In order to verify the explanation of an increase in ES as a stress-related growth (resilient) response to the pandemic and examine the stress-inducing nature of the pandemic, we conducted additional analyses using assembled LISS panel waves to evaluate the impact of the pandemic in March and July 2020.

We tested three MEMORE models, estimating the extent to which pre- to post-COVID-19 changes in emotional stability explain changes in mental health (Model 1 testing Hypothesis 2) and life satisfaction (Model 2 testing Hypothesis 3), as well as a serial mediation model estimating the extent to which the change in life satisfaction (from 2019, before the pandemic to 2020, just after the outbreak) is explained by sequential changes in emotional stability and mental health (Hypothesis 4).

The results of the paired samples *t*-tests for the variables included in the study (reflecting the comparison between the pre- and during COVID-19 evaluations) are presented in Table 2. Contrary to Hypothesis 1, the results reveal that emotional stability increases from the pre-COVID-19 wave to the post-outbreak wave, as well as life satisfaction and mental health (see Table 2). The change of emotional stability is in the opposite direction than we originally hypothesized and is consistent with a stress-related growth effect in ES.

The second hypothesis stated that the change in reported mental health is explained by the changes induced by the pandemic in emotional stability. Our results reveal a significant indirect effect, indicating that the change in emotional stability partially mediates the impact of the pandemic on mental health (indirect effect size = .059; *SE* = .021; 95%CI [.024, .107]). The second hypothesis was supported, yet the results reflect a stress-related growth tendency for the mediation path considered.

**Table 2**

*Results of the paired samples *t* test (including Cohen's *d*) for the variables included in the study*

| Variable    | <i>M</i> | <i>SD</i> | <i>t(df)</i> , <i>p</i> for 2020-2019 | Cohen's <i>d</i> (95%CI) |
|-------------|----------|-----------|---------------------------------------|--------------------------|
| 1. ES 2019  | 35.06    | 7.04      | $t(3927) = 4.16, p =$                 | -.07 [-.10;-.04]         |
| 2. ES 2020  | 35.33    | 7.08      | 0.000033                              |                          |
| 3. MHI 2019 | 75.14    | 16.44     | $t(3927) = 3.07, p =$                 | -.07 [-.10;-.03]         |
| 4. MHI 2020 | 75.73    | 16.38     | 0.002180                              |                          |
| 5. LS 2019  | 25.33    | 5.79      | $t(3927) = 4.10, p =$                 | -.05 [-.08;-.02]         |
| 6. LS 2020  | 25.60    | 5.61      | 0.000043                              |                          |

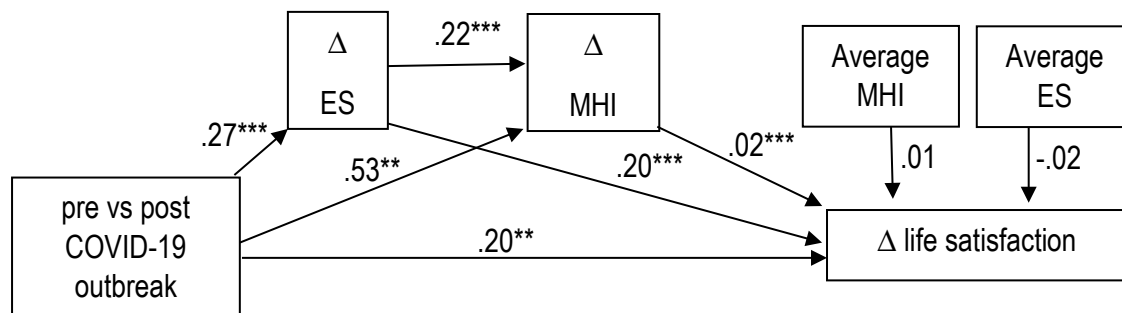
*Note.* ES = Emotional Stability, MHI = Mental Health Index, LS = Life Satisfaction.

Moreover, our results show that emotional stability partially mediates the impact of the change attributed to COVID-19 in life satisfaction (indirect effect size = .05;  $SE = .013$ ; 95%CI [.03, .08]), supporting Hypothesis 3. Finally, the serial mediation model including emotional stability and mental health as successive mediators of the effect of the pandemic on life satisfaction revealed a significant serial mediation (indirect effect size = .001;  $SE = .001$ ; 95%CI [.0003, .0026]), yielding support for Hypothesis 4. All indirect paths are supportive of stress-related growth. The remaining direct influence of the pandemic on life satisfaction was significant (effect size = .20;  $SE = .06$ ; 95%CI [.08, .33]), revealing a remaining positive influence that was not explained by the change in emotional stability nor the change in reported mental health. The overall results of our analyses are presented in Figure 2.

According to the dynamic equilibrium hypothesis (Ormel & Schaufeli, 1991; Ormel et al., 2012), personality traits change in response to major life events, but only temporarily, and remit with time and return to a baseline level (original set point) after an adjustment period. It could be that the observed change in neuroticism in our study was inflated by the recency or saliency of the pandemic, and could decay over time (Boals et al., 2015; Jeronimus et al., 2013). In light of this argument, we performed additional analyses to test for the stability of emotional stability in the years following the onset of the pandemic (2021 and 2022). We found significant increases in emotional stability when comparing T1 (2019) to the following years, and no significant changes when comparing T2 (2020) to the following years. We performed a latent growth analysis for emotional stability during the COVID-19 years, and the slope for emotional stability from 2020 to 2022 was not significant, revealing no clear trend for emotional stability after the onset of the pandemic. Moreover, our additional serial mediation analyses show that ES evaluated in 2019 predicts reactions to the COVID-19 pandemic evaluated as death anxiety in relation to the pandemic (evaluated in March 2020), providing support for the claim that the pandemic was a stress-inducing event. In turn, ES evaluated in

May/June 2020 mediates the association between ES evaluated in 2019 and a stress-related growth measure evaluated in July 2020. These results fully support the resilient, stress-related growth explanation of increased ES after the onset of the pandemic and the stability of change in the following two years.

*Figure 2.* The overall serial mediation model for change in life satisfaction as a function of change in emotional stability and mental health after the COVID-19 outbreak



*Note.*  $*p < .05$ ;  $**p < .01$ ,  $***p < .001$ ; ES = Emotional Stability; MHI = Mental Health Index; LS = Life Satisfaction;  $\Delta$ ES = ES2020-ES2019 (reflecting a change in ES due to COVID-19 outbreak),  $\Delta$ MHI = MHI2020-MHI2019 (reflecting a change in MHI due to COVID-19 outbreak);  $\Delta$ life satisfaction reflects the change in life satisfaction due to the COVID-19 outbreak; Unstandardized regression coefficients are reported.

### 3.1.4. Discussion and conclusions

Interestingly, the observed effects are in the opposite direction of the one hypothesized, indicating not a post-traumatic stress response to the pandemic, but rather stress-related growth indicative of a resilient response – our results show an increase in emotional stability from the pre-COVID-19 wave to the post-outbreak wave. Stress-related growth is conceptualized as the positive psychological change experienced as effective coping and increased personal resources after struggling with highly challenging or adverse life situations (Park et al., 1996; Tedeschi & Calhoun, 2004).

In line with previous research, we observed small but significant increases in emotional stability following adverse life events (Jeronimus et al., 2013; Kandler et al., 2012). One important contribution of our study is the measurement of personality variables prior to the stressful event (in our case, the onset of the pandemic), in line with calls for research on the malleability of personality following adversity (Rakhshani & Furr, 2021). Our study also

contributes to the literature highlighting stress-related growth effects and resilience during the pandemic (Finstad et al., 2021; Manchia et al., 2022).

Previous research shows that low emotional stability is associated with negative emotionality, increased reactivity to work stressors, lower performance (Smallfield & Kluemper, 2022), and unsafe behaviors at work (Beus et al., 2015). Moreover, a recent meta-analysis indicates a reciprocal relationship between life and job satisfaction, with life satisfaction having a stronger effect on future evaluations of job satisfaction (Wiese et al., 2025). Based on these findings, we argue that the positive changes we observed may also have effects in terms of positive work outcomes.

In terms of limitations, we note the generalizability of our findings. Although previous research shows that the COVID-19 pandemic had a significant impact in the Netherlands, comparable to other countries, we cannot make definitive statements about the traumatic nature of COVID-19 in the Netherlands. An important future direction is to investigate whether increases in neuroticism are indeed long-lasting and not just temporary changes in response to the pandemic. Future research could explore the latency and magnitude of increases following exposure to stress by using longitudinal research spanning several years.

### **3.2. Study 2. Dynamic perceptions of leadership: Gender stereotypes in the context of the COVID-19 pandemic<sup>2</sup>**

#### **3.2.1. Introduction**

Worldwide, the proportion of women in managerial positions is still lower compared to men in the same positions (ILO, 2023), a difference that may be rooted in stereotypes about gender and leadership. Gender stereotypes reflect generalized beliefs about the attributes of

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<sup>2</sup> An earlier version of this chapter was presented as a work-in-progress manuscript at the 24th National Conference of Industrial and Organizational Psychology (2024). We thank the participants in our session for their insightful comments.

men and women (Ellemers, 2018) and although they were initially considered to be rather stable social constructs (Hilton & von Hippel, 1996), more recent research tapped into their dynamic nature (Eagly et al., 2020; Donnelly & Twenge, 2017; Twenge, 1997) showing that changing historical, social, and institutional factors can shape their content.

One of the key targets of the Sustainable Development Goals (SDGs) is to reduce gender discrimination and ensure equal opportunities for men and women at all organizational levels (United Nations, 2015). The COVID-19 pandemic can be considered a major transition that changed work interactions, had a major impact on the family-work interface (see also Eichenauer et al., 2022), and has the potential to change expectations about specific social roles, at work and in society at large. We aim to contribute to SDG 5 (Gender equality) by investigating how crises such as the pandemic may influence the structure of stereotypes, which are a major driver of gender-based discrimination at work. Because of the interdependence between gender equality and work fulfillment, we also contribute to SDG 8 (Decent work and economic growth).

The “think crisis, think female” tendency points out that female leaders are more likely to be appointed to leadership positions during crises (e.g., Morgenroth et al., 2020; Ryan & Haslam, 2007; Ryan et al., 2016). Women are expected to be more capable leaders during crises because they are seen as having the necessary relational skills to suit the heightened personal demands employees experience during crises (Haslam & Ryan, 2008; Ryan & Haslam, 2007; Ryan et al., 2011; Ryan et al., 2007). Another perspective argues that it is not just being a woman that makes one a better crisis leader, but behaving in line with prototypical feminine attributes (2010; Gartzia et al., 2012; Ryan et al., 2007) or showing relational skills (Post et al., 2019; Rosette & Tost, 2010), irrespective of gender. Therefore, we expect perceptions of communality to increase from before to during the pandemic and the dominance of agentic

over communal traits to decrease during the pandemic and return to its initial magnitude in the future (H1).

The COVID-19 pandemic raised important relational challenges to integrate work and family demands, and leaders were expected to facilitate such integration efforts (Eichenauer et al., 2022); therefore, men leaders could be expected to increase their relational orientation to help employees cope with such challenges, while female leaders are expected to maintain their natural relational orientation during crises. In line with these arguments, our second hypothesis is that communal attributes ascribed to male managers increase during the crisis, yet female rather than male leaders are more likely to maintain higher communal orientation after the pandemic (H2).

Previous research found a trend towards a more feminine or androgynous leadership style in the future (Ryan et al., 2011; Stoker et al., 2012; Koenig et al., 2011; Paustian-Underdahl et al., 2014), as the construal of leadership is becoming more dynamic and context-dependent. Moreover, there is evidence of dynamic stereotypes of leaders, with the change reducing the discrepancy between leaders and women; leaders are perceived to be gaining feminine traits over time while retaining masculine ones (Koenig et al., 2011). Building on the general historical trend towards communal attributes, the task-related challenges associated with the COVID-19 crisis, and the enhanced dynamism for communal rather than agentic attributes, we expect leadership androgyny (perception of high levels of both communal and agentic attributes) to increase during crisis for both target genders, and remain stable in the future especially for female rather than male leaders (H3).

Subordinate's implicit leadership theories also emphasize effectiveness and tend to ascribe positive attributes to leaders (Shamir, 1992; Tremel & Wahl, 2023); therefore, we also expect that leaders are ascribed more positive and fewer negative attributes. We expect that leader positivity perceptions (as seen in the valence of gendered attributes) increase following

an increasing positive trend, with dominant perceptions of positivity heightened sharply by the pandemic context and further increasing in the future for both male and female leaders (H4), as individuals are motivated to maintain a positive construal over time (Ross & Newby-Clark, 1998).

### **3.2.2. Method**

The final sample included 1284 Romanian participants (51.8% women), with an average age of 35.34 years old ( $SD = 11.15$ , range 18-72), and the average work experience was 13.39 years ( $SD = 10.31$ , range 0.25-54); most of our participants indicated a university degree as their highest education (40.5% BSc level and 28.4% MSc level), 24.5% indicated a high school degree, 3.6% indicated primary or secondary school, and 3% indicated a doctoral degree as their higher education. Our participants worked in a wide range of professions, with the highest frequency being IT (15.3%), finance (12.7%), sales/logistics (8.6%), education/research (8.2%), healthcare (7.2%), law (4.8%), engineering (4.4%), marketing (4.2%), hospitality (4.1%) and other (24.3%).

We used a vignette within-subject experimental design, varying the target gender of the manager and the time period presented in each situation. Participants were asked to imagine a typical work context and rate the prototypicality of several attributes for female and male managers before the COVID-19 pandemic (before January 2020), during the pandemic (between March 2020 and June 2022), and 10 years into the future (in the year 2033) using a 7-point scale. We used items from the Bem Sex Role Inventory (BSRI, Bem, 1974), as well as two additional items related to gender-stereotypic dimension specific to Romania (“devoted to family” and “devoted to community”; Curşeu & Pop-Curşeu, 2018).

### **3.2.3. Results**

To test our first hypothesis, we computed positive communality and agency scores by averaging ratings of male and female managers for each respective attribute type. We ran a 3

(time period: pre-COVID, during COVID, and in the future, repeated-measures factor) x 2 (participant gender: male vs female, between-subjects factor) mixed analysis of variance (ANOVA), with participant age and education as covariates using SPSS v26. For all analyses following, we computed linear and quadratic effects for time period and used Bonferroni correction for all post-hoc tests.

In the case of communal attributes, we found both a significant linear,  $F(1, 1280) = 24.24, p < .001, \eta^2 = .019, \pi = .998$ , and a quadratic effect of time period,  $F(1, 1280) = 22.54, p < .001, \eta^2 = .017, \pi = .997$ , indicating an increasing positive trend. The interaction with participant gender was not significant,  $F(1, 1280) = .12, p = .728, \eta^2 = 0, \pi = .064$ . Post-hoc analyses indicate that perceptions of communal traits significantly increase from before ( $M = 4.48, SD = 1.18, SE = .03$ ) to during the pandemic ( $M = 4.62, SD = 1.22, SE = .03$ ), and further increases in the future ( $M = 4.84, SD = 1.29, SE = .04$ ),  $p < .001$ .

In the case of agentic attributes, we found both a significant linear,  $F(1, 1280) = 26.48, p < .001, \eta^2 = .02, \pi = .99$ , and a quadratic trend of time period,  $F(1, 1280) = 16.43, p < .001, \eta^2 = .013, \pi = .98$ . The interaction with participant gender was not significant,  $F(1, 1280) = 1, p = .317, \eta^2 = .001, \pi = .17$ . Post-hoc analyses indicate that perceptions of agentic traits significantly decrease from before ( $M = 4.69, SD = 1.07, SE = .03$ ) to during the pandemic ( $M = 4.61, SD = 1.11, SE = .03$ ),  $p = .001$ , but tend to increase in the future ( $M = 4.99, SD = 1.15, SE = .03$ ),  $p < .001$ . Hypothesis 1 was supported.

To test our second and fourth hypothesis, we ran a 3 (time period: pre-COVID, during COVID, and in the future) x 2 (target gender: male vs female manager) x 2 (attribute: agentic vs communal) x 2 (valence: positive vs negative) x 2 (participant gender: male vs female, between-subjects factor) mixed ANOVA, with participant age and education as covariates.

We found a linear and significant time x attribute x target gender interaction,  $F(1, 1280) = 13.50, p < .001, \eta^2 = .01, \pi = .96$ . The quadratic interaction was not significant,  $F(1, 1280)$

$= .11, p = .743, \eta^2 = 0, \pi = .062$ . The interaction with participant gender was not significant,  $F(1, 1280) = .252, p = .616, \eta^2 = 0, \pi = .079$ . In the case of male managers, post-hoc comparisons indicate that the perception of communal attributes significantly increases from before ( $M = 3.34, SD = .90, SE = .03$ ) to during the pandemic ( $M = 3.55, SD = .97, SE = .03$ ), and further increases in the future ( $M = 3.65, SD = .97, SE = .03$ ),  $p < .001$ . Perceptions of agentic attributes decrease for male managers from before ( $M = 4.30, SD = 1.11, SE = .03$ ) to during the pandemic ( $M = 4.11, SD = 1.07, SE = .03$ ),  $p < .001$  and return to a pre-pandemic value in the future ( $M = 4.30, SD = 1.11, SE = .03$ ).

In the case of female managers, the perception of communal attributes remains stable from before ( $M = 4.01, SD = 1.07, SE = .03$ ) to during the pandemic ( $M = 4.04, SD = 1, SE = .03$ ),  $p = .503$ , and decreases slightly from the pandemic to the future ( $M = 3.93, SD = .97, SE = .03$ ),  $p < .001$ . Perceptions of agentic attributes for female managers decrease from before ( $M = 4.13, SD = 1.07, SE = .03$ ) to during the pandemic ( $M = 3.99, SD = 1.04, SE = .03$ ),  $p < .001$ , yet increase in the future ( $M = 4.23, SD = 1.07, SE = .03$ ),  $p = .001$ . When comparing perceptions of female and male managers in the future, female managers are rated as more communal ( $M = 3.93, SD = .97, SE = .03$ ) than male managers ( $M = 3.65, SD = .97, SE = .03$ ),  $p < .001$ . Hypothesis 2 was supported.

Replicating previous findings, we found a significant main effect of attribute,  $F(1, 1280) = 6.02, p = .014, \eta^2 = .005, \pi = .688$ , indicating that participants rated masculine attributes ( $M = 4.18, SD = .90, SE = .03$ ) as more typical of managers than feminine attributes overall ( $M = 3.75, SD = .79, SE = .02$ ), in support of a “think manager, think male” effect. The interaction with participant gender was significant,  $F(1, 1280) = 11.93, p = .001, \eta^2 = .009, \pi = .932$ , and post-hoc comparisons indicate that only for communal attributes, male participants tended to evaluate targets as more communal than female participants overall,  $p < .001$ .

Considering perceptions of leader positivity, we found both a significant linear,  $F(1, 1280) = 4.27, p = .039, \eta^2 = .003, \pi = .541$ , and quadratic time period x valence interaction,  $F(1, 1280) = 22.66, p < .001, \eta^2 = .017, \pi = .997$ . This trend was similar for both target genders, as indicated by a nonsignificant quadratic time period x valence x target gender interaction,  $F(1, 1280) = 2.11, p = .147, \eta^2 = .002, \pi = .306$ . Post-hoc analyses indicate that the perception of positive attributes was similar when considering the context before the pandemic ( $M = 4.58, SD = 1.07, SE = .03$ ) and during the pandemic ( $M = 4.61, SD = 1.11, SE = .03$ ),  $p = .494$ . However, we find an increase in perception of positive attributes in the future ( $M = 4.92, SD = 1.15, SE = .03$ ),  $p < .001$ . The negative attributes significantly decrease from each time period to the next, from the pre-pandemic context ( $M = 3.31, SD = 1, SE = .03$ ) to during the pandemic ( $M = 3.23, SD = 1.04, SE = .03$ ),  $p = .002$ , and to the future ( $M = 3.14, SD = 1.15, SE = .03$ ),  $p < .001$ . Hypothesis 4 was supported.

To test our third hypothesis, we computed androgyny scores by using the procedure described by Donnelly and Twenge (2017), and subtracted the absolute difference between masculine and feminine attributes from their sum  $[(M + F) - |M - F|]$  in order to reflect high levels of both agentic and communal traits. We ran a 3 (time period: pre-COVID, during COVID, and in the future) x 2 (target gender: male vs female manager) x 2 (participant gender: male vs female, between-subjects factor) mixed ANOVA, with participant age and education as covariates.

Considering perceptions of androgyny, we found both a significant linear,  $F(1, 1280) = 38.37, p < .001, \eta^2 = .029, \pi = 1$  and quadratic effect of time period,  $F(1, 1280) = 9.23, p = .002, \eta^2 = .007, \pi = .86$ . The quadratic time period x target gender interaction was not significant,  $F(1, 1280) = .95, p = .33, \eta^2 = .001, \pi = .16$ , indicating that the change remains stable for both genders. Post-hoc analyses indicate that perceptions of androgyny increase from before ( $M = 13.86, SD = 3.22, SE = .09$ ) to during the pandemic ( $M = 14.05, SD = 3.30, SE$

= .09),  $p = .023$ , but show a more significant increase from during the pandemic to the future ( $M = 14.44$ ,  $SD = 3.37$ ,  $SE = .09$ ),  $p < .001$ . Hypothesis 3 was partially supported.

### **3.2.4. Discussion and conclusions**

We found that perceptions of communality increase following an increasing positive trend, while perceptions of agency follow an inverse quadratic trend, decreasing when considering the pandemic context. Our study indicates that the pandemic context made the agentic dominance in leadership traits less salient, consistent with previous findings on the role of critical historical events in the Romanian context in shifting the content of gender stereotypes (Curşeu & Pop-Curşeu, 2018).

During the pandemic, male leaders are perceived as increasing their communal traits and relational orientation. This increase in communality during crisis was not observed for female leaders, as they were expected to maintain their pre-pandemic level of communality. This finding extends previous literature by providing support for the notion that a communal focus is crucial in crisis leadership (a “think crisis, think communality” effect, Eichenauer et al., 2022). The presence of communal traits helps employees navigate the challenges of crises, as these leaders are more empathetic, sensitive to the needs of others, and relationally oriented (Probert & James, 2011; Ryan et al., 2011).

Our results support role congruity arguments and do not support the dissolution of stereotypical expectations for managers (Eagly & Karau, 2002). Our participants evaluated both targets as more masculine than feminine overall, replicating previous findings on the “think manager, think male” effect (Schein, 1973). Moreover, our results support the social role congruence predictions derived from the social role theory, as participants considered female targets to be more feminine than male targets, and vice-versa (Eagly, 1987; Eagly & Wood, 2016).

Although we expected perceptions of androgyny to remain stable after considering the pandemic context, we find they further increase in the future. Moreover, this change is stable for both genders. While previous findings indicate more dynamism for female targets rather than male, our findings indicate malleability in the perception of leaders in general, consistent with the trend towards increased androgyny in leadership styles (Koenig et al., 2011; Paustian-Underdahl et al., 2014).

Consistent with our expectations, we found a positivity effect as indicated by an increase in the perception of positive attributes in the future and a decrease in negative attributes. Such a shift favoring leadership positivity is in line with the social discourse focused on inclusiveness, engagement, and well-being at work (Dalton & Kennedy, 2007). Such a result may be indicative of an overly romanticized view of leadership and could be rooted in a socially shared fantasy rather than a realistic historical trend. Future studies should investigate how leadership expectations change in relation to other disruptive social events, such as wars.

As limitations, we note possible demand characteristics, as participants may have tried to reduce their gender bias when evaluating female managers. Another limitation regards the diversity of the managers in the vignettes, as we only studied the effect of gender in binary terms. Future research could focus on a more inclusive approach regarding managers' gender and intersecting identities. Previous research on the structure of the BSRI indicates that, as gender role perceptions weaken over time, the factor structure and ratings of the gendered attributes may change (Donnelly & Twenge, 2017; Twenge, 1997). However, because the nature of our study is prospective, our results are not affected by this limitation of the instrument. Our findings could be corroborated using textual analyses of descriptions of leaders or managers before and during the pandemic. Future studies may also consider including questions about the perceived effectiveness or desirability of agentic and communal traits during each time period.

### 3.3. Study 3. Believing in change: Predicting identification, performance, and ethical culture during an acquisition case<sup>3</sup>

#### 3.3.1. Introduction

One of the key Sustainable Development Goals (United Nations, 2015) is SDG 8 (Decent work and economic growth), aiming to “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”. Previous research (Edwards & Edwards, 2015) indicates that international M&As may drive organizational productivity and development (target 8.2, United Nations, 2015), while fostering the economic growth of small and medium enterprises (target 8.3, United Nations, 2015). However, organizational changes in general and M&As in particular pose challenges in terms of decent work and secure working environments for employees (targets 8.5 and 8.8, United Nations, 2015), as they may lead to perceived uncertainty, stress, and job insecurity, especially if poorly managed (Dao & Bauer, 2021; Khaw et al., 2023).

Because M&As often bring changes to the organizational culture and the need to adopt new values (Elstak et al., 2015), the beliefs individuals hold about organizational changes can influence perceptions of the organization's ethical culture post-change. Ethical culture is a subset of organizational culture, or the emergent shared values, beliefs, and basic assumptions specific to an organization (Schneider et al., 2017). Organizational change beliefs are described as opinions or convictions about the veracity of specific outcomes or actions, which may not be immediately verifiable (Armenakis et al., 2007). The beliefs evoked by organizational transitions significantly influence future behavior and attitudes toward the change (Oreg et al., 2011).

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<sup>3</sup> This chapter is based on an article published as Manole, E. C., Curșeu, P. L., Olar, N. I., & Fodor, O. C. (2024). Believing in change: Predicting identification, performance, and ethical culture in an organizational acquisition case in Romania. *Administrative Sciences*, 14(10), 234. <https://doi.org/10.3390/admsci14100234>

Lewin's Field Theory is an integrative framework that provides an interactive account of behavior as a function of personal variables in context, arguing that key individual outcomes such as attitudes and behaviors are influenced by how individuals perceive themselves and their environment (Burnes & Cooke, 2013; Lewin, 1943). Positive beliefs about change can reduce the psychological distance between employees and organizational values, making ethical principles more salient and integrated into their life space. Conversely, negative change beliefs act as opposing forces, potentially distancing employees from the organization's ethical culture by creating dissonance in their psychological field (Choi, 2011).

Through transparent communication about the change and explicit support from leaders and colleagues, a positive perspective toward organizational change can strengthen the perception of ethical organizational culture (Roy et al., 2024). Similar to the concept of principal support (Armenakis et al., 2007), previous studies showed that if leaders support and communicate about the change, the feelings of uncertainty are reduced (Giessner, 2011; Mühlemann et al., 2022). Moreover, change beliefs have been previously linked to similar concepts related to ethics and values, such as distributive and procedural justice perceptions (Armenakis et al., 2007).

*Hypothesis 1: Positive organizational change beliefs positively predict the perceived strength of ethical organizational culture post-acquisition.*

Stemming from Social Identity Theory (SIT, Tajfel & Turner, 1986), the concept of organizational identification describes a form of social identification where individuals define themselves in terms of their membership within the organization and feel a sense of belonging to their organization (Ashforth et al., 2008; Mael & Ashforth, 1992).

Through the lens of Field Theory (Lewin, 1943), organizational identification is understood as the result of psychological forces acting upon employees within the organizational field (Burnes & Cooke, 2013). Positive organizational change beliefs act as

forces that can motivate employees to align their identity with the changing organization (Choi, 2011). Similar to the dimensions of discrepancy and valence (Armenakis et al., 2007), Giessner (2011) and Ullrich et al. (2005) showed that perceiving the organizational change as a necessity increased identification, while Sung et al. (2017) and Bartels et al. (2006) linked expected organizational and personal valence to post-acquisition identification. We therefore hypothesize that:

*Hypothesis 2: Positive beliefs about organizational change positively predict post-acquisition organizational identification.*

Drawing on Field Theory (Burnes & Cooke, 2013; Lewin, 1943), employees who hold a positive outlook on organizational change could experience lower barriers to performance, akin to reducing resistance within Lewin's force field. Research supports that embracing organizational shifts leads to favorable employee behaviors (Khaw et al., 2023). Additionally, those viewing changes as opportunities for personal and professional growth tend to pursue ambitious performance objectives more eagerly (Oreg et al., 2011).

*Hypothesis 3: Positive organizational change beliefs positively predict individual performance post-acquisition.*

### **3.3.2. Method**

We followed an organizational change process in a high-intensity telecommuting software company from Romania. During data collection, the organization employed between 450 and 600 individuals, of whom 61% were female. In 2022, 46.8% of employees were aged under 30, 48.3% were 30-39, and 4.9% were 40-49. The most significant change was an acquisition by a larger American organization. After the acquisition, the target company still existed as a subsidiary of the larger organization, but the acquisition led to several changes to organizational culture (change in declared values for a better alignment with the acquiring organization), team structure (reorganization of team structure, change of division and team

labels), management team, as well as the physical office (change of colors and setting to match the acquiring organization). The online survey was distributed at two time points: at the onset of the transition (Time 1, just as the change was being introduced, November 2022), and seven months after the onset (Time 2, June 2023).

We only included participants who responded to all questions at both time points. We had good response rates (41%) at Time 1 (240 participants, 64% were women, average age of 31, range 24-47) and at Time 2 (35% response rate, 209 participants, 62.7% were women, average age of 30, range 24-48). On average, they had been working at the company for three years. The majority of our participants indicated a university degree as their highest education (60% BSc level and 29.1% MSc level), 9.1% indicated a high school degree, and 1.8% indicated a doctoral degree as their highest education. The final matched sample size consisted of 55 employees.

**Organizational change beliefs** were assessed at T1 using the Organizational Change Recipients' Beliefs Scale (OCRBS, Armenakis et al., 2007). Cronbach's alpha for the overall scale was .95, indicating very good internal reliability. An overall high score on this scale reflects positive organizational change beliefs. **Organizational identification** (with the target organization) was evaluated at Time 2 using a single-item graphic scale developed by Shamir and Kark (2004); the scale presents 7 images of circles representing the organization and the employee, overlapping to different degrees. **Ethical culture** was evaluated at Time 2 using the Corporate Ethical Virtues Model Scale (CEVMS, DeBode et al., 2013; Kaptein, 2008). Cronbach's alpha for the overall scale was .97, indicating very good internal reliability. **Performance** was evaluated at Time 2 by adapting a measure developed by Rousseau and Aubé (2010); participants evaluated their individual performance on 4 indicators, including achievement of performance goals, productivity (quantity of work), quality of work accomplished, and respect for deadlines. Responses were rated on a 5-point Likert scale (1 =

very low; 5 = very high). To have a complete view of performance, we asked participants to evaluate both their on-site ( $\alpha = .89$ ) and remote performance ( $\alpha = .93$ ). The final score was obtained by averaging the two dimensions ( $\alpha = .80$ ). We included age and education as control variables because they have been shown to influence the key variables included in our study (Elstak et al., 2015).

### 3.3.3. Results

The data were screened for missing data, outliers, and regression assumptions. Linearity, normality, multicollinearity, homogeneity, and homoscedasticity were all met. We ran three separate multiple regression models in SPSS v26 for the three dependent variables, with all predictor variables entered simultaneously.

For ethical organizational culture, the overall model was significant,  $F(3, 51) = 4.42, p < .01, R^2 = .21$ , adjusted  $R^2 = .16$ , indicating that the predictors accounted for 20.6% of the variance in perceptions of ethical organizational culture at Time 2. Only organizational change beliefs positively and significantly predicted ethical organizational culture ( $\beta = .45, t(51) = 3.43, p = .001$ ), providing support for Hypothesis 1. For organizational identification, the overall model was significant,  $F(3, 51) = 9.94, p < .001, R^2 = .37$ , adjusted  $R^2 = .33$ , indicating that the predictors accounted for 36.9% of the variance in organizational identification at Time 2. Only organizational change beliefs positively and significantly predicted organizational identification ( $\beta = .63, t(51) = 5.38, p < .001$ ), providing support for Hypothesis 2.

For performance, the overall model was significant,  $F(3, 51) = 5.28, p < .01, R^2 = .24$ , adjusted  $R^2 = .19$ , indicating that the predictors accounted for 23.7% of the variance in individual performance at Time 2. Only organizational change beliefs positively and significantly predicted performance ( $\beta = .51, t(51) = 3.96, p < .001$ ), providing support for Hypothesis 3. Age and education did not predict organizational identification, ethical culture perceptions, or individual performance.

### ***3.3.4. Discussion and conclusions***

Our results extend previous research on the effects of change beliefs on perceptions of organizational culture or climate by linking change beliefs with perceptions of ethical culture post-acquisition. Moreover, our results extend previous findings about the importance of change beliefs in influencing organizational identification post-M&A. Because M&As can either weaken or strengthen organizational identification, and identification is considered a key to successful M&As, the finding that change beliefs can act as a catalyst for the positive effects of organizational change has important implications. Past research has highlighted the role of perceptions of valence or discrepancy in driving employee adaptation during M&As (Bartels et al., 2006; Giessner, 2011; Sung et al., 2017; Ullrich et al., 2005), but this is the first study to date that uses an integrative model of change beliefs.

Our results are also supportive of an individual adaptation effect, as change beliefs positively predicted individual performance post-M&A. However, these positive effects may actually be short-lived, as a function of within-person fluctuations in performance (Dalal et al., 2014, 2020). Future studies could employ experience sampling or daily diary methods to better grasp the dynamic and longer-term effects of organizational change beliefs on performance.

Surprisingly, age and education did not predict either organizational identification, ethical culture perceptions, or employee performance. Previous meta-analytic results suggest that demographic characteristics are not always stable predictors of outcomes, their effect sizes tend to be small and may be moderated by various contextual factors (see Kooij et al., 2011; Ng & Feldman, 2008, 2009, 2010).

Our results are consistent with previous literature highlighting the importance of change beliefs for adaptation during M&As (Elstak et al., 2015; Rodríguez-Sánchez et al., 2018) and with the core tenets of SIT (Tajfel & Turner, 1986) and Field Theory (Lewin, 1943). Additionally, although the time-lagged nature of our data does not allow us to draw definite

causal inferences, it eliminates limitations such as hindsight bias and reduces concerns about common method bias. Overall, our study provides a more comprehensive understanding of the role of change beliefs and reactions during M&As.

In terms of limitations, our research was conducted within a single organization, which may limit the generalizability of the results to other contexts or countries. Moreover, because we did not ask direct questions about the M&A process or the acquiring organization and used a more general framing in our survey, it could be that individual answers regarding change beliefs actually reflect attitudes towards specific changes related to the recent acquisition that were more personally salient and not the general change. As we did not measure and could not control for initial values of organizational identification, ethical organizational culture, and individual performance at Time 1, we cannot draw any inferences about actual change in outcome variables. Because we only measured change beliefs after the acquisition was being announced but before the actual changes took place, it could be that initial reactions to change refer more to anticipated rather than actual change. Additionally, our study's reliance on self-reported data might introduce common method bias. Another potential limitation is the use of a single-item measure for organizational identification, but because this specific measure is widely used, it enables us to directly compare our findings with previous studies while minimizing respondent time, thereby enhancing response rates.

As practical implications, change management strategies should specifically target reactions to change. Management should aim to create a narrative that highlights the necessity and adequacy of the M&A, mention direct and indirect benefits, raise employee efficacy about being involved in specific changes, address potential concerns and uncertainties directly and transparently, as well as show support for and alignment with the change.

### 3.4. Study 4. The differentiation-integration paradox of hybrid work: A focus group exploration of individual and team mechanisms<sup>4</sup>

#### 3.4.1. Introduction

In 2015, the United Nations established the Sustainable Development Goals, one of which (SDG 8, Decent work and economic growth) is a direct call to “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”. Following the transition to remote work during the COVID-19 pandemic, many organizations switched to a hybrid work model, giving their employees more autonomy regarding where they work (Gibson et al., 2023). Hybrid work enables organizations to diversify their workforce and increase productivity, having access to a wider and more easily accessible talent pool. On a granular level, this transition may contribute to targets 8.2 and 8.3 of SDG 8, facilitating economic productivity and reliance on technology, as well as organizational innovation and development (United Nations, 2015). Moreover, hybrid work also enables a more decent and inclusive work for employees, having benefits in terms of flexible work and autonomy (Gajendran & Harrison, 2007).

However, individuals and teams face complex challenges in hybrid work, such as balancing the need for individual autonomy with difficulties such as coordinating dispersed team members or dealing with delayed communication and feelings of isolation (Handke et al., 2024). As a result, managers and team leaders face additional challenges in managing an increasingly dispersed, hybrid workforce and ensuring decent and rewarding work conditions for both individuals and teams (Bell et al., 2023).

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<sup>4</sup> This chapter is based on an article published as Manole, E. C., Curşeu, P. L., & Trif, S. R. (2025). The differentiation–integration paradox of hybrid work: A focus group exploration of team and individual mechanisms. *Administrative Sciences*, 15(6), 201. <https://doi.org/10.3390/admsci15060201>

We use a paradox lens (Lewis, 2000; Smith & Lewis, 2011) to highlight the heterogeneous findings associated with hybrid and virtual teaming (de Guinea et al., 2012; Purvanova & Kenda, 2022). Moreover, we draw on differentiation and integration theory (Lawrence & Lorsch, 1967) to discuss our findings. In the case of individual-level findings, we also integrate psychological needs theory (Ryan, 1995; Ryan & Deci, 2017) to discuss differentiation–integration paradoxes. Considering the persistent and multi-level tensions posed by hybrid work, qualitative research is better aimed at advancing the literature (Purvanova & Kenda, 2022). We aim to gain in-depth insights into the benefits and challenges of hybrid work from a multi-level lens, exploring both individual- and team-level effects in a focus group study.

Hybrid work is defined as a work arrangement in which individuals switch between working from home and from organizational settings (Handke et al., 2024). In the context of hybrid teamwork, team members may switch between being fully collocated and working remotely, having fluctuating levels of team virtuality over time. The tensions and contradictions described by paradox theory are frequently observed in the literature on hybrid work and related concepts, both at the individual and team levels of analysis.

Moreover, the fragmentary nature of previous research on the topics of team virtuality, telecommuting, and computer-mediated work inhibits the development of an integrative understanding (Hill et al., 2022; Raghuram et al., 2019). Given these gaps, qualitative methodologies that integrate individual- and team-level perspectives have the opportunity to consider both the positive and the negative effects of hybrid work. Focus groups enable participants to share attitudes and beliefs, discuss problems and solutions, and explain their ideas to each other in an interactive fashion (Morgan, 1996). Focus groups have the advantage of capturing the spontaneous reactions of participants to each other's ideas (Onwuegbuzie et

al., 2009) and are often used to obtain a more thorough understanding of multifaceted and complex topics, such as hybrid teaming.

The pandemic accelerated the adoption of remote work arrangements (Kniffin et al., 2021), with hybrid work becoming more available and desired by the majority of workers in the post-pandemic context (Bell et al., 2023; Kilcullen et al., 2022; Nyberg et al., 2021). Because of these transitions, there is a growing need for more qualitative and exploratory research into virtual and hybrid work (Purvanova & Kenda, 2022). Accordingly, our main research aim was to gather insights regarding work experience in hybrid teams in a post-COVID-19 work setting.

### **3.4.2. Method**

We shared an invitation to participate in a focus group study through the authors' extended social networks. We used a snowball selection procedure and included both professionals and working students. Individuals were eligible to participate if they were currently working in a hybrid team. The focus groups were conducted online using Zoom and Microsoft Teams. The focus groups were moderated by the first author and a research assistant who received formal training in qualitative research and conducting focus groups. Following preliminary analysis after each session, participants were recruited until data saturation was achieved and no new themes emerged from additional focus groups (Guest et al., 2006; Onwuegbuzie et al., 2009).

We conducted 11 focus groups with a total of 48 participants (3–6 participants in each session, with an average of 4.4), with each session lasting an average of 68 min. The aim of our research was to collect data emerging from the group-level conversations. Therefore, we did not deem it necessary to collect demographic information on our participants (this also helped us to preserve full anonymity). However, in line with the procedural guidelines of focus groups, we made sure that the focus groups were heterogeneous with respect to gender and

functional background. Participants worked in various domains, including human resources (18 participants), IT (13 participants), STEM (3 participants), administration (2 participants), finance (2 participants), marketing (2 participants), customer support (1 participant), management (1 participant), education (1 participant), logistics (1 participant), and other services (4 participants). They had an average hybrid work experience of 1.1 years (range 2 months–6 years).

The main questions were focused on three discussion topics: (1) individual-level advantages and disadvantages of hybrid work, (2) team-level advantages and disadvantages of hybrid work, and (3) strategies or recommendations for how hybrid teaming can be improved (see Table 10 for the full interview guide). Each focus group was digitally recorded and transcribed in full. The data analysis followed the thematic analysis procedure described by Braun and Clarke (2006, 2013).

### **3.4.3. Results**

#### **3.4.3.1. Advantages and positive effects of hybrid work at the individual level of analysis**

Some of the advantages that participants discussed were related to work flexibility and better work-life integration, saved commuting time, as well as enhanced productivity in remote work. Flexibility related to work schedule enables them to organize their tasks and sometimes even choose when to work, while flexibility related to work location enables them to work from anywhere. Work flexibility when working remotely enables participants to work in a more comfortable or relaxing setting associated with less formality, pressure, or constraints compared to the office. Moreover, flexibility enables participants to better integrate their careers with their personal lives.

The majority of participants agreed that they saw positive effects on individual performance or productivity when working remotely, which they attributed to the advantages

previously mentioned, but also to being in the comfort of their own home and having a quiet space to work in. Another key factor at play in the differences in productivity was being less distracted by their colleagues or by social interactions at work. A subset of participants argued that although they were more productive, this enhanced performance was rather felt as overwork because they were given more tasks than their on-site team members or because they did not have the luxury of taking (social) breaks like their on-site colleagues.

#### **3.4.3.2. Negative effects of hybrid work at the individual level of analysis**

Considering individual-level disadvantages, participants discussed being less productive in remote work due to work–home segmentation difficulties, as well as feelings of isolation and missing out. In some cases, participants mentioned procrastination as a reason for extra work. In some cases, participants mentioned procrastination as a reason for overtime work. Another hindering factor to remote productivity was the difficulty associated with work–life segmentation. Participants also mentioned benefits associated with working on-site, such as better technology and office conditions (workspaces or focus rooms).

Another theme that emerged when discussing the disadvantages associated with hybrid teaming was the increased feeling of isolation or missing out when working from home. Focus group participants (10/11 focus groups) reported feeling isolated from the other colleagues who were working from the office, leading to feelings of sadness and loneliness. Some participants reported a more pronounced feeling of isolation when working from home, especially if going to the office provided them with opportunities to socialize that they would have lacked otherwise. When discussing feelings of missing out, some participants mentioned missing out on informal interactions with colleagues, bonding opportunities, or being part of the organizational culture and events. Other participants reported feelings of missing out on important or interesting information, knowledge, or solutions to different problems that are only shared at the office and that “might prove useful in the future”.

#### **3.4.3.3. Positive or mixed effects of hybrid work at the team level**

Considering team-level effects, participants discussed the need for constant connectivity and responsiveness between colleagues that have positive effects on teamwork, as well as seeing mixed effects regarding team coordination. For example, they managed to solve problems or prevent coordination blockages if their colleagues were accessible through online communication, even when working flexibly from home or other locations. The mixed effects on team coordination were discussed either in the form of coordination difficulties, attributed to the lack of responsiveness in online communication or to misalignment created in formal or informal availability hours when team members were working flexibly from home, or in the form of increased coordination, when they could work with colleagues from different locations and self-organize depending on the task requirements.

#### **3.4.3.4. Negative effects of hybrid work at the team level**

Despite seeing some positive effects of hybrid work at the team level in terms of team effectiveness and coordination, the majority of participants noted negative effects such as reduced informal communication, communication difficulties, reduced familiarity and cohesion, and negative effects on learning. The next theme we uncovered was related to the frequent communication difficulties experienced in the context of hybrid or virtual work. This theme was particularly prominent and widely discussed, and many participants agreed that it represents a drawback to working in hybrid teams. In all the focus groups we conducted, participants discussed various communication difficulties they were facing. Slow or poor communication was identified as a problem, especially when the task was interdependent or when they needed help or feedback from colleagues or supervisors who were working in another location

A theme that emerged in all the focus groups we conducted was related to the difficulties some participants experienced when engaging in learning behaviors such as asking

questions and seeking and receiving feedback or help. They reported that it was easier to engage in these conversations on-site, face-to-face. The difficulties associated with the reduced learning behaviors were especially detrimental in cases of high task interdependence, such as when needing an answer or piece of information to complete an ongoing task.

Many participants also discussed negative experiences or difficulties in their onboarding or early-career stage. The fact that their team members, leaders, or mentors were working from a different location was believed to be detrimental to their learning or integration. In this line of discussion, some participants argued that onboarding, learning, or mentoring should be carried out on-site to facilitate communication and help new hires familiarize themselves with the team, organizational culture, processes, and tools.

#### **3.4.3.5. Contingency of task characteristics**

Considering team tasks, participants believed that complex and interdependent tasks that require debates, task conflict, negotiation, decision-making, as well as transition processes (such as strategy formulation and goal setting) are better performed when all team members are present at the office. They also believed that on-site work is for social interactions and learning, while work from home is better suited for complex tasks requiring individual work and concentration—tasks that are independent from those of team members. Some participants argued that a team task should first be approached from the office, with all team members present, and later, individual work can be completed from home.

#### **3.4.3.6. Managing the negative effects of hybrid teamwork**

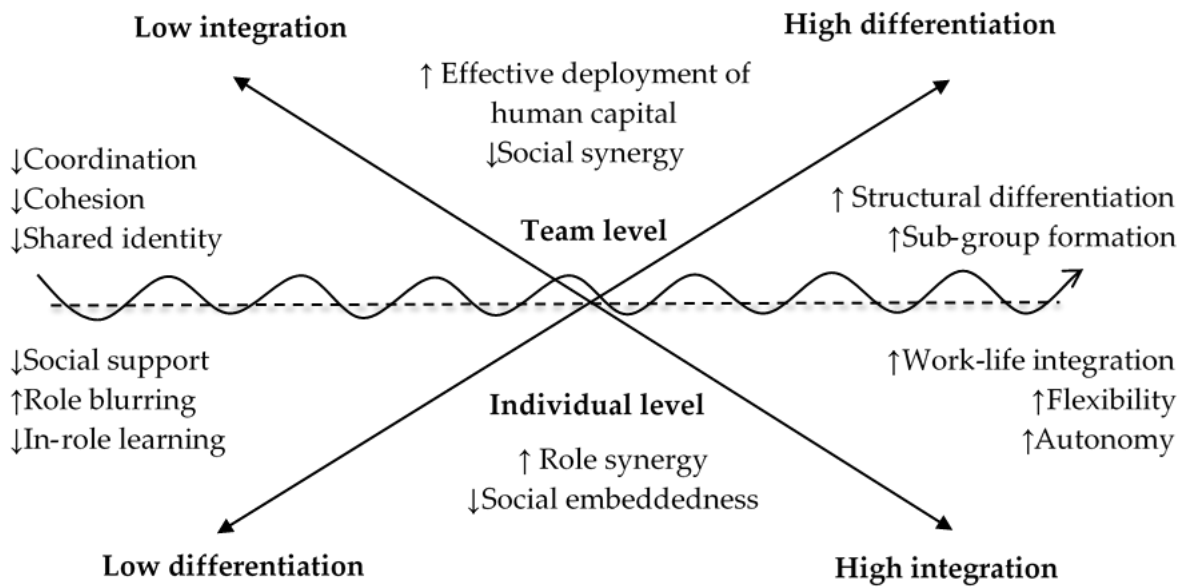
When discussing strategies or potential interventions to help mitigate the negative effects of hybrid work, participants (in 10/11 focus groups) argued that organizations should set norms for face-to-face meetings, formal or informal, such as office days or office events, where all team members should be present. They also proposed introducing team norms, such as establishing clear communication rules or choosing office days together. Participants also

discussed the importance of transparent and agreed-upon availability hours or increasing team accountability to reduce delays in communication and minimize frustration and coordination difficulties. An intervention frequently discussed was promoting communication and relationship-building through proactive informal meetings. Although early face-to-face interactions were deemed the most important, participants proposed taking time out of the workday for both online and on-site meetings and social activities. In about half of the focus groups we conducted, participants also mentioned the importance of affect management, with behaviors such as using humor, gossip, or discussing their frustrations and problems openly in a meeting. These techniques helped them build cohesion and mitigate the negative effects of distance on social connection.

#### ***3.4.4. Discussions and conclusions***

Building on our findings from the focus groups, we derive two paradoxical effects of hybrid work on differentiation and integration at the team and individual levels (the conceptual framework is presented in Figure 9). Consistent with previous research on psychological needs theory and extending the principle of differentiation and integration from social systems to individual employees, we argue that a similar balancing between differentiation and integration across life domains (work, family, leisure) grounds a happy, fulfilling, meaningful, and successful life (Pluut et al., 2025; Ryan, 1995; Ryan & Deci, 2017). In the context of individual-level effects of hybrid work, the flexibility of working from home fosters integration between work and family life domains, yet it precludes the segmentation or differentiation of roles that are equally essential for fulfilling autonomy, competence, and relatedness needs (Ryff & Keyes, 1995; Sheldon & Niemiec, 2006). Our findings mostly emphasize the negative consequences of lacking differentiation in terms of having fewer learning opportunities through direct interaction with diverse others, experiencing restricted informal social contact with teammates, and having fewer diverse options for effective and authentic affect management.

Figure 9. A multilevel framework for the differentiation–integration paradox of hybrid work



*Note.* ↑ = increased; ↓ = decreased; the oscillating arrow depicts the dynamic nature of the differentiation–integration paradox of hybrid work, as embedded in the cross-level interplay of individual- and team-level effects.

Drawing on our focus group results, hybrid work seems to enable the satisfaction of autonomy needs through enhancing flexibility while preventing the satisfaction of relatedness (through social isolation and lack of informal interactions) and competence needs (through diminished learning experiences). While fulfilling the need for autonomy, hybrid work modes also decrease the enactment of interpersonal supportive behaviors for basic needs at work, primarily for competence and relatedness (Slemp et al., 2024). Previous meta-analytic findings show that need-supportive behaviors enhance self-determined motivation and have positive effects on individual well-being and performance (Slemp et al., 2024). Although the need for autonomy and autonomy-supportive behaviors has clear positive effects, we argue that hybrid work decreases the fulfillment of competence and relatedness needs as well as the respective need-supportive behaviors.

Consistent with previous findings, hybrid work is more likely to distance employees from social resources, such as knowledge sharing and informal relationships (Leonardi et al., 2024), and decrease social support and feedback (Sardeshmukh et al., 2012; ter Hoeven & van

Zoonen, 2020; Vander Elst et al., 2017). Drawing on focus group findings, interpersonal supports for competence, such as providing structure and feedback, sharing knowledge, providing learning opportunities, and coaching from mentors, are reduced in hybrid work. Additionally, interpersonal supports for relatedness, such as expressing warmth, mutual concern, and fostering meaningful relationships and social connection, are diminished by the excessive focus on task accomplishment and the decrease in informal, serendipitous interactions. Our findings indicate decreases in both lateral support (from team members) and vertical support (from mentors or leaders), with negative effects on need fulfillment.

Integration is important for need fulfillment and well-being because it can bring coherence between multiple roles and identities that may have otherwise conflicting demands (Deci et al., 2017; Pluut et al., 2025). In light of the focus group results, hybrid work mostly fosters role integration for the individual team members. Role integration is facilitated as team members are able to combine work with hobbies (watching movies, TV shows), recover better by having longer breaks, allocate more time for role integration by reducing commuting time, and integrate family and work roles more efficiently (e.g., doing household chores during work breaks).

Consistent with our findings and with boundary theory (Ashforth et al., 2000; Kreiner, 2006), hybrid work enables role integration during work-from-home days, increasing boundary flexibility by overlapping work and home boundaries and allowing for transitions between boundaries. Moreover, hybrid work strengthens boundary permeability by increasing the voluntary or involuntary interruptions of one role in the other role's domain and making personal demands more salient during work hours (Allen et al., 2014; Ashforth et al., 2000; Kossek & Lautsch, 2012). When working from home, role transitions may bring switching costs and interfere with work tasks, but they can also help integrate the different roles

employees have, enabling them to deal with both work and personal demands (Delanoeije et al., 2019).

At the team level, most of the insights that emerged from our focus groups show that hybrid work mainly facilitates differentiation as it allows teams to capitalize on the human resources that are geographically dispersed, simultaneously allocated to various projects, and have different functional or role specializations. As such, increasing differentiation through hybrid work modes enables organizations to meet the demands of the workforce and better face environmental uncertainty. Consistent with the principle of task–technology fit, teams may become more autonomous and decide to self-organize across different locations, assigning and differentiating tasks to fit their current level of technological dependence (Malhotra & Majchrzak, 2014; Maruping & Agarwal, 2004), such as tasks that require direct social interaction to colleagues working from the office, and more administrative or information-processing tasks to colleagues working from home. Drawing on our focus group findings, participants working in teams that adequately differentiated their work tasks and efforts and, later, coordinated across work locations, found hybrid teaming to be more productive.

Consistent with the previous literature on hybrid and virtual teams, participants discussed problems such as misunderstandings in communication and the tendency to make negative or dispositional attributions (Curşeu, 2006; Hinds & Bailey, 2003; Leonardi et al., 2024; Wilson et al., 2008). Differences in time spent together at the office may lead to collocated team members feeling closer to each other and increasing feelings of isolation in colleagues working from home, while hindering collective coordination (Handke et al., 2024; O’Leary & Cummings, 2007; O’Leary & Mortensen, 2010). Consistent with this lack of adequate integration across work locations, participants also discussed the importance of increasing boundary-spanning integration mechanisms in the form of proactive norm-setting

and relationship building, team onboarding practices, informal communication, and affect management processes.

Consistent with paradox theory (Lewis, 2000; Smith & Lewis, 2011) and the perspective of teams as multi-level systems, we argue that the differentiation–integration dynamics at the individual and team levels are mutually interdependent, as members are embedded in teams. For example, team-level dynamics may have top-down effects on individual team members in the form of increasing connectivity demands as an integration mechanism, which may in turn blur the boundaries between work and family roles for individual team members who would prefer to have more flexibility in their work schedules, or to disconnect from work outside work hours. On the other hand, individual-level dynamics may have bottom-up effects on teams. For example, increasing flexibility or autonomy at the individual level may lead to misalignment and communication difficulties at the team level, which would later bring relational difficulties in the form of decreased familiarity and cohesion.

In terms of practical implications, we argue that this emerging paradox of hybrid work and its associated managerial challenges can be effectively addressed by restoring the balance between differentiation and integration at the individual as well as the team level. Therefore, we claim that one of the key challenges of hybrid work is to foster integration at the team level while preserving differentiation at the individual level. We present a summary of our practical recommendations in Table 12.

Although we conducted in-depth focus groups that provide rich data on how participants experience hybrid work, because of the qualitative and exploratory nature of the study, our sample limitations, and the lack of detailed demographical data, our findings require additional research in order to ensure generalizability across organizations, nationalities, and cultures (Braun & Clarke, 2006). We also note that our findings may be contingent on several moderators, such as organizational sector and size. Considering boundary management

**Table 12***Summary of findings and practical implications*

| Level of analysis | Findings                                                                                                                                                                                                                                                                                                                                                                                                                                     | Recommendations                                                                                                                                                                                                                                                                                     |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Individual        | Hybrid work prevents role differentiation and segmentation with negative effects on well-being and performance: <ul style="list-style-type: none"> <li>• Increased flexibility and autonomy</li> <li>• Fewer social, informal, and meaningful interactions (perception of communication being too task-focused, social isolation, feelings of missing out)</li> <li>• Fewer learning opportunities and informal knowledge sharing</li> </ul> | Increase differentiation across roles and ensure balanced need satisfaction: <ul style="list-style-type: none"> <li>• Facilitate social and learning experiences</li> <li>• Promote knowledge sharing, especially for new employees</li> </ul>                                                      |
|                   | Hybrid work increases role integration: <ul style="list-style-type: none"> <li>• Integration between work and home life through increasingly blurred boundaries</li> <li>• Integration of more recovery opportunities during work hours</li> </ul>                                                                                                                                                                                           | Reduce excessive integration across roles: <ul style="list-style-type: none"> <li>• Set availability hours while maintaining scheduling autonomy for the rest of the workday</li> <li>• Set clear boundaries between work and home life</li> </ul>                                                  |
| Team              | Hybrid work increases team-level differentiation: <ul style="list-style-type: none"> <li>• Diversified and dispersed workforce</li> <li>• Increased self-organization and dynamic allocation to projects or tasks based on location</li> </ul>                                                                                                                                                                                               | Reduce excessive team-level differentiation: <ul style="list-style-type: none"> <li>• Encourage team members to respect office days and social events</li> <li>• Create opportunities for informal interactions and maintain frequent and synchronous communication between team members</li> </ul> |
|                   | Hybrid work hinders team role integration and team coordination: <ul style="list-style-type: none"> <li>• Misalignment between work schedules/availability hours</li> <li>• Communication difficulties (delays, misunderstandings)</li> <li>• Faultlines and negative effects on relationships</li> <li>• Need for constant connectivity as a coping mechanism</li> </ul>                                                                    | Increase team role integration and support team coordination <ul style="list-style-type: none"> <li>• Encourage team members to set communication and coordination norms</li> <li>• Make use of team collaboration and information-sharing tools</li> </ul>                                         |

preferences as a moderating factor in how hybrid work is experienced, we suggest that organizations consider these preferences when designing flexible work policies (Ashforth et

al., 2000; Kreiner, 2006). We also suggest that understanding preference-task fit could be key to improving employee well-being and team coordination in flexible work systems.

### **3.5. Study 5. Online versus face-to-face multiparty interactions: Effects on emergent system dynamics and integrative outcomes<sup>5</sup>**

#### **3.5.1. Introduction**

One of the Sustainable Development Goals developed by the United Nations is SDG 17 (Partnership for the goals), aiming to “strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development”. More specific targets regard the collaboration of multi-stakeholder partnerships (target 17.16) between different sectors, namely public, private, and civil society (target 17.17), while recognizing the role technology plays in accelerating progress towards sustainable development and achieving systemic actions (target 17.8; United Nations, 2015). Stakeholders in multiparty systems face important relational challenges as they have to reconcile their allegiance to their own individual interests (they are identified and committed to their own party) with the need to define a joint problem definition and commit to a collective goal (thus they need to identify with the collective). The transition to digitalization and virtual communication – prompted, especially, by the COVID-19 crisis – may either enable multi-stakeholder partnerships or bring additional challenges.

To date, the literature on multiparty systems lacks systematic investigations that explore differences in reaching the integrative potential (for example, integrating economic and environmental concerns) in multiparty systems operating in face-to-face as opposed to online settings. We use a behavioral simulation in which five stakeholder parties were invited to address a complex regional development situation. Two parties had predominantly economic

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<sup>5</sup> This chapter is based on a manuscript submitted for publication in the journal *Systems Research and Behavioral Science*.

interests, while two others had environmental interests. One other party was assigned a leading role and had mixed economic and environmental concerns.

Social Interdependence Theory (Deutsch, 1949; Johnson, 2003) states that when stakeholders believe they can achieve their goals to the extent that other stakeholders achieve their goals as well, they are more likely to engage in collaborative interactions. Stakeholders often enter interactions with expectations regarding the collaborative intentions of the other parties involved that later influence their behavior (Curşeu & Schruijer, 2018); if they understand they share a common fate or share perceptions of positive interdependence they are more likely to coordinate their actions, to reciprocate and act in ways consistent with this expectation (Cikara, 2021; Johnson & Johnson, 2003; Kern et al., 2020). Moreover, if stakeholders perceive they share a common fate, they are more likely to coordinate their efforts in order to achieve collective goals (Cikara, 2021; Rabbie et al., 1989). Expectations of positive interdependence, or a shared sense of common fate, promotes trust, and fosters collaboration, constructive conflict, and collective goal achievement (Johnson & Johnson, 2003, 2005; Tjosvold et al., 2014) and integrative strategies in the context of multiparty negotiations (Kern et al., 2020).

*Hypothesis 1. Expected positive interdependence has a positive association – through experienced positive interdependence - with system-level (a) integrative problem-solving and (b) goal achievement.*

Group identification is rooted in Social Identity Theory (Tajfel & Turner, 1986; Turner et al., 1987) and is defined as the perception of oneness with or belongingness to a group (Mael & Ashforth, 1992; Van Knippenberg, 2000). Drawing on Social Interdependence Theory, expectations of positive interdependence and stakeholders' awareness that they share a common fate will increase the perception of the system as a cohesive and united collective (Cikara, 2021; Johnson & Johnson, 2005). Expected positive interdependence may also

motivate the stakeholders to identify with the multiparty system (Fiol & O'Connor, 2005; Turner et al., 1987).

Co-presence refers to the subjective experience of being present with real individuals and often predicts communication outcomes (Oh et al., 2018). It entails being able to construct a mental model of other individuals and a sense of mutual awareness during (technology-mediated) interactions (Biocca et al., 2003; Sivunen & Nordbäck, 2015). In line with the research on coalitional cognition (Cikara, 2021), we therefore expect that stakeholders who perceive they share a common fate (Rabbie et al., 1989) are more likely to coordinate their efforts and act in a coordinated fashion.

*Hypothesis 2. Expected positive interdependence has a positive association with (a) system-level identification and (b) co-presence.*

Identification with system goals has been associated with increased collaborative and integrative outcomes during negotiations (Swaab et al., 2007; Trötschel et al., 2010), information sharing, cooperation, and commitment to goal achievement (Ashforth et al., 2008). The positive effects of identification are stronger when goals are perceived as interdependent, as group members are more motivated to invest in outcomes beneficial to the collective and themselves (Ashforth et al., 2008). If stakeholders believe they are interdependent and embrace a common fate, this identification should increase performance (Swaab et al., 2007), motivate cooperation (Boothby et al., 2023), and mediate the relationship between these expectations and integrative outcomes after the discussions.

Co-presence is more important in tasks that have no clear-cut answer (Daft & Lengel, 1986; Oh et al., 2018), such as the ones that multiparty systems have, because it is associated with higher interaction, reciprocity, and better communication (Lowry et al., 2006). Co-presence enhances experimentation and innovation through the interpretation of knowledge shared by other individuals (Gibson & Gibbs, 2006), and it has been linked to outcomes such

as helping behaviors, social motivation, and group performance (Haines, 2021). Although positive interdependence sets the stage for beneficial multiparty system outcomes, we argue that this effect is partially explained by emergent system dynamics.

*Hypothesis 3a. System-level identification and co-presence partially mediate the association between expected positive interdependence and integrative problem-solving in multiparty systems.*

*Hypothesis 3b. System-level identification and co-presence partially mediate the association between expected positive interdependence and goal achievement in multiparty systems.*

Virtuality is associated with reduced social interaction, problem-solving, and awareness, as well as increased coordination complexity and conflict (O’Leary & Cummings, 2007). According to social presence theory (Short et al., 1976) and media richness theory (Daft & Lengel, 1986), different communication media convey different levels of social presence, with the highest level being afforded by face-to-face interactions through both verbal and non-verbal signaling and increased interactions. In online communication, interaction happens in the context of diminished social cues and lower mutual awareness. We therefore expect that virtual communication makes it more difficult for stakeholders to understand their shared fate (Cikara, 2021) and capitalize on their positive interdependencies.

Previous evidence shows that in general, virtual teams are slower at developing group identification (Fiol & O’Connor, 2005; Gibson et al., 2011), affective and cognitive emergent states (Curşeu et al., 2008; Leonardi et al., 2024), and may need more time to reach outcomes compared to co-located teams, even when using advanced technology (Liska, 2022). The technology dependence and physical distance in online simulations bring difficulties in building co-presence (Oh et al., 2018), emotional connection, and intimacy between stakeholders (Purvanova & Kenda, 2022).

*Hypothesis 4. Communication environment (face-to-face vs online) moderates the association between expected positive interdependence and experienced positive interdependence, system-level identification, and co-presence, such that expected positive interdependence is a stronger predictor in face-to-face interactions.*

*Hypothesis 5. Communication environment (face-to-face vs online) moderates the indirect effect of expected positive interdependence on integrative problem-solving and goal achievement via experienced positive interdependence, system-level identification, and co-presence, such that the effect is stronger in face-to-face interactions.*

### **3.5.2. Method**

The study was conducted in the context of curricular activities in a large Romanian university as a part of a teamwork and collaboration skills experiential learning workshop. A total of 441 undergraduate students distributed in 130 groups across 26 simulations (376 women, 64 men, 1 undeclared, with an average age of 26.54,  $SD = 9.06$ ) participated in the study and fully completed two surveys. Fifteen of the simulations were conducted in a face-to-face setting in the university building, and eleven were online, using the MS Teams platform, where all groups used both video meetings and chat discussions within their constituent groups. The simulation structure was adapted from Vansina et al. (1998), and participants engaged in both within and between-group interactions. During each simulation, five parties interacted to see if they could reach a collaborative decision on a complex regional development situation. During each simulation, five parties interacted to find out whether they could reach a collaborative decision regarding a complex regional development situation. Two of the parties had predominantly economic interests (Oltenia Energy Complex, Romanian Foresters Association), two had environmental interests (BankWatch NGO, The Ministry of Environment), and one had mixed interests (The Local Council). Their task was to explore issues related to the economic development and the environmental conservation of the regional

area (Rovinari, Romania) and possibly come to a decision regarding a regional development plan that could integrate these concerns.

**Expectations of positive interdependence** (T1) and **experienced positive interdependence** (T2) were evaluated using a single item presented in Curseu and Schruijer (2020). **System identification** and **identification with the stakeholder group** (T2) were evaluated using a single item (Postmes et al., 2013). **System co-presence** and **co-presence in the stakeholder group** (T2) were evaluated using the 5-item subscale developed by Harms and Biocca (2004). Cronbach's alpha was .86, indicating a good internal reliability of the scale. **Goal achievement** (T2) was evaluated using a round-robin procedure (similar to Curseu & Schruijer, 2020) that asked the participants to rate the extent to which each party involved reached their goals. For **integrative problem-solving** (T2) we adapted 4 items related to integrative conflict management styles (Rahim, 1983; Tjosvold et al., 2014). Cronbach's alpha was .82, indicating a good internal reliability of the scale. As **control variables**, we included identification with the stakeholder group, co-presence in the stakeholder group, as effective collaboration in multiparty systems requires a dual focus on the stakeholders' own group and on the overall system. We also controlled for the extent to which the Local Council was explicitly informed of their leading position in the system. In fourteen of the simulations the leadership role of the Local Council party was explicitly stated (stakeholders received the information that the Local Council will facilitate and lead the collaborative process) while in twelve of the simulations the role of the Local Council was left implicit (no input on the facilitating role of the Local Council was provided to stakeholders).

### **3.5.3. Results**

Because the individual participants were nested in groups, which were nested in simulations, we used multilevel analyses and the MLmed macro for SPSS (Rockwood & Hayes, 2017) with robust standard errors (REML estimation) to test our hypotheses. Because

of the nested nature of our data, we conducted preliminary analyses to justify aggregation at the team level and calculated intraclass correlations (see Table 13). Values of ICC1 above .05 and ICC2 above .70 justify aggregation (Biemann et al., 2012). All variables met the cut-off criteria for ICC1 but not for ICC2. However, because ICC2 tends to be lower when group size is small (the average group size in our study was three members, range two to five), we proceeded with the main analyses (Woehr et al., 2015). As we are interested in the effects of predictors at both levels of analysis (within and between-group effects), all continuous predictors were grand mean-centered before the analyses (Wang & Maxwell, 2015).

In order to test the first three hypotheses, we ran separate MLmed analyses for each dependent variable (integrative problem-solving and goal achievement), including identification with the stakeholder group and co-presence in the stakeholder group as level-1 covariates and condition as a level-2 covariate.

Expected positive interdependence had a significant effect on experienced positive interdependence, both within ( $B = .27, SE = .06, p < .001$ ) and between-groups ( $B = .34, SE = .09, p < .001$ ), a result fully aligned with the SIT (Deutsch, 1949). Experienced positive interdependence had a positive between-groups association with integrative problem-solving ( $B = .25, SE = .06, p < .001$ ) as well as goal achievement ( $B = .21, SE = .09, p = .02$ ), offering preliminary support for Hypothesis 1.

The indirect association between expected positive interdependence and system outcomes was mediated between-groups by experienced positive interdependence. For goal achievement, the indirect effect of expected positive interdependence via experienced positive interdependence was significant between-groups (effect = .07,  $SE = .04$ , MCCI [.01;.15]), but not within (effect = .02,  $SE = .02$ , MCCI [-.005;.06]). For integrative problem solving, the indirect effect of expected positive interdependence via experienced positive interdependence was significant between-groups (effect = .08,  $SE = .03$ , MCCI [.03;.15]), but not within (effect

= .02,  $SE = .01$ , MCCI [-.001;.04]). We can therefore conclude that Hypothesis 1 received support for the between-groups effect.

Hypothesis 2 was not supported, as the associations between expected positive interdependence and system identification and co-presence were not significant. However, system identification positively predicted both integrative problem-solving, within ( $B = .13$ ,  $SE = .04$ ,  $p < .001$ ) and between-groups ( $B = .27$ ,  $SE = .07$ ,  $p < .001$ ) and goal achievement, within ( $B = .24$ ,  $SE = .06$ ,  $p < .001$ ) and between-groups ( $B = .50$ ,  $SE = .10$ ,  $p < .001$ ). Moreover, system co-presence also positively predicted both integrative problem-solving, within ( $B = .22$ ,  $SE = .06$ ,  $p < .001$ ) and between-groups ( $B = .39$ ,  $SE = .08$ ,  $p < .001$ ) and goal achievement, between-groups ( $B = .43$ ,  $SE = .13$ ,  $p < .001$ ).

In order to test the mediating effects specified in Hypothesis 3, we estimated the indirect effects of expected positive interdependence via identification with the system and co-presence experienced in the multiparty system on integrative problem solving and goal achievement. The indirect effect of expected positive interdependence via system identification on integrative problem solving was not significant, within (effect = .004,  $SE = .01$ , MCCI [-.01;.02]) or between-groups (effect = .03,  $SE = .02$ , MCCI [-.01;.08]). The indirect effect of expected positive interdependence via system co-presence on integrative problem solving was not significant, within (effect = -.002,  $SE = .01$ , MCCI [-.02;.01]) or between-groups (effect = .01,  $SE = .03$ , MCCI [-.04;.07]). For integrative problem-solving, the remaining direct effect of expected positive interdependence was not significant, within (effect = .02,  $SE = .03$ , MCCI [-.05;.08]) or between-groups (effect = -.09,  $SE = .06$ , MCCI [-.20;.02]).

The indirect effect of expected positive interdependence via system identification on goal achievement was not significant, within (effect = .01,  $SE = .01$ , MCCI [-.02;.04]) or between-groups (effect = .05,  $SE = .04$ , MCCI [-.02;.14]). The indirect effect of expected positive interdependence via system co-presence on goal achievement was not significant,

within (effect =  $-.001$ ,  $SE = .01$ , MCCI  $[-.01;.01]$ ) or between-groups (effect =  $.01$ ,  $SE = .03$ , MCCI  $[-.04;.08]$ ). For goal achievement, the remaining direct effect of expected positive interdependence was significant between-groups (effect =  $-.19$ ,  $SE = .09$ , MCCI  $[-.36;-.01]$ ), albeit in the opposite direction than hypothesized, but not within (effect =  $-.04$ ,  $SE = .06$ , MCCI  $[-.15;.07]$ ). These results do not support Hypothesis 3.

Among the control variables, the identification with own stakeholder group had a positive and significant association with experienced positive interdependence ( $B = .16$ ,  $SE = .07$ ,  $p = .03$ ), integrative problem solving ( $B = .16$ ,  $SE = .04$ ,  $p < .001$ ) and goal achievement ( $B = .28$ ,  $SE = .07$ ,  $p < .001$ ), as well as a negative association with identification with the multiparty system ( $B = -.21$ ,  $SE = .07$ ,  $p = .003$ ). Co-presence in own stakeholder group had a positive association with experienced positive interdependence ( $B = .18$ ,  $SE = .09$ ,  $p = .04$ ), identification with the multiparty system ( $B = .38$ ,  $SE = .08$ ,  $p < .001$ ) as well as co-presence experienced in the multiparty system as a whole ( $B = .71$ ,  $SE = .05$ ,  $p < .001$ ). The extent to which the leading role of the Local Council was explicit versus implicit only predicted system identification, between-groups ( $B = .22$ ,  $SE = .10$ ,  $p = .04$ ), indicating that system identification was higher in simulations in which the leadership role of the Local Council party was explicit.

In order to test Hypothesis 4, which included the moderation effect, we added communication environment (face-to-face versus virtual) and the interaction between expected positive interdependence and communication environment as level-2 covariates. Table 15 presents the multilevel moderation analyses for both dependent variables. As seen in Table 15, the communication environment only predicted system co-presence, between-groups ( $B = .29$ ,  $SE = .08$ ,  $p < .001$ ), indicating that co-presence is higher in face-to-face groups. The interaction between communication environment and expected positive interdependence only significantly predicted system identification, between-groups ( $B = .21$ ,  $SE = .09$ ,  $p = .02$ ), indicating that expected positive interdependence is a stronger predictor of system identification in face-to-

face simulations, as is also indicated in the regression slopes presented in Figure 10. These results partially support Hypothesis 4.

**Table 16**  
*Index of moderated mediation (Hypothesis 5)*

| Mediation pathway                                                 | Within   |                     | Between  |                   |
|-------------------------------------------------------------------|----------|---------------------|----------|-------------------|
|                                                                   | Estimate | 95% MCCI            | Estimate | 95% MCCI          |
| Expected PI → Experienced PI → Integrative problem-solving        | -.02     | [-.05;.001]         | .02      | [-.08;.12]        |
| Expected PI → System identification → Integrative problem-solving | .02      | [-.01;.05]          | .11      | <b>[-.02;.23]</b> |
| Expected PI → System co-presence → Integrative problem-solving    | -.03     | <b>[-.07;-.002]</b> | .03      | [-.07;.14]        |
| Expected PI → Experienced PI → Goal achievement                   | -.02     | [-.07;.01]          | .02      | [-.07;.12]        |
| Expected PI → System identification → Goal achievement            | .03      | [-.02;.09]          | .20      | <b>[-.03;.41]</b> |
| Expected PI → System co-presence → Goal achievement               | -.02     | [-.06;.01]          | .04      | [-.08;.16]        |

*Note.* PI = Positive Interdependence. MCCI = Monte Carlo confidence interval. CIs not including zero are printed in bold.

In order to test Hypothesis 5, we included communication environment as a level-2 moderator of the  $a$  path. Because the MLmed Macro allows for the moderation of the  $a$  path only for the first mediator entered, we ran three models for each dependent variable and changed the order of the parallel mediators, while keeping all three mediators in the analyses to account for overlapping variance. The index of moderated mediation was only significant between-groups, via system identification, indicating that the between-groups indirect effect of system identification varies as a function of communication environment (see Table 16). Although the within-groups index of moderated mediation was significant for co-presence, the inspection of indirect effects revealed a positive yet not significant indirect effect in online simulations and a negative yet not significant indirect effect for face-to-face simulations.

We then followed the approach described by Rockwood (2017) and probed the indirect effect of system identification at different values of the moderator. We report both within and

**Table 17***Conditional indirect effects with Monte Carlo confidence intervals (Hypothesis 5)*

| Mediation path                                                    | Communication environment | Within               |              | Between              |             |
|-------------------------------------------------------------------|---------------------------|----------------------|--------------|----------------------|-------------|
|                                                                   |                           | Indirect effect (SE) | 95% MCCI     | Indirect effect (SE) | 95% MCCI    |
| Expected PI → System identification → Integrative problem-solving | Online                    | -.01 (.01)           | [-.03; .02]  | -.05 (.04)           | [-.14; .03] |
|                                                                   | Face-to-face              | .01 (.01)            | [-.01; .03]  | .06* (.03)           | [.01; .14]  |
| Expected PI → System co-presence → Integrative problem-solving    | Online                    | .02 (.01)            | [-.01; .05]  | .01 (.04)            | [-.08; .09] |
|                                                                   | Face-to-face              | -.02 (.01)           | [-.04; .005] | .04 (.03)            | [-.02; .10] |
| Expected PI → System identification → Goal achievement            | Online                    | -.01 (.02)           | [-.05; .03]  | -.08 (.07)           | [-.24; .05] |
|                                                                   | Face-to-face              | .02 (.02)            | [-.01; .06]  | .12* (.06)           | [.02; .24]  |

*Note.* PI = Positive interdependence. MCCI = Monte Carlo confidence interval. \* $p < .05$ .

between effects in Table 17 for transparency, yet we discuss only between-effects results as communication environment was modelled as a level-2 moderator. The indirect effect of system identification was significant only in face-to-face simulations, and not significant in online simulations. These results partially support Hypothesis 5.

### ***3.5.4. Discussion and conclusions***

#### **3.5.4.1. Theoretical implications and future research directions**

The not significant relation between positive interdependence and the emergent dynamics (of identification and co-presence in MPS) and the negative relation with goal achievement was a striking result that could have various explanations. First, given the complexity of the situation, it is possible that the stakeholders' perception of their degree of positive interdependence was actually inaccurate. Therefore, these initial expectations of positive interdependence do not predict emergent dynamics (identification and co-presence) and negatively predict goal achievement because they do not capture the real interdependence that the participants subsequently discover. In the end, experienced positive interdependence explains system outcomes. With respect to expected interdependence, it could be that despite their positive expectations, stakeholders discover actual, possibly unanticipated interdependencies, divergent interests, and power differences in the system that lead to lower perceptions of goal achievement. Second, as expected, positive interdependence does not necessarily increase identification or the perception of co-presence, it is possible that these emergent dynamics occur subsequently. Future research could use more refined longitudinal studies to explore the sequencing interdependence, co-presence, and identification in multiparty systems. Third, it is possible that the time span used in our simulation was too short to allow for deep identification to occur.

As identification is driven by a variety of other factors, future research could shed more light on the dynamics of identification in multiparty systems and explore identification

dynamics in multiteam systems with longer life spans. At the multiparty system level, identification and co-presence are significant and positive predictors for integrative problem-solving and goal achievement in multiparty systems. These results are aligned with the role of emergent dynamics on system-level outcomes, showing that the two emergent states (identification and co-presence) are important prerequisites for collaborative effectiveness. Our results are aligned with previous evidence (Schruijer & Curseu, 2021) concerning the critical role of identification for collaborative effectiveness in multiparty systems. Moreover, our mediation analysis shows that, for face-to-face settings, a strong sense of positive interdependence increases identification, which in turn increases integrative problem-solving and goal achievement between-groups. We add to these insights by showing that co-presence fosters goal achievement in terms of individual perceptions (within-group effect) and between-group differences.

Another relevant result is that integrative problem solving and goal achievement are positively predicted by both identification with the group as well as identification with the system. This empirical result supports multiparty systems theory that emphasizes the need for stakeholders in multiparty systems to focus both on the collective task and their individual interests (Schruijer, 2021). Of particular interest is the fact that identification with the group negatively predicts identification with the overall system, raising important practical challenges for the effectiveness of multiparty systems in trying to find the right balance between identification with the stakeholder group and identification with the system. In line with previous research showing that identification with larger systems takes more time to develop (Cremers & Curseu, 2024) we believe that facilitators and leaders of multiparty systems should devote special attention to this dual identification focus and its implications for multiparty systems dynamics and effectiveness.

Our results show that the communication environment (face-to-face versus online) does not impact system outcomes directly, yet it impacts system co-presence that ultimately impacts the multiparty systems outcomes. We call for more research on how the communication environment used in multiparty systems shapes system-level dynamics and ultimately influences the system-level outcomes. It is not unlikely that multiparty systems use diverse interaction environments as they not only meet face-to-face but also have online meetings, in plenary but also in smaller groups. Future research could explore the dynamics of multiparty systems in such hybrid settings that combine face-to-face with online interactions.

Our study has several limitations. First, we had a relatively low sample size when considering the multilevel approach, and it consisted of students; future studies could replicate our simulation task in business contexts and using larger samples. Although our simulation task was rather complex and based on a real regional development issue with economic and environmental facets, our findings may not generalize to all multiparty systems or negotiation contexts. Another limitation pertains to the use of single items; because they could limit how well we capture more complex emergent constructs, future research could include multi-item versions of our instruments. Moreover, due to the short time interval for the simulation, it could be that the emergent system states would take longer to develop.

Our results show that virtual settings do not impact the integrative outcomes of the multiparty systems directly, and this outcome is promising for facilitating such multiparty meetings online. Virtual communication decreases the perception of co-presence, which indirectly impacts integrative problem-solving and goal achievement in multiparty systems; therefore, when stakeholders meet online, facilitators need to pay attention and mitigate the reduced co-presence effects.

In terms of practical implications, the most relevant outcomes of our study refer to the significant mediators, namely identification and co-presence, as they directly impact the

integrative problem-solving and goal achievement in multiparty systems. Facilitators of multiparty systems have to focus both on increasing stakeholder identification with the system as well as with their own party in order to foster goal achievement in multiparty systems. In face-to-face settings, identification is facilitated to the extent to which stakeholders are aware of a shared fate and understand that they depend on each other to define and achieve an overall goal as well as their individual aims.

#### IV. CHAPTER IV. CONCLUSIONS AND GENERAL DISCUSSIONS

##### **4.1. Theoretical implications**

This PhD thesis may be atypical for the type of doctoral theses conducted in the field of Psychology, in several respects. First, it includes multiple studies using varied methodologies, ranging from quasi-experimental to qualitative research. Second, it uses a broad range of theories, ranging from theories of individual adaptation to social and institutional theories. Third, it entails a multidisciplinary attempt to unfold the complex dynamics of work transitions aligned with the attempt to achieve several SDGs. Global attempts to fulfill SDGs require such a methodologically diverse, theoretically rich, and multidisciplinary approach. The five studies included in this thesis highlighted multi-level responses to different major transitions such as the COVID-19 pandemic, organizational changes, digitalization and reliance on technology, and the transition to hybrid work. From a theoretical standpoint, we outline several contributions for each SDG targeted in this thesis, based on the original research contributions.

We contribute to SDG 3 (Good health and well-being) by highlighting a stress-related growth response to the COVID-19 pandemic. Specifically, we find changes in emotional stability that explain the positive change in subjective well-being (perceived mental health and life satisfaction). Although we acknowledge the diversity of responses to the pandemic, our results show that individuals are resilient in the face of major transitions and benefit from this

resilience in terms of increased subjective well-being. The COVID-19 pandemic was a major transition that had negative effects on the progress towards SDG 3, slowing global health trends and decreasing subjective well-being (IGS, 2023; Malekpour et al., 2023). However, our findings contribute to the evidence showing positive, resilient responses to the pandemic. Our main contribution consists of highlighting a mechanism of stress-related growth in the form of increases in emotional stability reported before and during the pandemic. This finding is consistent with previous research on the malleability of personality after negative life events or transitions (Jeronimus et al., 2013; Kandler et al., 2012).

The progress towards SDG 5 (Gender equality) was also slowed by the COVID-19 pandemic due to factors such as increased workload, the lockdown leading to additional home demands and responsibilities for women, and an increase in gender-based violence (Burki, 2020; IGS, 2023; Malekpour et al., 2023). Despite facing more challenges, women were also less likely to hold leadership or managerial positions (IGS, 2023). Our findings support the perspective associated with the glass cliff effect, which argues for the dominance of communal over agentic traits during crises and major transitions (Morgenroth et al., 2020; Ryan & Haslam, 2007; Ryan et al., 2016). Specifically, we find an increase in perceived positive communal attributes during the COVID-19 pandemic, while positive agentic traits decrease during the COVID-19 pandemic and increase in the future.

Although the progress towards the appointment of female leaders in various fields was slowed by the pandemic (IGS, 2023), our finding of a change in the structure of leader stereotypes supports the need for a more relational or communal focus during crises. This change was perceived especially in the case of male targets, as female managers were expected to maintain their level of communal traits during the pandemic. Additionally, we also find that perceptions of androgyny (high levels of both communal and agentic traits) increase linearly,

supporting the trend towards the desirability of androgynous leadership approaches (Koenig et al., 2011; Paustian-Underdahl et al., 2014).

The positivity effect we observed for both genders – increase in perceived positive attributes and decrease in negative attributes – may indicate a romanticized view of leaders in the future or higher expectations for leaders, irrespective of gender. However, it could also indicate a more positive view of women managers, a decrease in negative stereotypes and backlash associated with female leadership, which might increase support for women leaders in the future. Overall, despite the slow progress towards SDG 5 and the need for more work in achieving gender equality, we argue that the COVID-19 pandemic prompted changes in the nature of gender stereotypes, indicating a hopeful advancement toward gender equality and decent work for all genders.

We contribute to SDG 8 (Decent work and economic growth) by investigating the long-term effect of employee perceptions about a major organizational transition, as well as the multi-level effects of the transition to hybrid work on employees and teams. In the context of Psychology of Working Theory (PWT), decent work is theorized to lead to need satisfaction, work fulfillment, and well-being, and has multiple components (Duffy et al., 2016, p. 130). Major organizational changes, such as mergers and acquisitions, can lead to experiences of job insecurity and uncertainty about the future, threatening the quality of work for employees (Allan et al., 2021). Among our tested predictors, only change beliefs had a long-term impact on organizational identification, perceptions of ethical organizational culture, and individual performance. This finding is consistent with the change management literature that highlights the need for an employee-centric change process (Armenakis et al., 2007; Khaw et al., 2023; Oreg et al., 2011). Both identification with work and with the organization are considered important facets of decent work, and are related to the perception that work is meaningful and fulfilling (Seubert et al., 2021).

Moreover, in the context of PWT, ethical culture is related to the organizational values dimension, and indicates whether employees believe the organization promotes ethical practices (Kaptein, 2008; Newman et al., 2017). As such, in the context of major organizational transitions, we show that employee perceptions about change are a key predictor for ensuring decent work post-transition, consistent with the notion that subjective indicators of insecurity or precarity are more predictive of relevant outcomes than objective ones (Allan et al., 2021; McWha-Hermann et al., 2025).

The transition to hybrid work has been shown to have complex and paradoxical effects on employees and teams, and on the different facets of decent work (Moglia et al., 2021). Our qualitative findings are consistent with this approach and show that hybrid work has complex effects on variables associated with SDG 8. First, hybrid work may facilitate economic growth by enabling the effective deployment of employees between different locations (on-site and remote), as they are able to differentiate their tasks, matching requirements to technological constraints. Moreover, employees working in a hybrid work arrangement believe they have more time for personal tasks and hobbies, which is directly related to the free time and adequate rest dimension of decent work (Duffy et al., 2016; Moglia et al., 2021). More specifically, hybrid work enables need fulfillment in terms of autonomy, facilitating role boundary integration during work-from-home days.

Second, previous research on the PWT highlights that decent work should fulfill all individual needs (Autin et al., 2019). However, our findings indicate that hybrid work hinders role differentiation and the simultaneous satisfaction of all essential needs at work, making the work of employees less fulfilling by increasing feelings of social isolation, reducing social connection, in-role learning, knowledge sharing, and mentoring, which brings challenges in terms of securing decent work. Moreover, hybrid work puts additional strains on teams due to misalignments and communication, relational, and coordination difficulties, which have

negative effects on team performance and satisfaction, as well as indirect negative effects on the decent work of employees. Overall, we show that despite facilitating certain facets of decent work and enabling organizations to make better use of their human capital, hybrid work brings challenges in terms of decent work for employees and teams. As one of our main contributions related to SDG 8, we show that organizations can mitigate the complex effects of hybrid work by carefully balancing the differentiation-integration dynamics and the interplay between employee and team-level effects.

We also note theoretical implications related to synergies between SDG 5 and SDG 8, considering the COVID-19 pandemic as a major transition. As both goals aim for equality (United Nations, 2015), the slow progress towards gender equality and achieving the targets highlighted in SDG 5 also hinders the progress towards achieving full employment and decent work for all genders (Chigbu & Nekhwevha, 2023; IGS, 2023). The prevalence of gender stereotypes and prejudice prevents women from gaining full employment at all organizational levels (Chigbu & Nekhwevha, 2023; Heilman et al., 2024). Considering these interdependencies, our findings of an increase in perceptions of androgyny and positive traits overall might facilitate changes towards achieving both goals by challenging gender stereotypes and empowering both men and women to take a more androgynous approach in terms of leadership behaviors.

We contribute to SDG 17 (Partnership for the goals) by investigating the moderating effect of technology-mediated communication in achieving integrative system outcomes in multi-party collaboration settings. Our simulation setting included multiple stakeholders from both public and private sectors, with different interests and with various levels of power, similar to a real-life multi-stakeholder sustainability partnership (Dentoni et al., 2018; Horan, 2022). The careful coordination between stakeholders who aim to achieve synergy under conditions of variety and power asymmetry has direct effects on the implementation of all SDGs (Stafford-

Smith et al., 2017). However, recent Global Sustainable Development Reports (IGS, 2023; Sachs et al., 2025) highlight the slow progress in strengthening multi-stakeholder partnerships and the means of implementation of the SDGs. Although SDG 17 aims for ongoing and long-term partnerships between different key stakeholders, natural experiments involving more short-term business simulations may shed light on the mechanisms involved in driving synergy and collaboration.

Our findings support the complex role of technology in the interaction of multi-stakeholder partnerships designed to tackle complex tasks that involve multiple interdependencies and interactions. Considering the growing reliance on technology as a major transition, we find that whether multi-stakeholder partnerships rely on face-to-face or technology-mediated communication to interact does not have a direct effect on integrative outcomes, but an indirect one through system dynamics. Specifically, our results indicate that the indirect effect of system identification is significant only in face-to-face interactions, such that the mechanism role of system identification is context-dependent and may not facilitate the relationship between expectations of positive interdependence and system outcomes in virtual settings.

Moreover, in line with Social Presence Theory, co-presence was higher in face-to-face interactions, indicating that stakeholders have a clearer mutual awareness of each other when they are communicating in-person, in a physical environment. Communication environment also interacted with expectations of positive interdependence in predicting system identification, indicating that initial expectations of overlapping interests and goals are more likely to facilitate identification with the multi-party system in face-to-face interactions. This finding supports the claim that in virtual settings, emergent system dynamics may take longer to develop. Overall, we show that multi-stakeholder partnerships benefit more from the emerging system dynamics when they meet in-person instead of virtually.

Our findings also indicate that initial expectations of positive interdependence are less important than experienced positive interdependence and emerging system dynamics (identification and co-presence) in driving integrative outcomes (goal achievement and integrative problem solving) in multi-stakeholder interactions. Moreover, expectations of positive interdependence have a negative effect on goal achievement. These findings have important implications for achieving collaboration in multi-stakeholder partnerships, as the stakeholders involved may not always have clear or accurate expectations of overlapping interests, but may subsequently discover unexpected areas of positive interdependence during interactions.

Moreover, emerging feelings of co-presence and identification within the multi-stakeholder system have positive effects on system outcomes, highlighting the importance of developing and capitalizing on the feelings of awareness and identification that are developed as the multiple groups interact. One particular challenge we note is related to the finding that stakeholder identification and system identification are negatively related, although they are both important for reaching integrative system outcomes. This finding implies that stakeholders may have to carefully balance personal interests and identification with their own group with common interests and system-level identification in order to reach sustainable development.

Overall, we show that major transitions have complex effects on the progress of the SDGs. Specifically, considering the individual level of analysis, the COVID-19 pandemic had positive effects in relation to SDG 3 and SDG 5, increasing subjective well-being and prompting changes in the nature of gender stereotypes. We also show that major organizational transitions, such as mergers and acquisitions, can have positive effects in terms of decent work, facilitating the progress towards SDG 8, if the transition is properly managed and the employees have positive views about the change. Drawing on a multi-level lens (individual and team), our qualitative findings shed light on the paradoxical and multi-faceted effects of

hybrid work as a major transition, with both positive and negative effects regarding SDG 8. Lastly, we find that digitalization and reliance on technology have indirect effects on variables related to SDG 17, affecting the pathways through which multi-stakeholder partnerships reach integrative outcomes.

Considering our contribution, this thesis offers several theoretical and methodological advantages in terms of breadth of theoretical focus and methodological variety. Using a multidisciplinary approach is challenging because it may not enable classical theoretical integration between findings, yet it is a key strength of this thesis when considering of the complex, multifaceted, and multilevel nature of the subject at hand. In this situation, variety and complexity are representative of major transitions and sustainability. The timely focus on major transitions and sustainable development leads to valuable insights, which facilitate a better understanding of the challenges we are currently facing as a society. If reactions to major transitions are not intently anticipated and managed, such changes may hinder the progress towards sustainable development. While we make a contribution to the SDGs and major transitions included in the thesis, much work remains to be done in order to extend this approach to the study of transition, sustainability, and psychological processes.

#### **4.2. Practical implications**

From a practical standpoint, we outline several recommendations for advancing the progress on the SDGs. First, considering SDG 3 (Good health and well-being), we highlighted the role of change in personality structure as a mechanism driving stress-related growth and subjective well-being as a response to the COVID-19 pandemic. In the context of interventions targeting resilience, stress management, and subjective well-being in response to major transitions or events, we argue that changes in emotional stability can also be used as an indicator of positive change. Moreover, we advocate for interventions that specifically target the increase of emotional stability in the context of major life transitions or external events

(Jayawickreme & Blackie, 2014; Jeronimus et al., 2018). Such interventions have been recommended in both clinical and workplace settings, with emotional stability being the most malleable and responsive to intervention of the Big Five personality traits (Ones et al., 2025; Roberts et al., 2017).

Considering SDG 5 (Gender equality), we show that the COVID-19 pandemic prompted changes in the structure of gender stereotypes applied to managers. Because stereotypes, prejudice, and discrimination are highly related, our results are indicative of a step forward in reducing the discrepancies between perceptions of men and women holding leadership or managerial positions, and thus reducing gender-based discrimination at work. However, despite our promising results on the dynamic nature of gender stereotypes as a result of major transitions, our findings also support the persistence of gender stereotypes and the “think manager, think male” effect. Although the most recent Global Sustainable Development Report (Sachs et al., 2025) shows a more balanced participation in the workforce by gender, the progress towards the fair appointment of women to leadership positions did not significantly improve. We align with the recommendations proposed by Heilman et al. (2024) and argue for the use of interventions targeting organizational processes, which reduce the gap between how men and women are perceived. For example, in line with the expectation that leaders will be more androgynous in the future, we recommend that job descriptions for managerial or leadership positions contain both communal and agentic terminology. Moreover, we recommend that androgynous approaches – in the form of both communal and agentic behaviors – become expected and rewarded in organizations by being introduced in performance evaluation standards.

Considering SDG 8 (Decent work and economic growth), this thesis has implications in terms of managing major transitions such as organizational changes and the switch to hybrid work. Specifically, we argue that organizations should prioritize change management

interventions that center around employee needs and perceptions in order to ensure a high quality of work following major transitions. Employees' attitudes towards organizational changes should be carefully monitored and managed. For example, they can be shaped by using participative approaches and involving both leaders and employees in the change management process (Choi, 2011). Moreover, organizations should frame the change in terms of discrepancy and appropriateness and share information about the effects that major transitions will have on employees. In order to increase the dimension of efficacy, employees should receive adequate training that builds confidence in their capacity to carry out the changes (Choi, 2011). Lastly, the dimensions of change beliefs can also be used as targets for cognitive job crafting interventions, especially if jobs are subject to change during major organizational transitions (Buonocore et al., 2020).

Considering the transition to hybrid work, organizations should aim to facilitate both economic growth and decent work by mitigating the paradoxical effects of hybrid work, managing the emergent differentiation-integration dynamics, and establishing trade-offs and synergy between individual and team-level forces. For example, one of the paradoxes inherent in hybrid work is that it enables employees to take breaks and work more flexibly, while increasing their need to be constantly connected through technological means. After transitioning to hybrid work, organizations should (1) increase individual-level differentiation to ensure the satisfaction of competence and relatedness needs beyond autonomy, (2) reduce individual-level integration in order to avoid excessive role blurring and work-family conflict, (3) reduce team-level differentiation by facilitating on-site interaction and informal communication, and (4) increase team-level integration through team coordination norms and technological tools.

Lastly, we indicate important mechanisms for achieving integrative outcomes and propose several interventions related to SDG 17 (Partnership for the goals). We show that the

use of technology as a means to organize and facilitate such partnerships does not pose threats in terms of integrative multi-stakeholder outcomes. However, virtual communication has complex effects in terms of reducing the effect of mediating mechanisms, which could be targeted in process interventions. We recommend that multi-stakeholder systems engaged in virtual communication use media-rich communication and identity cues (Oh et al., 2018) and take actions to increase activity and mutual awareness (Haines, 2021) in order to increase co-presence. We recommend that multi-stakeholder systems that partner for sustainable goals set interaction norms that target system dynamics and rely on experienced areas of positive interdependence instead of expectations. Additionally, we recommend that multi-stakeholder systems carefully manage the trade-offs between the identification with the group and the system by outlining a shared identity and overlapping goals, while recognizing the role of both dynamics in driving integrative system outcomes.

### **4.3. Limitations**

Although one of the aims of this thesis was to have a multi-level approach, not all studies investigated the target variables from a multi-level lens. Because SDG targets are inherently multi-level and multi-faceted, we call for more multi-level research that simultaneously addresses the synergies and interdependencies between the SDGs. We also aimed for diversity in targeting multiple major transitions and their effects on the progress towards the SDGs, but this decision also means that we could not draw homogeneous conclusions regarding the effects of major transitions across all studies. However, we argue that this diversity entails a theoretical contribution; as the factors at play in achieving sustainable development exist in a system that is responsive to multiple major transitions, it is important to investigate the effects of diverse changes. We suggest that future research aims for a more holistic approach by investigating multiple major transitions simultaneously, which will ensure a higher ecological validity.

Moreover, we call for more research on the effects of different major transitions, such as the growing use of Artificial Intelligence (AI). Research shows that AI may enable progress on certain targets through technological improvement, but may also hinder the progress by increasing the inherent inequalities, facilitating economic growth in already affluent societies, reproducing gender stereotypes, or threatening the job security and decent work of employees (Vinuesa et al., 2020).

Regarding measurement, we made use of single items and shorter measures in order to lower participant effort and time needed for survey completion. Although previous research indicates that single-item measures are frequently as reliable and valid as multi-item instruments (Allen et al., 2022), future research could further investigate the relationships investigated in this thesis by collecting multisource and multi-level data and using longer instruments.

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