Richtig erholen – leichter arbeiten: Das Projekt rela-x

Projektbericht

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1 Ziel und spezifischer Ansatz des Projekts rela-x

Das Projekt rela-x ging von der Annahme aus, dass junge Erwachsener in den ersten Jahren im Beruf besonderen Herausforderungen und Belastungen ausgesetzt sind. Es ist noch recht wenig darüber bekannt, welche Regenerations- und Bewältigungsstrategien junge Erwachsene nutzen, wenn sie sich den beruflichen Anforderungen gegenüber sehen. Grundannahme war somit, dass nicht nur die Arbeitsbedingungen (insbesondere Arbeitsstressoren und Ressourcen am Arbeitsplatz) betrachtet werden müssen, wenn es um die psychische Gesundheit von jungen Arbeitenden geht, sondern dass insbesondere auch den Regenerationsprozessen in der Freizeit eine größere Aufmerksamkeit zukommen sollte, als es bislang der Fall war. Zentrale Untersuchungsfrage war somit, in welchem Wirkungszusammenhang Arbeit, Freizeit und psychisches Befinden bei jungen berufstätigen Erwachsenen steht.

An dem Projekt beteiligt waren die Forschungsgesellschaft für Systemsicherheit und Arbeitsmedizin (FSA e.V.), die Berufsgenossenschaft Bauwirtschaft, die Berufsgenossenschaft Textil, Elektro, Medienerzeugnisse, die Berufsgenossenschaft Handel und Warenlogistik , die Berufsgenossenschaft Nahrungsmittel und Gastgewerbe, die Berufsgenossenschaft Rohstoffe und chemische Industrie, die Unfallkasse Rheinland-Pfalz, der Landesfeuerwehrverband Rheinland-Pfalz sowie der Lehrstuhl für Arbeits- und Organisationspsychologie der Universität Mannheim.

Das Besondere an der Untersuchung des Projekts rela-x ist ihr längsschnittlicher Charakter mit vier Messzeitpunkten im Abstand von je drei Monaten. Dieses Untersuchungsdesign bietet gegenüber den sonst meist üblichen Querschnitts-Designs die Möglichkeit, Veränderungen in den interessierenden Variablen über die Zeit zu analysieren. Insbesondere wird es möglich zu testen, ob bestimmte Variablen zu einem Zeitpunkt Veränderungen in anderen Variablen zu einem späteren Zeitpunkt vorhersagen. Beispielsweise erlaubt unsere Untersuchung nicht nur Aussagen darüber, ob stressvolle Arbeitsbedingungen (z.B. Zeitdruck) mit beeinträchtigtem Befinden (z.B. Erschöpfung) zusammenhängen, sondern auch, ob stressvolle Arbeitsbedingungen Veränderungen im Befinden zu erklären vermögen – oder ob es nicht vielleicht auch so ist, dass ein beeinträchtigtes Befinden dazu beträgt, Arbeitsbedingungen über die Zeit als stressvoller wahrzunehmen und sich durch sie überforderter zu fühlen.

Längsschnittliche Untersuchungen sind in der Erforschung des Zusammenhangs zwischen Arbeitsbedingungen und Befinden zunehmend häufiger zu finden (Ford et al., 2014; Sonnentag & Frese, 2012), in der Erforschung von Regenerationsprozesses sind sie jedoch noch selten (Sonnentag, Venz, & Casper, 2017). Somit erlaubt es die Untersuchung des Projekt rela-x, Zusammenhänge zwischen Arbeitsbedingungen und Regenerationsprozessen sowie zwischen Regenerationsprozessen und Befinden, die in den letzten Jahren häufig im Querschnitt betrachtet wurden (Bennett, Bakker, & Field, 2018; Wendsche & Lohmann-Haislah, 2017), auch längsschnittlich zu analysieren.

Längsschnittliche Untersuchungen über den Zusammenhang zwischen Arbeitsbedingungen und Befinden bei jungen Arbeitenden sind selten. Eine vielbeachtete Ausnahme stellt das Projekt AEQUAS dar, das an der Universität Bern durchgeführt wurde (Elfering, Semmer, Tschan, Kälin, & Bucher, 2006; Igic et al., 2017). Ein wesentlicher Unterschied zwischen dem Projekt AEQUAS und der Untersuchung des Projekts rela-x besteht in den Zeitabständen der Befragungen. Während das Projekt AEQUAS vor allem auf Entwicklungen über mehrere Jahre fokussiert, geht es in rela-x darum, Veränderungen über relativ kurze Zeitabstände (drei Monate) zu betrachten, ein Ansatz, der aufgrund der Debatte um ideale Zeitintervalle in Längsschnittstudien (Dormann & Griffin, 2015) besonders vielversprechend ist.

2 Methode

2.1 Untersuchungsdurchführung

Die Untersuchung wurde als Online-Befragung bei jungen Erwachsenen im Alter von 18 bis 25 Jahren durchgeführt. Adressiert wurden berufstätige Personen sowie Personen in einer beruflichen Ausbildung, allerdings folgten auch einige andere Personen (z.B. aktuell Erwerbslose) dem Aufruf zur Untersuchungsteilnahme. Die in diesem Bericht dargestellten Analysen beziehen sich nur auf die berufstätigen bzw. sich in Ausbildung befindenden Personen.

Es wurden vier Erhebungszeitpunkte, jeweils im Abstand von drei Monaten, realisiert. Die Mehrzahl der Untersuchungsteilnehmer/innen nahm dabei an einer Online-Befragung teil, die über die Plattform *Unipark* realisiert wurde. Zusätzlich fanden sogenannte Vor-Ort-Befragungen teil, bei denen die Untersuchungsteilnehmer/innen die Fragen auf *Tablets* beantworteten.

Die Rekrutierung der Untersuchungsteilnehmer/innen lief über verschiedene Wege, insbesondere über die am Projekt rela-x beteiligten Berufsgenossenschaften, die Unfallkasse Rheinland-Pfalz, den Landesfeuerwehrverband Rheinland-Pfalz, Berufsschulen, die Handwerkskammer Mannheim, den Lehrstuhl für Arbeits- und Organisationspsychologie der Universität Mannheim, soziale Online-Netzwerke (z.B. *facebook*) sowie informelle Kontakte.

Als Anreiz für die Untersuchungsteilnahme erhielten die Teilnehmer/innen Amazon-Gutscheine (5 Euro pro Befragungszeitpunkt). Zusätzlich wurden Sticker, Buttons, Notizblöckchen verschickt. Die Teilnehmer/innen erhielten darüber eine schriftliche Kurz-Zusammenfassung der Ergebnisse.

2.2 Stichprobe

Zum ersten Befragungszeitpunkt nahmen 2.211 Personen an der Untersuchung teil. Von den Teilnehmenden waren 2.010 berufstätig. Von den 2.211 Personen beteiligten sich 1.641 an der Online-Erhebung und 570 an der Vor-Ort-Befragung. Zum zweiten Befragungszeitpunkt (3 Monate nach dem ersten Zeitpunkt) nahmen 1.286 Personen an der Befragung teil, davon

konnten die Befragungsdaten von 1.150 Personen aufgrund eines anonymisierten Codes den Befragungsdaten vom Zeitpunkt 1 zuordnet werden (sogenannte „Matches“). Zum dritten Befragungszeitpunkt (sechs Monate nach dem ersten Zeitpunkt) beteiligten sich 1.050 Teilnehmer/innen (davon 822 „Matches“). Zum vierten Befragungszeitpunkt (neun Monate nach dem ersten Zeitpunkt) lag die Teilnehmerzahl bei 929 Personen (davon 592 „Matches“).

Die mehrfache Befragung gelang vor allem bei Personen der Online-Befragung. Personen, die über die Vor-Ort-Befragungen rekrutiert wurden, nahmen nur vereinzelt an den späteren Befragungen teil. Deshalb beruhen die in diesem Bericht dargestellten längsschnittlichen Analysen nur auf den Personen, die an der Online-Befragung teilnahmen.

Bezogen auf alle Teilnehmer/innen zum ersten Befragungszeitpunkt umfasst die Stichprobe zu 53.8 % Männer und zu 46.2 % Frauen. Das Durchschnittsalter zum ersten Befragungszeitpunkt betrug 20.9 Jahre (*SD* = 2.2). Die Mehrheit der Befragten (71.7 %) befand sich aktuell in einer Berufsausbildung. Die mittlere Wochenarbeitszeit lag bei 39 Stunden. Insgesamt verfügten die Untersuchungsteilnehmer/innen über eine gute Schulausbildung, wie in Abbildung 1 dargestellt. Die Untersuchungsteilnehmer/innen waren in unterschiedlichen Branchen und Tätigkeitsfeldern beschäftigt, wobei über 20% aller Teilnehmenden im Büro- und Verwaltungsbereich tätig waren. Abbildung 2 gibt einen Überblick.

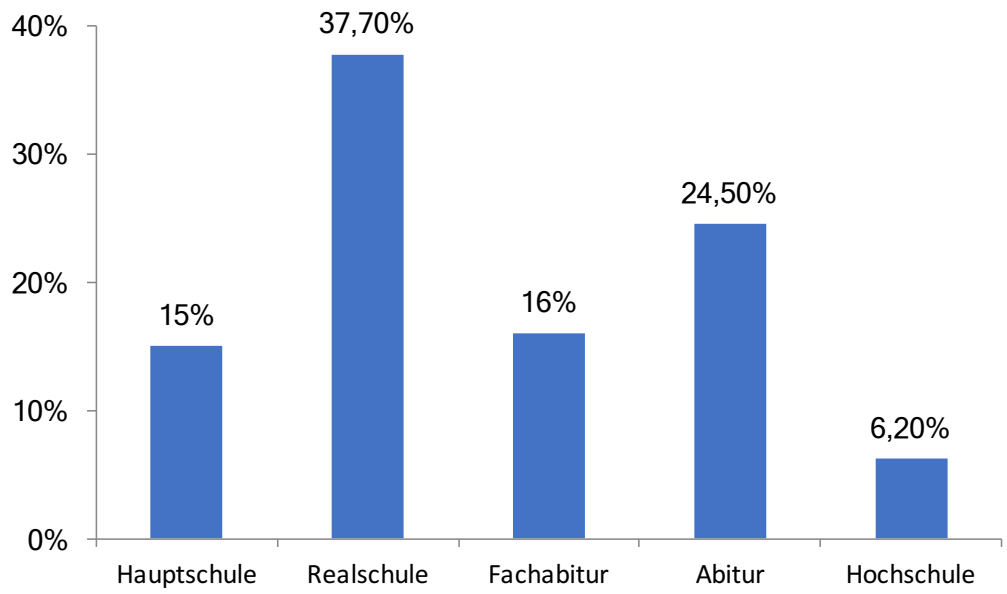

Abbildung 1. Schulbildung der Untersuchungsteilnehmer/innen (in % der Befragten zum Zeitpunkt 1)

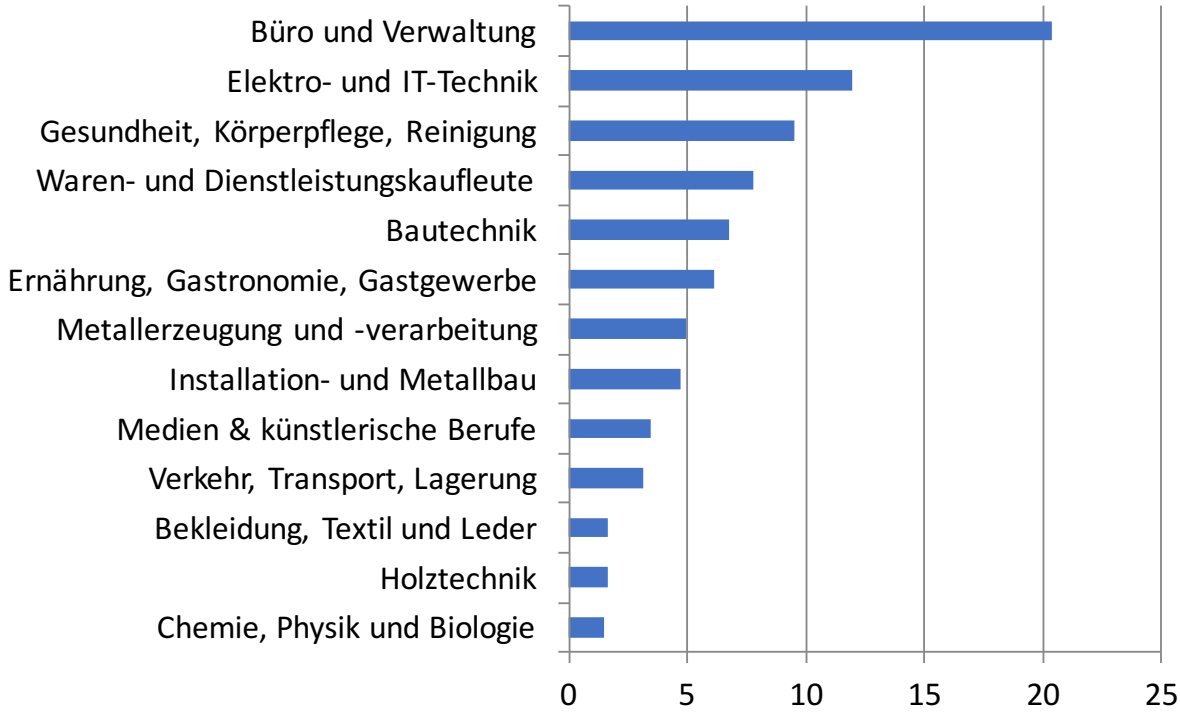

Abbildung 2. Beruflicher Hintergrund der Untersuchungsteilnehmer/innen (in % der Befragten zum Zeitpunkt 1)

2.3 Erhebungsinstrumente

Zur Erfassung der interessierenden Konstrukte wurden fast durchgängig etablierte Skalen eingesetzt, die meist aus mehreren Items bestanden. Dieses Vorgehen wurde gegenüber der Verwendung von Einzelitems bevorzugt, um Aussagen über die Reliabilität zu ermöglichen und um später auch Vergleiche mit anderen Studien anstellen zu können. Jedoch wurden bei einigen Skalen Kurzversionen verwendet. Tabellen 1 und 2 geben einen Überblick über die wichtigsten Konstrukte, die in der Untersuchung erfasst wurden. Tabelle 1 zeigt dabei die Konstrukte, die Reliabilitäten (Cronbach's Alpha), jeweils ein Beispielitem und die Quelle für die Konstrukte, die zu allen vier Messzeitpunkten erfasst wurden. Um die Belastung für die Untersuchungsteilnehmer/innen möglichst gering zu halten, wurden einige Konstrukte nur einmalig erfasst, in der Regel zum ersten Befragungszeitpunkt. Dies war vor allem bei den Konstrukten der Fall, von denen angenommen werden kann, dass sie sich nicht stark über die Zeit verändern (Tabelle 2). Insgesamt zeigen die Tabellen 1 and 2 gute bis ausgezeichnete Reliabilitäten; einzige Ausnahme sind zwei Subskalen für Coping.

Tabelle 1
Messinstrumente, die zu allen vier Zeitpunkten verwendet wurden

Konstrukt (Anzahl Items in Klammern)	Reliabilitäten zu den vier Zeitpunkten	Beispielitem und Quelle
Merkmale des Arbeitsplatzes		
Zeitdruck (5)	.85 - .91	Wie häufig stehen Sie unter Zeitdruck? (Semmer, Zapf, & Dunckel, 1998)
Arbeitsorganisatorische Probleme (5)	.77 - .79	Ich muss mit Unterlagen und Informationen arbeiten, die unvollständig und veraltet sind (Semmer et al., 1998)
Emotionale Konflikte (4)	.86 - .91	Wie häufig gibt es Spannungen auf der persönlichen Ebene zwischen Ihnen und Ihren Kollegen bzw. Ihrem Vorgesetzten? (Giebels & Janssen, 2005)
Aufgabenkonflikte (4)	.87 - .91	Wie häufig haben Sie und Ihre Kollegen bzw. Ihr Vorgesetzter voneinander abweichende Ideen bei der Ausführung von Aufgaben? (Giebels & Janssen, 2005)
Illegitime Aufgaben (8)	.87 - .92	Gibt es im Allgemeinen Arbeitsaufgaben im Ihrem Arbeitsalltag, bei denen Sie der Meinung sind, dass diese zu weit gehen, also eigentlich nicht von Ihnen erwartet werden können? (Semmer, Tschan, Meier, Facchin, & Jacobshagen, 2010)
Regenerationsprozesse		
Gedankliches Abschalten von der Arbeit (3)	.79 - .82	In meiner Freizeit vergesse ich die Arbeit (Sonnentag & Fritz, 2007)
Entspannung (3)	.79 - .87	In meiner Freizeit nutze ich die Zeit um zu relaxen (Sonnentag & Fritz, 2007)
Mastery (3)	.76 - .85	In meiner Freizeit tue ich Dinge, die mich herausfordern (Sonnentag & Fritz, 2007)
Selbstbestimmung (3)	.84 - .86	In meiner Freizeit bestimme ich selbst, wie ich meine Zeit verbringe (Sonnentag & Fritz, 2007)

Fortsetzung nächste Seite

Tabelle 1 (Fortsetzung)
Messinstrumente, die zu allen vier Zeitpunkten verwendet wurden

Konstrukt (Anzahl Items in Klammern)	**Reliabilitäten zu den vier Zeitpunkten**	**Beispielitem und Quelle**
Schlafqualität (4)	.85 - .87	Wie oft innerhalb des letzten Monats hatten Sie Schwierigkeiten beim Einschlafen? (Jenkins, Stanton, Niemcryk, & Rose, 1988)
Sport (1)	--	Wie viele Stunden Sport treiben Sie pro Woche?
Fernsehen (1)	--	Wie viele Stunden sehen Sie pro Woche fern?
Computernutzung (1)	--	Wie viele Stunden Ihrer Freizeit verbringen Sie pro Woche mit Computeraktivitäten?
Befinden und Motivation		
Erschöpfung (5)	.82 - .87	Nach der Arbeit fühle ich mich in der Regel schlapp und abgespannt (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001)
Psychsomatische Beschwerden (9)	.88 - .91	Spüren Sie es am ganzen Körper, wenn Sie sich über etwas aufregen? (Mohr, 1986)
Depressivität (3)	.84 - .87	Niedergeschlagenheit, Schwermut oder Hoffnungslosigkeit (Gräfe, Zipfel, Herzog, & Löwe, 2004)
Arbeitsengagement (9)	.93 - .95	Bei meiner Arbeit bin ich voll überschäumender Energie (Schaufeli, Bakker, & Salanova, 2006)
Berufliches Commitment (6)	.93 - .95	Ich bin glücklich, dass ich in meinen aktuellen Beruf eingestiegen bin (Blau, 2003)

Tabelle 2

Messinstrumente, die nur einem Zeitpunkt verwendet wurden

Konstrukt (Anzahl Items in Klammern)	**Reliabilität**	**Beispielitem und Quelle**
Kognitive Anforderungen (7)	.88	Meine Arbeit verlangt viel Konzentration (van Veldhoven & Meijman, 1994)
Emotionale Anforderungen (6)	.82	Bei meiner Arbeit werde ich mit Dingen konfrontiert, die mich persönlich berühren (van Veldhoven & Meijman, 1994)
Körperliche Anforderungen (3)	.89	Meine Arbeit ist körperlich sehr anstrengend (van Veldhoven & Meijman, 1994)
Handlungsspielraum (3)	.92	Ich kann selbst entscheiden, wie ich meine Arbeit mache.
Feedback durch die Tätigkeit (3)	.76	Ich erhalte unmittelbare und deutliche Informationen darüber, wie gut ich meine Arbeit mache.
Berufliche Entwicklungsmöglichkeiten (4)	.89	Meine Arbeit bietet mir Möglichkeiten, persönlich zu wachsen und mich weiterzuentwickeln (van Veldhoven & Meijman, 1994)
Anerkennung und Belohnung (4)	.77	Ich erhalte von meinem Vorgesetzten die Anerkennung, die ich verdiene (Siegrist, Wege, Pühlhofer, & Wahrendorg, 2009)
Problemlösendes Coping (4)	.79	Ich habe mich darauf konzentriert, etwas an meiner Situation zu verändern (Knoll, Rieckmann, & Schwarzer, 2005)
Vermeidendes Coping (4)	.70	Ich habe es aufgegeben, mich damit zu beschäftigen (Knoll et al., 2005)
Ablenkendes Coping (4)	.60	Ich habe etwas unternommen, um mich abzulenken (Knoll et al., 2005)
Kognitiv umstrukturierendes Coping (4)	.74	Ich habe versucht, die Dinge von einer positiveren Seite zu betrachten (Knoll et al., 2005)
Ehrenamtliches Engagement (1)	--	Sind Sie ehrenamtlich tätig? Wie viele Stunden pro Woche gehen Sie insgesamt Ihrem Ehrenamt nach?

3. Ergebnisse

3.1 Mehrmalige Erfassung von Merkmalen der Arbeitssituation

3.1.1 Auswertungsstrategie

Um zu analysieren, wie das Verhalten in der Freizeit, das potentiell Regeneration ermöglicht, von jungen Berufstätigen mit ihrem psychischen Befinden sowie motivationalen Variablen, aber auch mit der Arbeitssituation zusammenhängt, wurde – soweit möglich – von dem längsschnittlichen Untersuchungsdesign Gebrauch gemacht. Bei den Konstrukten, die zu allen vier Befragungszeitpunkten erhoben wurden, wurde so vorgegangen: Es wurde analysiert, ob die Merkmale der erlebten Arbeitssituation das Freizeitverhalten über die Zeit vorhersagen und ob umgekehrt das Freizeitverhalten die erlebte Arbeitssituation über die Zeit vorhersagt. Dabei wurden alle vier Messzeitpunkte berücksichtigt und die Stabilitäten der Konstrukte über die Zeit mitmodelliert. Innerhalb der einzelnen Zeitpunkte wurden querschnittliche Korrelationen zwischen Merkmalen der Arbeitssituation und dem Freizeitverhalten erlaubt. Die eigentlich interessierenden Pfade in den so getesteten Pfadmodellen sind die zeitverzögerten Pfade von der Arbeitssituation auf das Freizeitverhalten und umgekehrt. Abbildungen 3 und 4 illustrieren dieses Vorgehen: In Abbildung 3 sind die Pfade von der erlebten Arbeitssituation auf das Freizeitverhalten fett dargestellt (sogenannter „Pfad 1“ in der späteren Darstellung), in Abbildung 4 sind die Pfade vom Freizeitverhalten zur erlebten Arbeitssituation fett dargestellt (sogenannter „Pfad 2“ in der späteren Darstellung). Pfad 1 und Pfad 2 wurden in den Pfadmodellen gleichzeitig getestet.

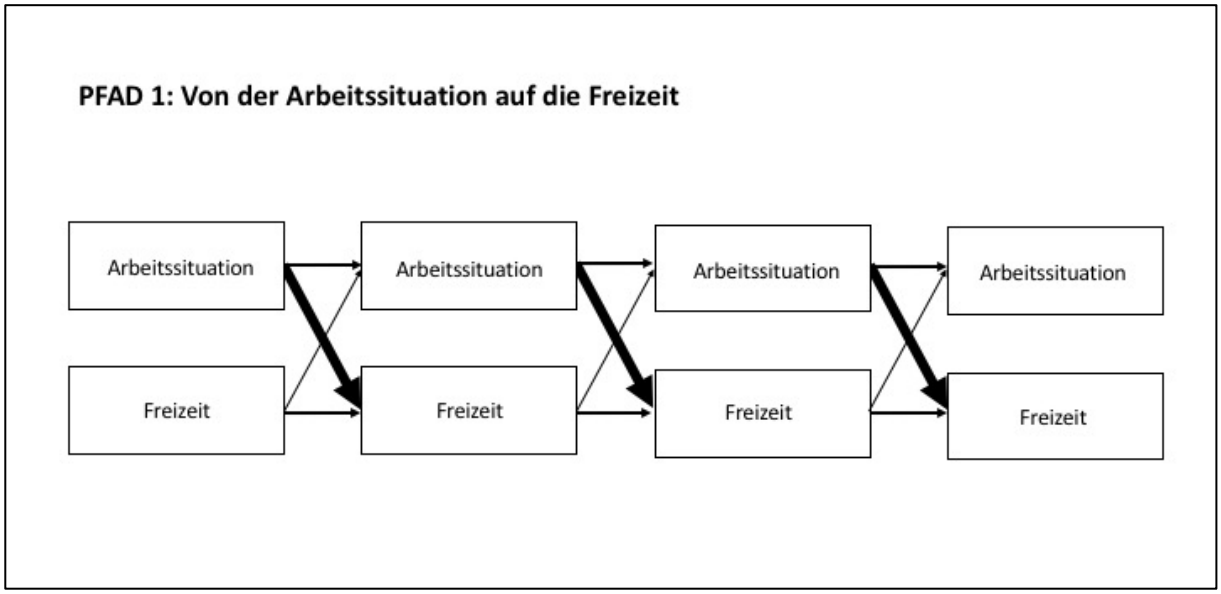

Abbildung 3. Konzeptionelle Darstellung der zeitverzögerten Zusammenhänge von Arbeit auf Freizeit (Pfad 1)

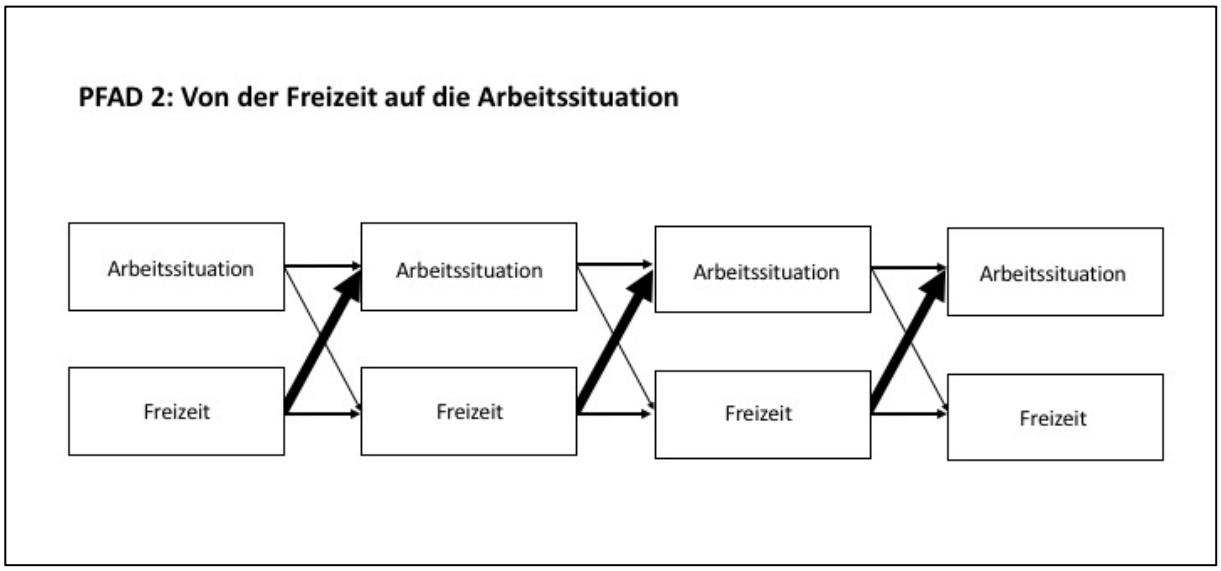

Abbildung 4. Konzeptionelle Darstellung der zeitverzögerten Zusammenhänge von Freizeit auf Arbeit (Pfad 2)

Analog wurden die zeitverzögerten Zusammenhänge zwischen dem Freizeitverhalten und dem Befinden bzw. motivationalen Variablen getestet. Abbildung 5 illustriert den Pfad 3 vom Freizeitverhalten auf Befinden bzw. Motivation, Abbildung 6 illustriert den Pfad 4 vom Befinden bzw. der Motivation auf das Freizeitverhalten. Schließlich wurden auch zeitverzögerte Zusammenhänge zwischen erlebter Arbeitssituation und Befinden bzw. Motivation getestet. Abbildung 7 illustriert den Pfad 5 von der erlebten Arbeitssituation auf Befinden bzw. Motivation, Abbildung 8 illustriert den Pfad 6 vom Befinden bzw. der Motivation auf die erlebte Arbeitssituation.

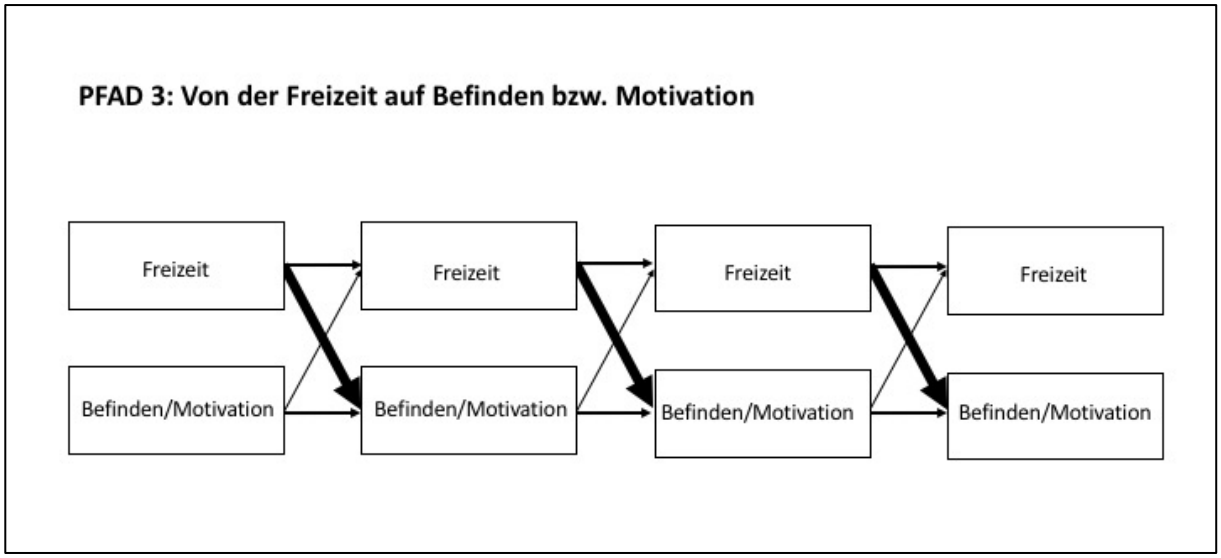

Abbildung 5. Konzeptionelle Darstellung der zeitverzögerten Zusammenhänge von Freizeit auf Befinden bzw. Motivation (Pfad 3)

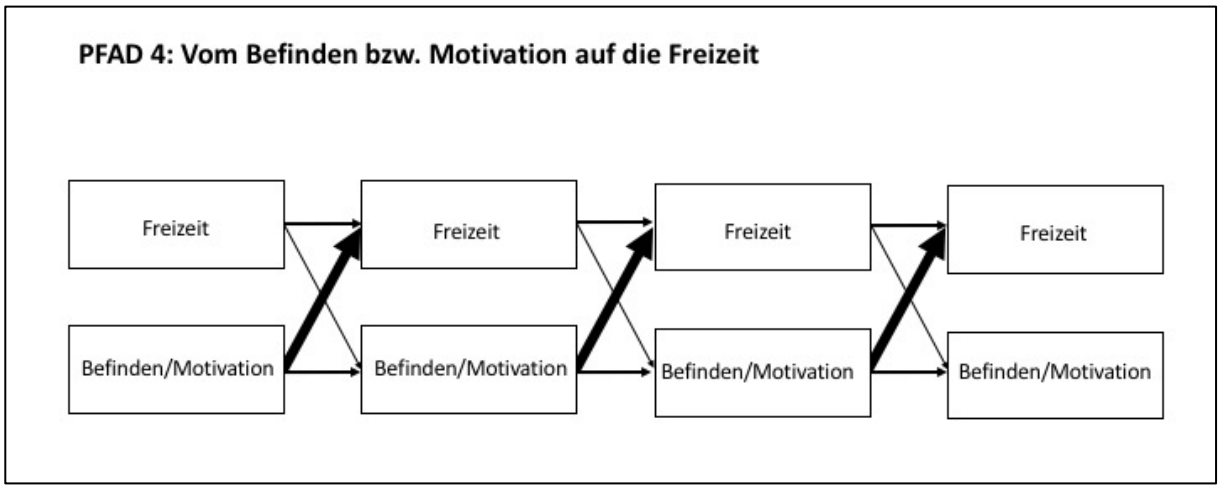

Abbildung 6. Konzeptionelle Darstellung der zeitverzögerten Zusammenhänge von Befinden bzw. Motivation auf Freizeit (Pfad 4)

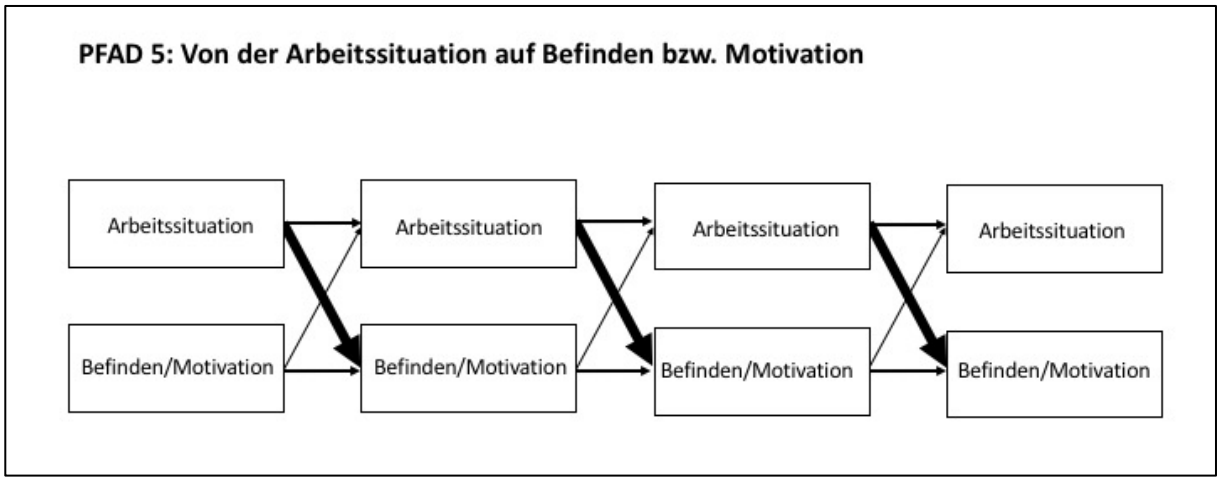

Abbildung 7. Konzeptionelle Darstellung der zeitverzögerten Zusammenhänge von Arbeit auf Befinden bzw. Motivation (Pfad 5)

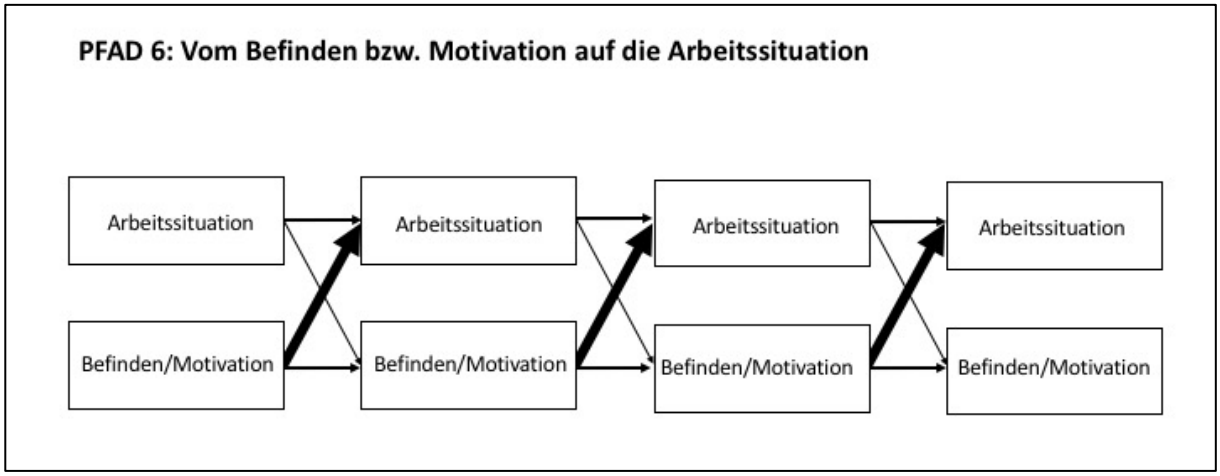

Abbildung 8. Konzeptionelle Darstellung der zeitverzögerten Zusammenhänge von Befinden bzw. Motivation auf Arbeit (Pfad 6)

Die Analysen wurden mit dem Programm Mplus 7.4 durchgeführt, wobei 1.432 Personen in die Analyse eingeschlossen wurden, die sich zu einem oder mehreren Zeitpunkten an der Online-Befragung beteiligten und von denen valide Daten vorliegen (z.B. adäquate Zeitabstände zwischen den einzelnen Messungen). Als Schätzverfahren wurde die Maximum Likelihood Schätzung mit robusten Standardfehlern verwendet.

Diese Analysen wurden mit folgenden Arbeitsstressoren als Merkmalen der Arbeitssituation berechnet: Zeitdruck, arbeitsorganisatorische Probleme, emotionale Konflikte, Aufgabenkonflikte, illegitime Aufgaben. Es wurden folgende Freizeitvariablen analysiert: gedankliches Abschalten von der Arbeit, Entspannung, Mastery, Selbstbestimmung, Schlafqualität, Sport, Fernsehen, Computer-Aktivitäten. Als Befindens- und Motivationsvariablen wurden berücksichtigt: Erschöpfung, psychosomatische Probleme, Depressivität, Arbeitsengagement, berufliches Commitment (Bindung an den Beruf). In den Ergebnistabellen sind jeweils die zeitverzögerten Zusammenhänge als bedeutsam dargestellt, die mit mindestens $p < .05$ signifikant waren. Die Anzahl bezieht sich auf die Anzahl der Pfade, die in den Analysen signifikant wurden (Maximale Anzahl von signifikanten Pfaden: 3 pro Analyse).

3.1.2 Darstellung der Ergebnisse

Tabellen 3 bis 7 zeigen die Muster der zeitverzögerten Zusammenhänge zwischen Arbeitsstressoren und Freizeitvariablen im Überblick. Insgesamt wird deutlich, dass es sowohl Evidenz für zeitverzögerte Zusammenhänge von den Arbeitsstressoren auf die Freizeit (Pfad 1) als auch von der Freizeit auf die Arbeitsstressoren gibt (Pfad 2). Für den Stressor Zeitdruck überwiegt klar der Pfad 1 (Tabelle 3): Zeitdruck scheint günstiges Freizeitverhalten über die Zeit stärker zu beeinträchtigen, als dass Freizeitverhalten auf den späteren Zeitdruck bzw. die Wahrnehmung des Zeitdrucks wirkt. Für alle vier anderen Stressoren halten sich die Häufigkeit des Pfads 1 und Pfads 2 in etwa die Waage (Tabellen 4 bis 7). Arbeitsstressoren beeinträchtigen günstiges Freizeitverhalten; zusätzlich geht aber auch ungünstiges Freizeitverhalten (z.B. geringes gedankliches Abschalten von der Arbeit, schlechte Schlafqualität) mit einer Zunahme der wahrgenommenen Stressoren über die Zeit einher.

Tabelle 8 schlüsselt diese Ergebnisse nochmal für die einzelnen Freizeitaspekte auf. Es zeigt sich, dass insgesamt die Erholungserfahrungen gedankliches Abschalten von der Arbeit, Entspannung, Mastery, und Selbstbestimmung deutlich mit Merkmalen der Arbeitssituation zusammenhängen, wobei für drei dieser vier Erholungserfahrungen die Wirkrichtung der Pfade 1 und Pfade 2 recht ausgeglichen ist. Für Mastery gibt es allerdings empirische Evidenz nur für die Wirkrichtung von Arbeit auf Freizeit (Pfad 1), nicht aber umgekehrt. Für alle anderen Freizeitaspekte zeigen sich nur vereinzelt Zusammenhänge mit der Arbeitssituation. Dieses Ergebnis deutet darauf hin, dass das Erleben der Freizeit (z.B. kann man abschalten?, entspannt man sich?) wichtiger ist als spezifische Aktivitäten (z.B. sieht man viel fern?).

Tabelle 3

Signifikante zeitverzögerte Pfade zwischen Zeitdruck als Arbeitsstressor und Freizeit

Freizeitaspekt	Anzahl und Richtung der signifikanten Pfade von Zeitdruck auf Freizeit (Pfad 1)		Anzahl und Richtung der signifikanten Pfade von Freizeit auf Zeitdruck (Pfad 2)	
Abschalten	2	negativ	1	negativ
Entspannung	2	negativ	0	
Mastery	1	negativ	0	
Selbstbestimmung	3	negativ	0	
Schlafqualität	1	negativ	2	negativ
Sport	0		0	
Fernsehen	0		0	
Computeraktivität	0		0	
Summe	**9**		**3**	

Tabelle 4

Signifikante zeitverzögerte Pfade zwischen arbeitsorganisatorischen Problemen und Freizeit

Freizeitaspekt	Anzahl und Richtung der signifikanten Pfade von Arbeit auf Freizeit (Pfad 1)		Anzahl und Richtung der signifikanten Pfade von Freizeit auf Arbeit (Pfad 2)	
Abschalten	1	negativ	2	negativ
Entspannung	2	negativ	3	negativ
Mastery	2	negativ	0	
Selbstbestimmung	3	negativ	3	negativ
Schlafqualität	0		1	negativ
Sport	0		0	
Fernsehen	0		0	
Computeraktivität	1	positiv	0	
Summe	**9**		**9**	

Tabelle 5

Signifikante zeitverzögerte Pfade zwischen emotionalen Konflikten als Arbeitsstressor und Freizeit

Freizeitaspekt	Anzahl und Richtung der signifikanten Pfade von Zeitdruck auf Freizeit (Pfad 1)		Anzahl und Richtung der signifikanten Pfade von Freizeit auf Zeitdruck (Pfad 2)	
Abschalten	1	negativ	0	
Entspannung	1	negativ	1	negativ
Mastery	1	negativ	0	
Selbstbestimmung	1	negativ	2	negativ
Schlafqualität	0		2	negativ
Sport	0		0	
Fernsehen	0		1	negativ
Computeraktivität	1	positiv	1	negativ
Summe	**5**		**6**	

Tabelle 6

Signifikante zeitverzögerte Pfade zwischen Aufgabenkonflikten als Arbeitsstressor und Freizeit

Freizeitaspekt	Anzahl und Richtung der signifikanten Pfade von Zeitdruck auf Freizeit (Pfad 1)		Anzahl und Richtung der signifikanten Pfade von Freizeit auf Zeitdruck (Pfad 2)	
Abschalten	2	negativ	2	negativ
Entspannung	2	negativ	3	negativ
Mastery	1	negativ	1	negativ
Selbstbestimmung	0		2	negativ
Schlafqualität	0		1	negativ
Sport	1	negativ	0	
Fernsehen	0		0	
Computeraktivität	1	positiv	0	
Summe	**7**		**9**	

Tabelle 7

Signifikante zeitverzögerte Pfade zwischen illegitimen Aufgaben als Arbeitsstressor und Freizeit

Freizeitaspekt	Anzahl und Richtung der signifikanten Pfade von Zeitdruck auf Freizeit (Pfad 1)		Anzahl und Richtung der signifikanten Pfade von Freizeit auf Zeitdruck (Pfad 2)	
Abschalten	2	negativ	2	negativ
Entspannung	2	negativ	1	negativ
Mastery	1	negativ		
Selbstbestimmung	2	negativ	2	negativ
Schlafqualität	0		1	negativ
Sport	0		1	negativ
Fernsehen	0		1	negativ
Computeraktivität	2	1 x positiv 1x negativ	0	
Summe	**9**		**8**	

Tabelle 8

Zusammenfassung der zeitverzögerten Zusammenhänge zwischen Arbeitsstressoren und Freizeit – aufgeschlüsselt für die einzelnen Freizeitaspekte

Freizeitaspekt	Anzahl der signifikanten Pfade von Arbeit auf Freizeit (Pfad 1)	Anzahl der signifikanten Pfade von Freizeit auf Arbeit (Pfad 2)
Abschalten	8	7
Entspannung	9	8
Mastery	6	0
Selbstbestimmung	9	8
Schlafqualität	1	1
Sport	1	1
Fernsehen	0	1
Computeraktivität	5	1

Tabelle 9 bis 16 zeigen die Muster der zeitverzögerten Zusammenhänge zwischen Freizeitvariablen und Befinden bzw. Motivation im Überblick. Für die vier Erholungserfahrungen gedankliches Abschalten von der Arbeit, Entspannung, Mastery, und Selbstbestimmung zeigt sich ein deutliches Bild mit einer klaren Dominanz des Pfads 4 gegenüber dem Pfad 3 (Tabellen 9 bis 12). Das psychische Befinden sagt eine Zunahme an günstigen Erholungserfahrungen über die Zeit vorher. Dieser Befund ist besonders stark ausgeprägt für das gedankliche Abschalten (Tabelle 9) und die Entspannung (Tabelle 10), zeigt sich jedoch auch für Mastery (Tabelle 11) und Selbstbestimmung (Tabelle 12). Inhaltlich bedeutet dieses Ergebnis, das klar für den Pfad 4 spricht, dass ein gutes psychisches Befinden das Erholungserleben begünstigt, während ein beeinträchtigtes psychisches Befinden, das in einer hohen Erschöpfung, psychosomatischen Beschwerden und depressiven Verstimmungen zu Ausdruck kommen kann, Erholung über die Zeit erschwert. Auch eine hoch ausgeprägte Motivation, also ein hohes Arbeitsengagement und eine hohe Bindung an den Beruf tragen zu einem günstigen Erholungserleben über die Zeit bei. Evidenz für den Pfad 3 ist vergleichsweise gering, wenngleich günstige Erholungserfahrungen teilweise depressiven Stimmungen und Erschöpfung (bzw. deren Zunahme) vorzubeugen scheinen. Insgesamt weist dieses Ergebnismuster darauf hin, dass junge Arbeitende relativ wenig von günstigen Erholungserfahrungen zu profitieren scheinen – jedoch ist ihnen der Zugang zu günstigen Erholungserfahrungen durch schlechtes psychisches Befinden und eine geringe Motivation verstellt. Es scheint also so zu sein, dass junge Erwachsene eine geringe arbeitsbezogene Motivation nicht durch gute Erholung zu kompensieren scheinen, sondern dass die geringe Motivation auch in den Freizeitbereich hineinwirkt.

Für die Schlafqualität als wichtigem Erholungsindikator stellt sich das Bild etwas anders dar (Tabelle 13). Eine gute Schlafqualität sagt gutes psychisches Befinden und auch eine ausgeprägte Arbeitsmotivation (Arbeitsengagement und Bindung an den Beruf) vorher (Pfad 3). Umgekehrt unterstützt jedoch auch ein gutes psychisches Befinden eine gute Schlafqualität (Pfad 4). Möglicherweise ist gerade der Schlaf eine wichtige „Stellschraube“ für das psychische Befinden von jungen Erwachsenen. Motivationale Faktoren spielen für die Schlafqualität keine Rolle.

Wie die Tabellen 14 bis 16 zeigen, spielen konkrete Freizeitaktivitäten für das psychische Befinden der Befragten über die Zeit eine eher untergeordnete Rolle. Wenn es signifikante zeitverzögerte Zusammenhänge von Freizeitaktivitäten auf das Befinden gibt (Pfad 3), dann wirkt Sport eher begünstigend, Fernsehen eher negativ.

Tabelle 9

Signifikante zeitverzögerte Pfade zwischen Abschalten von der Arbeit in der Freizeit und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signikanten Pfade von Freizeit auf Befinden (Pfad 3)**		**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad 4)**	
Erschöpfung	1	negativ	3	negativ
Psychosomatische Beschwerden	0		3	negativ
Depressive Symptome	2	negativ	2	negativ
Arbeitsengagement	0		1	positiv
Bindung an den Beruf	0		1	positiv
Summe	**3**		**10**	

Tabelle 10

Signifikante zeitverzögerte Pfade zwischen Entspannung in der Freizeit und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signifikanten Pfade von Freizeit auf Befinden (Pfad 3)**		**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad 4)**	
Erschöpfung	1	negativ	3	negativ
Psychosomatische Beschwerden	0		2	negativ
Depressive Symptome	1	negativ	3	negativ
Arbeitsengagement	0		2	positiv
Bindung an den Beruf	0		1	positiv
Summe	**2**		**11**	

Tabelle 11

Signifikante zeitverzögerte Pfade zwischen Mastery in der Freizeit und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signifikanten Pfade von Freizeit auf Befinden (Pfad 3)**		**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad 4)**	
Erschöpfung	0		2	negativ
Psychosomatische Beschwerden	0		1	negativ
Depressive Symptome	2	negativ	2	negativ
Arbeitsengagement	0		2	positiv
Bindung an den Beruf	0		2	positiv
Summe	**2**		**9**	

Tabelle 12

Signifikante zeitverzögerte Pfade zwischen Selbstbestimmung in der Freizeit und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signifikanten Pfade von Freizeit auf Befinden (Pfad 3)**		**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad 4)**	
Erschöpfung	0		2	negativ
Psychosomatische Beschwerden	0		1	negativ
Depressive Symptome	1	negativ	2	negativ
Arbeitsengagement	0		1	positiv
Bindung an den Beruf	1	positiv	1	positiv
Summe	**2**		**7**	

Tabelle 13

Signifikante zeitverzögerte Pfade zwischen Schlafqualität und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signifikanten Pfade von Freizeit auf Befinden (Pfad 3)**		**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad 4)**	
Erschöpfung	3	negativ	3	negativ
Psychosomatische Beschwerden	3	negativ	3	negativ
Depressive Symptome	3	negativ	1	negativ
Arbeitsengagement	2	positiv	0	
Bindung an den Beruf	1	positiv	0	
Summe	**12**		**7**	

Tabelle 14

Signifikante zeitverzögerte Pfade zwischen Sportaktivitäten in der Freizeit und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signifikanten Pfade von Freizeit auf Befinden (Pfad 3)**		**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad4)**	
Erschöpfung	0		0	
Psychosomatische Beschwerden	1	negativ	0	
Depressive Symptome	1	negativ	1	negativ
Arbeitsengagement	1	positiv	0	
Bindung an den Beruf	0		0	
Summe	**3**		**1**	

Tabelle 15

Signifikante zeitverzögerte Pfade zwischen Fernsehen in der Freizeit und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signifikanten Pfade von Freizeit auf Befinden (Pfad 3)**		**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad 4)**
Erschöpfung	1	positiv	0
Psychosomatische Beschwerden	1	positiv	0
Depressive Symptome	0		0
Arbeitsengagement	0		0
Bindung an den Beruf	1	positiv	0
Summe	**3**		**0**

Tabelle 16

Signifikante zeitverzögerte Pfade zwischen Computeraktivitäten in der Freizeit und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl und Richtung der signifikanten Pfade von Freizeit auf Befinden (Pfad 3)**	**Anzahl und Richtung der signifikanten Pfade von Befinden auf Freizeit (Pfad4)**	
Erschöpfung	0	0	
Psychosomatische Beschwerden	0	0	
Depressive Symptome	0	1	positiv
Arbeitsengagement	0	1	negativ
Bindung an den Beruf	0	2	1x positiv 1x negativ
Summe	**0**	**4**	

Tabelle 17

Zusammenfassung der zeitverzögerten Zusammenhänge zwischen Freizeit und Befinden bzw. Motivation – aufgeschlüsselt für die einzelnen Befindens- und Motivationsaspekte

Befindens- bzw. Motivationsaspekt	Anzahl signifikanten Pfade von Freizeit auf Befinden/Motivation (Pfad 3)	Anzahl der signifikanten Pfade von Befinden/Motivation auf Freizeit (Pfad 4)
Erschöpfung	6	13
Psychosomatische Beschwerden	5	10
Depressive Symptome	10	12
Arbeitsengagement	3	7
Bindung an den Beruf	3	7

Tabelle 17 zeigt die Ergebnisse zu den zeitverzögerten Zusammenhängen zwischen Freizeitvariablen und Befinden bzw. Motivation aufgeschlüsselt für die einzelnen Befindens- und Motivationsindikatoren. Für Erschöpfung und psychosomatische Beschwerden gibt es eine stärkere Evidenz für den Pfad 4 als für den Pfad 3. Das heißt, dass Erschöpfung und psychosomatische Beschwerden vermutlich stärker auf die Freizeit einwirken als dass sie durch die Freizeit beeinflusst werden. Für die depressiven Symptome als eine spezifische Befindensbeeinträchtigung sind die beiden Kausalpfade etwa ähnlich stark aus ausgeprägt. Für Arbeitsengagement und Bindung an den Beruf überwiegt wieder der Pfad 4 gegenüber dem Pfad 3. Das bedeutet insgesamt, dass generell die Wirkung von Befinden und Motivation auf Freizeit ausgeprägter ist als die umgekehrte Wirkung. Allerdings scheint es vor allem im Hinblick auf die depressiven Symptome eine ausgeglichene Reziprozität zu geben.

Tabellen 18 bis 23 zeigen, wie Arbeitsstressoren und das Befinden bzw. die Motivation über die Zeit zusammenhängen. Insgesamt gibt es sowohl Evidenz dafür, dass Arbeitsstressoren zu einer Verschlechterung des Befindens über die Zeit und teilweise zu einer Abnahme der Motivation beitragen (Pfad 5) und dass ein ungünstiges Befinden mit einer Zunahme der (erlebten) Arbeitsstressoren einhergeht (Pfad 6).

Tabelle 18

Signifikante zeitverzögerte Pfade zwischen Zeitdruck als Arbeitsstressor und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl der signifikanten Pfade von Arbeit auf Befinden/Motivation (Pfad 5)**		**Anzahl der signifikanten Pfade von Befinden/Motivation auf Arbeit (Pfad 6)**	
Erschöpfung	1	positiv	3	positiv
Psychosomatische Beschwerden	1	positiv	2	positiv
Depressive Symptome	3	positiv	1	positiv
Arbeitsengagement	0		0	
Bindung an den Beruf	0		0	
Summe	**5**		**6**	

Tabelle 19

Signifikante zeitverzögerte Pfade zwischen arbeitsorganisatorischen Problemen als Arbeitsstressor und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl der signifikanten Pfade von Arbeit auf Befinden/Motivation(Pfad 5)**		**Anzahl der signifikanten Pfade von Befinden/Motivation auf Arbeit (Pfad 6)**	
Erschöpfung	2	positiv	2	positiv
Psychosomatische Beschwerden	0		1	positiv
Depressive Symptome	2	positiv	2	positiv
Arbeitsengagement	0		1	negativ
Bindung an den Beruf	0		2	negativ
Summe	**4**		**8**	

Tabelle 20

Signifikante zeitverzögerte Pfade zwischen emotionalen Konflikten als Arbeitsstressor und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl der signifikanten Pfade von Arbeit auf Befinden/Motivation (Pfad 5)**		**Anzahl der signifikanten Pfade von Befinden/Motivation auf Arbeit (Pfad 6)**	
Erschöpfung	1	positiv	2	positiv
Psychosomatische Beschwerden	1	positiv	3	positiv
Depressive Symptome	3	positiv	2	positiv
Arbeitsengagement	1	negativ	0	
Bindung an den Beruf	1	negativ	0	
Summe	**7**		**7**	

Tabelle 21

Signifikante zeitverzögerte Pfade zwischen Aufgabenkonflikten als Arbeitsstressor und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl der signifikanten Pfade von Arbeit auf Befinden/Motivation (Pfad 5)**		**Anzahl der signifikanten Pfade von Befinden/Motivation auf Arbeit (Pfad 6)**	
Erschöpfung	1	positiv	2	positiv
Psychosomatische Beschwerden	1	positiv	2	positiv
Depressive Symptome	1	positiv	2	positiv
Arbeitsengagement	0		0	
Bindung an den Beruf	0		0	
Summe	**3**		**6**	

Tabelle 22

Signifikante zeitverzögerte Pfade zwischen illegitimen Aufgaben als Arbeitsstressor und Befinden bzw. Motivation

Befindens- bzw. Motivationsaspekt	**Anzahl der signifikanten Pfade von Arbeit auf Befinden/Motivation (Pfad 5)**		**Anzahl der signifikanten Pfade von Befinden/Motivation auf Arbeit (Pfad 6)**	
Erschöpfung	1	positiv	3	positiv
Psychosomatische Beschwerden	1	positiv	3	positiv
Depressive Symptome	3	positiv	2	positiv
Arbeitsengagement	1	negativ	0	
Bindung an den Beruf	1	negativ	0	
Summe	**6**		**8**	

Tabelle 23

Zusammenfassung der zeitverzögerten Zusammenhänge zwischen Arbeitsstressoren und Befinden bzw. Motivation – aufgeschlüsselt für die einzelnen Befindens- und Motivationsaspekte

Befindens- bzw. Motivationsaspekt	**Anzahl der signifikanten Pfade von Arbeit auf Befinden/Motivation(Pfad 5)**	**Anzahl der signifikanten Pfade von Befinden/Motivation auf Arbeit (Pfad 6)**
Erschöpfung	6	12
Psychosomatische Beschwerden	4	11
Depressive Symptome	12	9
Arbeitsengagement	2	1
Bindung an den Beruf	2	2

Für den Zeitdruck als Arbeitsstressor halten sich beide Wirkrichtungen in etwa die Waage, wobei jedoch die Zusammenhänge nur mit Befindensindikatoren, nicht aber mit motivationalen Variablen auftreten (Tabelle 18). Im Hinblick auf arbeitsorganisatorische Probleme bzw. deren Wahrnehmung zeigt sich ein Übergewicht des Pfads 6, wenngleich es auch Evidenz für den Pfad 5 gibt (Tabelle 19). Dieses Ergebnis bedeutet, dass ein ungünstiges Befinden und eine ungünstige Motivationslage vermehrt dazu führen, dass mehr Probleme im Arbeitsablauf über die Zeit erlebt werden. Bei den emotionalen Konflikten sind beide Wirkrichtungen gleich stark ausgeprägt (Tabelle 20), während bei den Aufgabenkonflikten wieder der Pfad 6 die „Oberhand" hat (Tabelle 21). Ein ungünstiges Befinden von jungen Erwachsenen geht mit einem vermehrten Erleben von Aufgabenkonflikten einher. Bei einem günstigen Befinden erleben junge Erwachsene über die Zeit immer weniger Aufgabenkonflikte. Bei illegitimen Aufgaben als Arbeitsstressor hat der Pfad 6 ein leichtes Übergewicht, vor allem im Hinblick auf die Befindensvariablen (Tabelle 22). Die Wahrnehmung von illegitimen Aufgaben führt jedoch teilweise zu einer Abnahme der Arbeitsmotivation über die Zeit (Pfad 5).

In Tabelle 23 sind die zeitverzögerten Zusammenhänge zwischen Arbeitsstressoren und Befinden bzw. Motivation aufgeschlüsselt für die einzelnen Befindens- und Motivationsindikatoren dargestellt. Insgesamt zeigt sich ein sehr ähnliches Bild wie für die zeitverzögerten Zusammenhänge zwischen Freizeitvariablen und Befinden bzw. Motivation. Bei Erschöpfung und psychosomatischen Beschwerden überwiegt der Pfad 6, der die Wirkung des Befindens auf die Arbeitssituation darstellt. Für die depressiven Symptome ist der Pfad 5 etwas stärker ausgeprägt, allerdings gibt es auch hier eine recht starke Evidenz für den Pfad 5. Die empirische Evidenz für zeitverzögerte Zusammenhänge zwischen Arbeitsstressoren und Motivationsindikatoren ist eher schwach.

3.2 Einmalige Erfassung von Merkmalen der Arbeitssituation und der Person

3.2.1 Auswertungsstrategie

Zusätzlich zu den oben beschriebenen Arbeitsstressoren wurden weitere Merkmale der Arbeitssituation abgefragt, zum einen Arbeitsanforderungen (kognitiv, emotional, körperlich) und zum anderen Ressourcen am Arbeitsplatz (Handlungsspielraum, Feedback durch die Tätigkeit, berufliche Entwicklungsmöglichkeiten, Anerkennung/Belohnung). Darüber hinaus wurden vier unterschiedliche Copingstrategien (problemlösend, vermeidend, ablenkend, kognitiv umstruktrierend) sowie ehrenamtliches Engagement in der Freizeit erfasst. Diese Variablen wurden nur in der ersten Befragung erfasst. Damit konnte nicht dieselbe Auswertungsstrategie wie bei den oben beschriebenen Arbeitsstressoren verwendet werden, d.h. die Pfade 2 und 6 konnten nicht getestet werden. Um dennoch die längsschnittlichen Daten gut zu nutzen, wurde die folgende Auswertungsstrategie gewählt: in Pfadmodellen wurden Pfade von den Arbeitsanforderungen, die Ressourcen, das Coping und das ehrenamtliche Engagement (jeweils gemessen zum Zeitpunkt 1) auf die Befindens-, Motivations- und Freizeitindikatoren zum Zeitpunkt 2, 3 und 4 modelliert. Ähnlich wie in den

oben beschriebenen Analysen wurden zusätzlich die Stabilitäten der Befindens-, Motivations- und Freizeitindikatoren von einem zum jeweils nächsten Messzeitpunkt modelliert. Zusätzlich wurden zum Zeitpunkt 1 Korrelationen zwischen Arbeitsanforderungen, Ressourcen, Coping und dem ehrenamtlichen Engagement einerseits und den Befindens-, Motivations- und Freizeitindikatoren andererseits zugelassen. Auch bei diesen Analysen wurde ein Signifikanzniveau von $p < .05$ angelegt.

3.2.2 Darstellung der Ergebnisse

Die Ergebnisse zur Vorhersage der Befindens- und Motivationsvariablen sind in den Tabellen 24 bis 35 dargestellt. Wie diese Tabellen zeigen, sagen die unterschiedlichen Arbeitsanforderungen nur vereinzelt und unsystematisch Veränderungen im Befinden oder der Arbeitsmotivation vorher. Handlungsspielraum (Tabelle 27) sagt in der zeitlichen Nähe (also vom Zeitpunkt 1 zum Zeitpunkt 2) konsistent Veränderungen im Befinden und in der Arbeitsmotivation vorher. Darüber hinaus gibt es einige längerfristige Wirkmuster. Das Bild ist hier sehr klar: je höher der Handlungsspielraum zum ersten Befragungszeitpunkt ist, desto stärker verbessert sich das psychische Befinden über die Zeit und desto mehr erhöhen sich Arbeitsengagement und Befindung an den Beruf. Umgekehrt bedeutet dies: je geringer der Handlungsspielraum zum ersten Befragungszeitpunkt, desto mehr verschlechtert sich das psychische Befinden über die Zeit und desto deutlicher reduzieren sich Arbeitsengagement und Befindung an den Beruf. Somit ist der Handlungsspielraum ein sehr wichtiger Faktor für Befinden und Motivation von jungen Erwerbstätigen.

Feedback durch die Tätigkeit spielt für die Veränderung von Befinden oder Motivation keine Rolle (Tabelle 28). Im Hinblick auf berufliche Entwicklungsmöglichkeiten zeigte sich, dass sich im Zeitabstand von drei Monaten (d.h. vom ersten zum zweiten Befragungszeitpunkt) Erschöpfung und depressive Symptome reduzieren und das Arbeitsengagement sich erhöht, wenn zum ersten Zeitpunkt hohe berufliche Entwicklungsmöglichkeiten erlebt werden (Tabelle 29). Auch längerfristig zeigen sich noch Effekte, vor allem auf Arbeitsengagement und Bindung an den Beruf. Fehlen berufliche Entwicklungsmöglichkeiten, verschlechtert sich das Befinden recht schnell und die Arbeitsmotivation nimmt längerfristig ab.

Berufliche Anerkennung und Belohnung ist ein wichtiger Faktor, der innerhalb eines Zeitraums von drei Monaten zu einer Verbesserung des Befindens beiträgt und das Arbeitsengagement stärkt (Tabelle 30). Fehlen berufliche Anerkennung und Belohnung, steigen über einen Zeitraum Erschöpfung und depressive Symptome.

Tabelle 24

Signifikante zeitverzögerte Pfade zwischen kognitiven Anforderungen zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	**Zeit-punkt 2**	**Zeit-punkt 3**	**Zeit-punkt 4**
Erschöpfung	--	--	positiv
Psychosomatische Beschwerden	--	--	--
Depressive Symptome	--	--	--
Arbeitsengagement	--	positiv	--
Bindung an den Beruf	--	positiv	--

Tabelle 25

Signifikante zeitverzögerte Pfade zwischen emotionalen Anforderungen zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	**Zeit-punkt 2**	**Zeit-punkt 3**	**Zeit-punkt 4**
Erschöpfung	--	positiv	--
Psychosomatische Beschwerden	positiv	--	positiv
Depressive Symptome	--	positiv	--
Arbeitsengagement	--	--	--
Bindung an den Beruf	--	--	--

Tabelle 26

Signifikante zeitverzögerte Pfade zwischen körperlichen Anforderungen zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	--	--	--
Psychosomatische Beschwerden	positiv	--	--
Depressive Symptome	positiv	--	--
Arbeitsengagement	--	--	--
Bindung an den Beruf	--	--	--

Tabelle 27

Signifikante zeitverzögerte Pfade zwischen Handlungsspielraum zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	negativ	--	--
Psychosomatische Beschwerden	negativ	negativ	--
Depressive Symptome	negativ	negativ	negativ
Arbeitsengagement	positiv	--	--
Bindung an den Beruf	positiv	--	positiv

Tabelle 28

Signifikante zeitverzögerte Pfade zwischen Feedback zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	**Zeit-punkt 2**	**Zeit-punkt 3**	**Zeit-punkt 4**
Erschöpfung	--	--	--
Psychosomatische Beschwerden	--	--	--
Depressive Symptome	--	--	--
Arbeitsengagement	--	--	--
Bindung an den Beruf	--	--	--

Tabelle 29

Signifikante zeitverzögerte Pfade zwischen beruflichen Entwicklungsmöglichkeiten zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	**Zeit-punkt 2**	**Zeit-punkt 3**	**Zeit-punkt 4**
Erschöpfung	negativ	--	--
Psychosomatische Beschwerden	--	--	--
Depressive Symptome	negativ	--	negativ
Arbeitsengagement	positiv	positiv	positiv
Bindung an den Beruf	--	positiv	positiv

Tabelle 30

Signifikante zeitverzögerte Pfade zwischen beruflichen Anerkennung und Belohnung zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	negativ	--	negativ
Psychosomatische Beschwerden	negativ	--	--
Depressive Symptome	negativ	--	negativ
Arbeitsengagement	positiv	--	--
Bindung an den Beruf	--	--	--

Tabelle 31

Signifikante zeitverzögerte Pfade zwischen problemlösenden Coping zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	--	--	--
Psychosomatische Beschwerden	negativ	--	positiv
Depressive Symptome	--	--	--
Arbeitsengagement	--	--	--
Bindung an den Beruf	--	--	--

Tabelle 32

Signifikante zeitverzögerte Pfade zwischen vermeidendem Coping zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	positiv	--	--
Psychosomatische Beschwerden	--	positiv	--
Depressive Symptome	positiv	positiv	positiv
Arbeitsengagement	--	--	--
Bindung an den Beruf	negativ	--	--

Tabelle 33

Signifikante zeitverzögerte Pfade zwischen ablenkendem Coping zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	positiv	--	--
Psychosomatische Beschwerden	positiv	--	--
Depressive Symptome	positiv	--	--
Arbeitsengagement	negativ	--	--
Bindung an den Beruf	--	--	--

Tabelle 34

Signifikante zeitverzögerte Pfade zwischen kognitiv umstrukturierenden Coping zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	negativ	--	--
Psychosomatische Beschwerden	negativ	--	--
Depressive Symptome	negativ	--	--
Arbeitsengagement	positiv	positiv	--
Bindung an den Beruf	--	--	--

Tabelle 35

Signifikante zeitverzögerte Pfade zwischen ehrenamtlichem Engagement in der Freizeit zum Zeitpunkt 1 (Zeitdauer) und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Erschöpfung	--	--	--
Psychosomatische Beschwerden	--	--	--
Depressive Symptome	--	--	--
Arbeitsengagement	--	--	--
Bindung an den Beruf	--	--	--

Unterschiedliche Copingstrategien erwiesen sich vor allem – aber nicht ausschließlich – in einem Zeitraum von drei Monaten als effektiv bzw. beeinträchtigend (Tabellen 31 bis 34). Vor allem das kognitiv umstrukturierende Coping (d.h. Situationen positiv re-interpretieren und aus ihnen lernen) zeigte sich auch effektiv im Hinblick auf Befinden und Arbeitsengagement. Ablenkendes und vermeidendes Coping ging über die Zeit mit einer Verschlechterung des Befindens einher. Somit kann guten Bewältigungsstrategien eine protektive Funktion für Befinden und Arbeitsmotivation zukommen. Interessanterweise ist dabei weniger das aktive problemorientierte Coping erfolgversprechend, sondern vielmehr das kognitiv orientierte, das auf positive Re-Interpretationen setzt.

Schließlich analysierten wir, ob ehrenamtliches Engagement in der Freizeit Befinden und Motivation über die Zeit vorhersagen kann (Tabelle 35). Dafür fanden sich keine Hinweise, weder in einer positiven noch in einer negativen Richtung.

Tabelle 36 bis 47 zeigen, wie Arbeitsanforderungen, Ressourcen, Coping und ehrenamtliches Engagement, die zum Zeitpunkt 1 gemessen wurden, Freizeitvariablen zu den Zeitpunkten 2 bis 4 vorhersagen können. Für die Arbeitsanforderungen zeigen sich kaum signifikante Vorhersagen (Tabellen 36 bis 38). Das Bild ist insgesamt recht inkonsistent. Lediglich für die Vorhersage von den Erholungserfahrungen nach drei Monaten wird eine Abnahme deutlich, wenn die erlebten emotionalen Anforderungen bei der Arbeit hoch sind (Tabelle 37). Für die Ressourcen zeigen sich die meisten signifikanten Vorhersagen im Hinblick auf günstige Erholungserfahrungen (Tabellen 39 bis 42). Diese zeitverzögerten Zusammenhänge zeigen sich vor allem nach drei Monaten, allerdings für Handlungsspielraum (Tabelle 39) und vor allem für Entwicklungsmöglichkeiten (Tabelle 41) auch noch später. Gerade für Entwicklungsmöglichkeiten ist das gut zu erklären: bei guten Entwicklungsmöglichkeiten ist die Wahrscheinlichkeit groß, dass auch über die Zeit die Arbeitssituation günstig ist und somit keinen negativen Einfluss auf die Erholung hat. Für die Copingstrategien zeigen sich einige, wenngleich wenig systematische Ergebnisse (Tabellen 43 bis 46). Dabei scheint vor allem dem kognitiv umstrukturierenden Coping eine gewisse Bedeutung zuzukommen (Tabelle 46). Für das ehrenamtlich Engagement zeigen sich vor allem Zusammenhänge mit Selbstbestimmung, Schlafqualität und Computeraktivitäten in der Freizeit, wobei zu den einzelnen Befragungszeitpunkten die Ergebnisse gegenläufig sind – ein Befund, der sich nur schwer erklären lässt, da nicht bekannt ist, ob zu den späteren Befragungszeitpunkten die Teilnehmer/innen überhaupt noch und im gleichen Stundenumfang ehrenamtlich tätig waren.

Tabelle 36

Signifikante zeitverzögerte Pfade zwischen kognitiven Anforderungen zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	--	--	negativ
Entspannung	--	--	--
Mastery	positiv	--	negativ
Selbstbestimmung	--	--	--
Schlafqualität	--	--	--
Sport	--	--	--
Fernsehen	negativ	--	--
Computeraktivität	--	--	--

Tabelle 37

Signifikante zeitverzögerte Pfade zwischen emotionalen Anforderungen zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	negativ	--	--
Entspannung	negativ	--	--
Mastery	--	--	negativ
Selbstbestimmung	negativ	--	negativ
Schlafqualität	--	--	--
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	--

Tabelle 38

Signifikante zeitverzögerte Pfade zwischen körperlichen Anforderungen zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	--	--	--
Entspannung	--	--	--
Mastery	--	--	--
Selbstbestimmung	--	--	--
Schlafqualität	negativ	--	--
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	--

Tabelle 39

Signifikante zeitverzögerte Pfade zwischen Handlungsspielraum zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	positiv	--	--
Entspannung	positiv	--	--
Mastery	--	--	--
Selbstbestimmung	--	--	--
Schlafqualität	--	--	positiv
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	negativ

Tabelle 40

Signifikante zeitverzögerte Pfade zwischen Feedback zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	positiv	--	--
Entspannung	positiv	--	--
Mastery	positiv	--	--
Selbstbestimmung	positiv	--	--
Schlafqualität	--	--	--
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	--

Tabelle 41

Signifikante zeitverzögerte Pfade zwischen beruflichen Entwicklungsmöglichkeiten zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	positiv	--	--
Entspannung	positiv	--	--
Mastery	positiv	negativ	positiv
Selbstbestimmung	--	--	--
Schlafqualität	--	--	--
Sport	--	--	positiv
Fernsehen	negativ	--	--
Computeraktivität	--	--	negativ

Tabelle 42

Signifikante zeitverzögerte Pfade zwischen beruflichen Anerkennung und Belohnung zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	positiv	--	--
Entspannung	positiv	--	--
Mastery	positiv	--	--
Selbstbestimmung	positiv	--	--
Schlafqualität	--	--	--
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	--

Tabelle 43

Signifikante zeitverzögerte Pfade zwischen problemlösenden Coping zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	--	--	--
Entspannung	--	--	positiv
Mastery	--	--	--
Selbstbestimmung	positiv	--	--
Schlafqualität	--	--	--
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität			

Tabelle 44

Signifikante zeitverzögerte Pfade zwischen vermeidendem Coping zum Zeitpunkt 1 und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	--	--	--
Entspannung	negativ	--	--
Mastery	--	--	negativ
Selbstbestimmung	negativ	--	--
Schlafqualität	--	negativ	--
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	positiv

Tabelle 45

Signifikante zeitverzögerte Pfade zwischen ablenkendem Coping zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	negativ	--	--
Entspannung	--	--	--
Mastery	--	--	--
Selbstbestimmung	--	--	negativ
Schlafqualität	--	--	--
Sport	negativ	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	positiv

Tabelle 46

Signifikante zeitverzögerte Pfade zwischen kognitiv umstrukturierenden Coping zum Zeitpunkt 1 und Freizeit zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	positiv	--	--
Entspannung	--	--	positiv
Mastery	positiv	--	positiv
Selbstbestimmung	positiv	--	positiv
Schlafqualität	--	--	--
Sport	--	--	--
Fernsehen	--	--	--
Computeraktivität	--	--	--

Tabelle 47

Signifikante zeitverzögerte Pfade zwischen ehrenamtlichem Engagement in der Freizeit zum Zeitpunkt 1 (Zeitdauer) und Befinden bzw. Motivation zu späteren Zeitpunkten

Vorhergesagter Befindens- bzw. Motivationsaspekt	Zeit-punkt 2	Zeit-punkt 3	Zeit-punkt 4
Abschalten	--	--	--
Entspannung	--	--	--
Mastery	--	--	--
Selbstbestimmung	positiv	negativ	positiv
Schlafqualität	negativ	positiv	negativ
Sport	--	--	positiv
Fernsehen	--	--	--
Computeraktivität	positiv	negativ	positiv

Betrachtet man die Ergebnisse zu den einmalig erfassten Maßen insgesamt, zeigt sich für die Freizeitvariablen, dass vor allem die Ressourcen bei der Arbeit (Handlungsspielraum, Feedback, Entwicklungsmöglichkeiten sowie Anerkennung und Belohnung) eine Zunahme an günstigen Erholungserfahrungen über drei Monate vorhersagen. Es scheint also so zu sein, dass junge Erwachsene, die bei ihrer Arbeit gute Bedingungen vorfinden, auch in ihrer Freizeit positive Erholungserfahrungen machen. Junge Erwachsene, die bei ihrer Arbeit jedoch wenige Ressourcen haben, haben über die Zeit zunehmend ungünstigere Erholungserfahrungen. Das heißt, ihnen gelingt es nicht, fehlende Ressourcen durch Mastery-Erleben oder Selbstbestimmung in der Freizeit zu kompensieren. Sie schalten zunehmend auch weniger von der Arbeit ab und erleben weniger Entspannung – obwohl es für sie aufgrund der ungünstigeren Situation bei der Arbeit besonders funktional wäre, von der Arbeit abzuschalten und sich zu entspannen.

3.3 Weitere Ergebnisse

Zusätzlich zu den hier im Bericht dargestellten zentralen Analysen wurden weitere Auswertungen vorgenommen, die zum Teil Eingang in die Promotionen von Anne Casper und Stephanie Tremmel fanden und als Publikationsmanuskripte bei internationalen Zeitschriften eingereicht wurden. Darüber hinaus wurde eine weitere Auswertung als Kongressvortrag angenommen. Die Publikationsmanuskripte sowie das Abstract für den Kongressvortrag finden sich im Anhang.

Publikationsmanuskripte

Casper, A., Tremmel, S., & Sonnentag, S. (2018). Patterns of positive and negative work reflection during leisure time: A latent profile analysis. Manuscript submitted for publication.

- Ein Vortrag basierend auf diesen Analysen wurde für das Meeting der Academy of Management, August 2018 in Chicago angenommen

Tremmel, S., Casper, A., & Sonnentag, S. (2018). The power of affect: A three-wave panel study on reciprocal relationships between work events and affect at work. Manuscript submitted for publication.

Kongressbeitrag

Sonnentag, S., Casper, A., & Tremmel, S. (2018). Zeitdruck, implizite Erholungstheorien und fehlendes Abschalten von der Arbeit: Ein latenter Wachstumskurven-Ansatz. Vortrag angenommen für den Kongress der Deutschen Gesellschaft für Psychologie, September 2018 in Frankfurt/M.

4 Zusammenfassung und Fazit

Insgesamt hat die Untersuchung des Projekts rela-x interessante Ergebnisse zu den komplexen Prozessen zwischen Arbeit, Freizeit und Befinden bzw. Motivation bei jungen Berufstätigen gezeigt. Das längsschnittliche Design hat es ermöglicht, unterschiedliche Wirkrichtungen zu testen – eine Möglichkeit, die bei querschnittlichen Designs nicht gegeben ist.

Für die zeitverzögerten Zusammenhänge zwischen Arbeit und Freizeit zeigte sich, dass vor allem Zeitdruck sowie fehlende Ressourcen mit einer Verschlechterung wichtiger Erholungserfahrungen (Abschalten von der Arbeit, Entspannung, Mastery, Selbstbestimmung) einhergehen. Unter diesen ungünstigen Bedingungen erholen sich junge Erwachsene schlechter als wenn sie günstigere Bedingungen bei der Arbeit vorfinden (bzw. die Bedingungen als günstiger wahrnehmen). Zugrundeliegende Prozesse könnten vor allem negative Aktivierung aufgrund des Zeitdrucks sowie Grübeln aufgrund von fehlenden Entwicklungsmöglichkeiten und fehlender Anerkennung sein.

Auch andere Arbeitsstressoren zeigten zeitverzögerte Zusammenhänge mit ungünstigen Erholungserfahrungen. Allerdings sind für diese anderen Arbeitsstressoren (arbeitsorganisatorische Probleme, emotionale Konflikte, Aufgabenkonflikte, illegitime Aufgaben) die umgekehrten zeitverzögerten Zusammenhänge ähnlich häufig vorzufinden. Dies bedeutet, dass ungünstige Erholungsprozesse über die Zeit mit einer wahrgenommenen Zunahme von Arbeitsstressoren einhergehen. Nicht auszuschließen ist, dass sich die Arbeitsbedingungen tatsächlich über die Zeit verschlechtern. Gut denkbar ist aber auch, dass bei ungünstiger Erholung sich junge Erwachsene weniger gut in der Lage fühlen, die Arbeitsstressoren zu bewältigen und dass die Stressoren ihnen somit über die Zeit als stärker ausgeprägt erscheinen. Möglicherweise gibt es hier negative zyklische Prozesse, wobei die Wahrnehmung von Stressoren – beispielsweise mediiert durch negative Aktivierung oder Erschöpfung von selbstregulatorischen Ressourcen – das Erholungserleben vermindert, das seinerseits dann dazu beiträgt, dass zukünftige Stressoren weniger gut bewältigt werden können.

In Bezug auf die zeitverzögerten Zusammenhänge zwischen Freizeit und Befinden bzw. Motivation zeigte sich ein unerwartetes Bild. Insgesamt gibt es zwar Anzeichen dafür, dass günstiges Freizeiterleben und vor allem guter Schlaf zu einer Verbesserung des psychischen Befindens und Arbeitsmotivation beitragen. Jedoch ist die Wirkrichtung vom Befinden bzw. der Motivation auf die Freizeit wesentlich deutlicher ausgeprägt. Es scheint also so zu sein, dass ein gutes psychisches Befinden es jungen Erwachsenen ermöglicht, sich recht gut zu erholen, indem sie von der Arbeit abschalten, sich entspannen, Mastery-Erfahrungen machen und Selbstbestimmung erleben. Umgekehrt heißt das, dass junge Erwachsene mit erhöhten Erschöpfungs-, Beschwerden- und Depressivitätswerten über die Zeit immer weniger günstige Erholungserfahrungen machen. Für sie ist die Freizeit kein positives Gegengewicht zu möglichen ungünstigen Erfahrungen bei der Arbeit. Depressive Symptome nehmen darüber hinaus eine gewisse Sonderstellung ein, da sie in beiden Wirkrichtungen

etwa gleich stark auftreten. Depressive Symptome nehmen bei ungünstigen Erholungserfahrungen zu und bedingen sie gleichzeitig.

Betrachtet man die zeitverzögerten Zusammenhänge zwischen Arbeit und Befinden bzw. Motivation, zeigt sich für die Arbeitsstressoren teilweise eine Zunahme von ungünstigen Befindenssymptomen (Erschöpfung, psychosomatische Beschwerden, depressive Symptome) – ein Ergebnis das mit dem „klassischen" arbeitspsychologischen Befund, dass Arbeitsstressoren zu erhöhten Beanspruchungen führen (Ganster & Rosen, 2013), übereinstimmt. Ein ähnliches Bild – mit umgekehrten Vorzeichen – ergibt sich für die Ressourcen Handlungsspielraum, Entwicklungsmöglichkeiten sowie Anerkennung und Belohnung. Diese Ressourcen ermöglichen es also, über die Zeit ein gesundes Befinden zu bewahren und eventuelle Beeinträchtigungen sogar abzubauen.

Ähnlich wie für die Freizeitvariablen, zeigt sich auch für die Befindens- und Motivationsvariablen ein umgekehrter zeitverzögerter Zusammenhang auf die Wahrnehmung von Arbeitsstressoren. Bei einem ungünstigen psychischen Befinden und schwacher Arbeitsmotivation nimmt das Ausmaß der wahrgenommen Stressoren über die Zeit zu. Dieser „umgekehrte" zeitverzögerte Zusammenhang ist auch häufiger zu beobachten als der „klassische" zeitverzögerte Zusammenhang von Stressoren auf Befinden oder Motivation. Junge Erwachsene, die sich erschöpft fühlen, unter psychosomatischen Beschwerden und depressiven Symptomen leiden, scheinen weniger gut in der Lage zu sein, ihre Arbeitsstressoren zu meistern – sei es, dass sie weniger erfolgreich sind, auf weniger belastende Arbeitsplätze zu kommen oder weniger fähig sind, die auftretenden Stressoren zu bewältigen. Für sie nehmen Überforderungssituationen, interpersonale Konflikte und das Erleben von selbstwert-bedrohenden Ereignissen (illegitime Aufgaben) über die Zeit zu.

Für die Ableitung von Handlungsempfehlungen sind die folgenden Erwägungen relevant. Alles in allem erwies sich das Ausgangs-Befinden und die Ausgangs-Motivation der befragten jungen Erwachsenen als einflussreicher als ursprünglich angenommen. Dies gilt für den Einfluss, den Befinden und Motivation sowohl auf die Arbeitsstressoren (bzw. deren Wahrnehmung) als auch auf die Freizeit haben. Somit ist es wichtig, das psychische Befinden von jungen Erwachsenen zu schützen und negative Entwicklungen zu vermeiden. Hierbei hat der Lebensbereich Berufsarbeit nur begrenzt Einflussmöglichkeiten. Allerdings erwiesen sich vor allem die Arbeitsressourcen Handlungsspielraum, berufliche Entwicklungsmöglichkeiten sowohl Anerkennung und Belohnung als wichtige Faktoren, die das psychische Befinden über die Zeit verbessern. Genau daran sollten betriebliche und überbetriebliche Maßnahmen ansetzen. Es gilt auszuloten, wo jungen Erwachsenen mehr Handlungsspielraum direkt am Arbeitsplatz gewährt werden kann. Darüber hinaus ist es essentiell, berufliche Entwicklungsmöglichkeiten auszubauen und diese gut zu kommunizieren. Schließlich muss der Faktor „Anerkennung und Belohnung" ernst genommen werden. Dies gilt sowohl für die finanzielle, aber auch die nicht-finanzielle Anerkennung.

Da das psychische Befinden eine teilweise ursächliche Wirkung für sowohl günstige als auch ungünstige Entwicklungen zu haben scheint, ist es darüber hinaus sinnvoll, mögliche Beeinträchtigungen des psychischen Befindens in der Anfangsphase zu erkennen und ihnen entgegenzuwirken. Möglicherweise könnten junge Erwachsene darin unterstützt werden, frühzeitig Hilfsangebote aufzusuchen.

Die Schlafqualität erwies sich in der Untersuchung des Projekts rela-x als wichtiger protektiver Faktor für das psychische Befinden. Somit ist Schlaf ein guter Ansatzpunkt für mögliche Interventionen. Allerdings passt Schlaf meist nicht zu einem „jugendlichen Lebensstil“ und den Freizeitbedürfnissen vieler junger Erwachsener. Hier ist einerseits langfristig ein gesellschaftliches Umdenken notwendig. Andererseits könnten Maßnahmen entwickelt werden, die junge Erwachsene darin unterstützen, gut zu schlafen, selbst dann, wenn sie nicht gänzlich auf nächtliche Freizeitaktivitäten verzichten wollen. Beispielsweise könnten solche Hinweise vor allem auf Schlafhygiene vor und nach anstrengenden Arbeitstagen abzielen.

Auch wenn die Ressourcen bei der Arbeit für Befinden und Motivation wichtiger zu sein scheinen, sollte nicht übersehen werden, dass auch Arbeitsstressoren Befinden und Motivation über die Zeit negativ beeinflussen können. Vor allem der Zeitdruck ist ein wichtiger Ansatzpunkt für mögliche Interventionsmaßnahmen. Primäre Maßnahme sollte natürlich sein, den Zeitdruck objektiv zu reduzieren; dies wird jedoch nicht überall möglich sein. Wichtig kann es somit sein, Möglichkeiten zur Priorisierung von Aufgaben zu vermitteln und Handlungsspielraum einzuräumen, um mit dem Zeitdruck besser umgehen zu können. Neben dem Abbau von arbeitsorganisatorischen Problemen sollte auch das Phänomen der illegitimen Aufgaben stärker in den Blick geraten. Wenngleich die Zuteilung von unliebsamen Aufgaben nicht immer völlig vermieden werden kann, sollte doch die Stärkung des Selbstwerts derer, denen von Zeit zu Zeit solche Aufgaben zugewiesen werden, einen hohen Stellenwert haben (Semmer et al., 2015).

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Anhang

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Patterns of Positive and Negative Work Reflection During Leisure Time: A Latent Profile Analysis

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Abstract

This study examined positive and negative work reflection during leisure time from a person-centered perspective using latent profile analysis. First, we examined whether quantitatively and qualitatively different work-reflection profiles exist. Second, we investigated whether persons from the established work reflection profiles differ in energetic well-being (i.e., exhaustion and vigor). We collected data from 1,036 young employees who answered to 3 surveys with a time lag of 3 months each. We established the profile solution at the first measurement point and tested for differences in well-being at the second and third measurement point. We identified 6 work reflection profiles with 2 profiles displaying unbalanced levels of positive and negative work reflection (positive reflectors and negative reflectors) and 4 profiles displaying balanced levels of positive and negative work reflection (non-reflectors, moderate reflectors, low reflectors, and high reflectors). Analyses showed that persons differed significantly in energetic well-being depending on profile membership with positive reflectors experiencing the highest well-being and negative reflectors experiencing the lowest well-being. Persons from the balanced profiles did not differ from one another in well-being. Our results provide new insights into the interplay of positive and negative work reflection during leisure time and its associations with employee well-being.

Patterns of Positive and Negative Work Reflection During Leisure Time: A Latent Profile Analysis

Many employees continue to think about work-related issues during off-job time, for instance in the evening, on weekends, or during vacation. On the one hand, employees may reflect on positive aspects of their work such as personal accomplishments or positive interactions they had with others. On the other hand, employees may think about negative aspects of their job such as hassles they had to go through to get their work done or unpleasant people they had to interact with. Past research suggests that positive work reflection (i.e., thinking about the positive aspects of one's job) during leisure time is a beneficial leisure experience that has positive consequences for employees' well-being (Meier, Cho, & Dumani, 2016) as well as performance-related behaviors (Binnewies, Sonnentag, & Mojza, 2009; Fritz & Sonnentag, 2005). Thus, positive work reflection can be seen as a resource-generating leisure experience (Fritz & Sonnentag, 2006). Negative work reflection (i.e., thinking about the negative aspects of one's job) during leisure time, however, seems to be a detrimental leisure experience as it predicts burnout and health complaints (Fritz & Sonnentag, 2006). Thus, negative work reflection can be seen as a resource-consuming leisure experience (Fritz & Sonnentag, 2006).

While these modes of thinking about work during leisure time may seem mutually exclusive, research showed that positive and negative work reflection are positively related (Binnewies et al., 2009; Meier et al., 2016), suggesting that they may co-occur within persons. However, to our knowledge, no study examined possible *configurations* in which persons may engage in both positive and negative work reflection during their leisure time: For instance, some persons may tend to think intensely about their work during leisure time, including both positive and negative thoughts. Other persons may exclusively think about negative aspects of their job while others only think about the positive sides of their work.

Still others may completely refrain from any positive or negative thoughts about work during off-job time. Investigating configurations of positive and negative work reflection helps understand how employees jointly experience these reflection modes during leisure time and how their interplay is associated with employee well-being.

In the present study, we investigate how positive and negative work reflection co-occur within employees using latent profile analysis, a person-centered analytical approach aimed at identifying naturally occurring profiles (i.e., configurations) among variables. Moreover, we investigate how different configurations of positive and negative work relate to employees' exhaustion and vigor (i.e., their energetic well-being). While past research suggested that positive work reflection is a resource-generating leisure experience and that negative work reflection is a resource-consuming experience (Fritz & Sonnentag, 2006), we examine how different configurations of these reflection modes are related to employees' energetic well-being. We used a sample of young employees aged between 18 and 25 who provided data on positive and negative work reflection and well-being at three measurement points with a time lag of three months each. Our study is divided into two parts. In the first part, we adopt an inductive approach and explore which positive and negative reflection profiles exist among employees. We used the first measurement point of our study to establish the profile solution and repeated the profile analyses at the second and third measurement points. In the second part of the study, we examined how persons from the different reflection profiles differ in vigor and exhaustion. We tested our hypotheses regarding profile differences in vigor and exhaustion at the second and third measurement point of our study.

Our study makes three main contributions to the literature. First, our study complements variable-centered research on positive and negative work reflection during leisure time which suggested that positive work reflection is a leisure experience beneficial to

well-being while negative work reflection is a leisure experience detrimental to well-being (Binnewies et al., 2009; Fritz & Sonnentag, 2006). By using a person-centered analytical approach, we take into account that positive and negative work reflection do not occur in isolation but may co-occur in employees' everyday life and follow calls to examine the interplay of these reflection modes in more detail (Binnewies et al., 2009). Thereby, our study contributes to research on how employees jointly engage in different recovery experiences during leisure time. Specifically, we add to past research (Bennett, Gabriel, Calderwood, Dahling, & Trougakos, 2016) by focusing on the affective valence of work-related thoughts during leisure time.

Second, we expand knowledge on the role of positive and negative work reflection for employees' well-being by examining how profiles of positive and negative work reflection are associated with employees' vigor and exhaustion. With a person-centered approach to positive and negative work reflection, we examine how their interplay is associated with employees' energetic well-being. Moreover, by examining how profiles of positive and negative work reflection are related to vigor and exhaustion, we answer calls to examine the role of work reflection for other indicators than affective well-being (Meier et al., 2016).

Finally, our study contributes to research on positive-reflection interventions (Bono, Glomb, Shen, Kim, & Koch, 2013; Clauss et al., 2018; Meier et al., 2016). These interventions aim at enhancing employee well-being by using techniques such as the three-good-things intervention (Seligman, Steen, Park, & Peterson, 2005) and are a simple and low-cost strategy for managers and organizations to enhance employee well-being. However, evidence for the effectiveness of positive work reflection interventions is mixed: One study reports positive effects on reducing exhaustion and fatigue (Clauss et al., 2018) whereas another study did not find beneficial effects (Meier et al., 2016). Our results shed light on how positive and negative work reflection may co-occur within persons and how these

configurations are associated with employee well-being. Put simply, our results can provide indication as to whether positive work reflection suffices to enhance employee well-being or whether interventions should also aim at decreasing negative work reflection during leisure time.

Theoretical Background: Positive and Negative Work Reflection During Leisure Time

Leisure time on weekends, vacations, and during the evening represents an opportunity for employees to recover from job demands. During this time, strain reactions that have occurred as a consequence of the exposure to job stressors may return to their baseline levels (Craig & Cooper, 1992). In terms of conservation of resources theory (Hobfoll, 1989), leisure time is an opportunity during which employees may restore resources that have been depleted by their job demands. Resources are defined as "objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies" (Hobfoll, 1989, p. 516). Thus, employees' exhaustion and vigor can be seen as indicators of their energetic resources.

Positive and negative work reflection are two cognitive processes that employees may experience during leisure time. Positive work reflection refers to thinking about the positive aspects of one's job and may include positive thoughts about personal successes or pleasant interactions with coworkers (Fritz & Sonnentag, 2005). Thinking about the positive sides of one's work can be seen as a way of savoring positive experiences (Bryant, 1989), which is associated with increased positive affective states (Jose, Lim, & Bryant, 2012). Thinking about positive aspects of one's work during leisure time has been suggested to be a recovery experience that helps to restore one's resources (Fritz & Sonnentag, 2005). For instance, thinking about personal accomplishments or reached work goals may increase personal resources such as felt competency (Gagné & Deci, 2005) and self-efficacy (Bandura, 1982).

Moreover, positive work reflection may also be seen as a form of positive re-appraisal of stressful work situations (Lazarus & Folkman, 1984). For instance, during stressful times at work, employees may deliberately think about what they like about their jobs, thereby seeing the stressful situation in a more positive light. Past research suggests that positive work reflection indeed acts as a resource-providing recovery experience: Reflecting about the positive aspects of one's work predicts a decrease in exhaustion and disengagement over the weekend (Fritz & Sonnentag, 2005, but see Fritz & Sonnentag 2006). Also, positive work reflection is associated with increased positive affective states (Meier et al., 2016; Sonnentag & Grant, 2012) as well as decreased negative affective states (Meier et al., 2016).

Negative work reflection refers to thinking about the negative aspects of one's job (Fritz & Sonnentag, 2006). It may include thoughts about disliked tasks one has to deal with or thoughts about stressful interactions with other people. Thinking about these negative aspects during leisure time may keep job stressors mentally present during off-job time, thereby prolonging the stressor's effect (Brosschot, Gerin, & Thayer, 2006). In line with this reasoning, past research suggests that negative work reflection can indeed be seen as a resource-consuming leisure time experience: Negative work reflection during vacation predicted burnout, disengagement, and health complaints when returning to work (Fritz & Sonnentag, 2006). Moreover, negative work reflection during the evening was found to predict negative mood at bedtime (Meier et al., 2016). In line with study results on negative work reflection, research on other thought processes also shows that negatively-valenced thought processes (e.g., rumination about negative events, worry) are associated with unfavorable consequences such as impaired mental health, higher anxiety, and higher physical symptoms (for an overview, see Watkins, 2008). Taken together, past research suggests that positive work reflection during leisure time is a resource-generating leisure

experience that is beneficial to employee well-being while negative work reflection is a resource-consuming leisure experience that is detrimental to well-being.

A Person-Centered Approach to Positive and Negative Work Reflection During Leisure Time

In the present study, we apply a person-centered analytical approach to the study of positive and negative work reflection during leisure time. *Person-centered* analytical approaches differ from *variable-centered* analytical approaches such as regression analysis in terms of their analytic "mindset" (Zyphur, 2009). Whereas variable-centered analytical approaches aim at identifying relationships among variables (Wang, Sinclair, Zhou, & Sears, 2012), person-centered analytical approaches aim at classifying people into subpopulations depending on their scores on multiple variables of interest (Lubke & Muthén, 2005). Specifically, latent profile analysis clusters individuals into subpopulations based on their levels on multiple continuous variables (Lubke & Muthén, 2005).

We suggest that positive and negative work reflection may co-occur within persons in different configurations (i.e., profiles). Our study aims at identifying these subpopulations among people. As outlined before, some employees may engage in both positive and negative work reflection while other employees engage in neither reflection mode or engage in one reflection mode more than in the other. Thus, in the first part of our study, we examine whether different profiles of positive and negative work reflection exist.

Second, we argue that different profiles of positive and negative work reflection are differentially related to employee well-being. Past research using a variable-centered approach suggests that positive work reflection is beneficial to well-being (e.g., Fritz & Sonnentag, 2005) while negative work reflection is harmful to well-being (e.g., Meier et al., 2016). However, when positive and negative work reflection co-occur within persons, the positive effects of positive work reflection might be less pronounced or even cancelled out

when persons reflect about the negative aspects of their work to the same extent. In the same vein, positive work reflection might to some extent counteract the negative effects of negative work reflection during leisure time. Thus, in the second part of our study, we examine how the profiles established in the first part of our study explain differences in employee exhaustion and vigor.

Part I: Establishing Profiles of Positive and Negative Work Reflection

In the first part of our study, we use an inductive approach and explore which different latent profiles (i.e., configurations) of positive and negative work reflection exist. Latent profile analysis can result in profiles that differ qualitatively or quantitatively with regard to profile indicators (Gabriel, Daniels, Diefendorff, & Greguras, 2015). Qualitatively different profiles differ in the *relative* levels of the profile indicators. These profiles are different in terms of how pronounced the profile indicators are in relation to one another. In our study context, this could mean that one profile describes persons who display high levels of positive work reflection and moderate levels of negative work reflection whereas another profile may describe persons who show high levels of negative work reflection and low levels of positive work reflection. Quantitatively different profiles differ in the *absolute* levels of the profile indicators. These profiles exhibit the same relative pattern of one profile indicator to the other, for example with profiles displaying equal means on both profile indicators. However, these profiles differ in the absolute level of the profile indicators, for example with one profile displaying high means on both indicators while another profile displays low means on both indicators. Thus, in the context of positive and negative work reflection this could mean that one profile includes persons who engage in equally high levels of positive and negative work reflection whereas another profile might include persons who engage in equally low levels of positive and negative work reflection. Taken together, in the first part of our study, we sought to answer the following research question:

Research question: Are there quantitatively and qualitatively distinct profiles of positive and negative work reflection?

Method

Participants and procedure. This study is part of a larger research project on young employees' working conditions, leisure time, and well-being in Germany[1]. We collected data with a longitudinal online survey study with four measurement occasions at a time interval of three months each. We recruited employees aged between 18 and 25 years with the help of occupational insurance associations by introducing the study at vocational training seminars held by the insurance associations and local chambers of commerce. We also asked vocational schools to promote our study in their classes. Moreover, we advertised the study on social networks. Participants registered for study participation on the project website. Subsequently, we sent them the link to the first (T0), second (T1; three months later), third (T2; six months later), and fourth (T3; nine months later) survey via e-mail. As an incentive, we offered a 5-Euro-voucher by a large online retailer for each completed survey. The current study includes demographic information assessed at T0. All other study variables were measured at T1, T2, and T3.

The final sample included 1,036 participants at T1, 849 participants at T2, and 814 participants at T3. Of the 1,036 participants at T1, 937 had provided demographic information on age and gender at T0, and 906 participants had provided information on their occupation at T0. Participants' mean age was 21.3 years (SD = 2.2) and 60.3% of the participants were female. More than half of the participants (61.6%) were in vocational training (i.e., were employed full-time as a trainee). Participants worked in various occupations and industries, for instance administration (29.4%), sales and services (10.7%), and electrical engineering and information technology (9.5%). Most participants held a

[1] This is the first publication from this data set.

higher education entrance qualification (35.5% qualification for university entrance and 19.9% qualification for entrance in universities of applied sciences).

Measures. All survey items were presented in German. We used back-translation (Brislin, 1970) for scales that were only available in English. We instructed the participants to refer to the last three months when answering the items. The response format was a 5-point Likert scale ranging from 1 = *disagree* to 5 = *agree.* We assessed positive and negative work reflection at all three measurement occasions. Descriptive statistics and Cronbach's alpha of positive and negative work reflection at all measurement points are shown in in the first six lines of Table 1. We measured positive work reflection and negative work reflection with the scales used by Binnewies et al. (2009), based on the scales developed by Fritz and Sonnentag (2005, 2006). The scales consist of four items each. A sample item for positive work reflection is "During leisure time, I think about the good sides of my work". A sample item for negative work reflection is "During leisure time, I consider the negative aspects of my job".

Analytic strategy. We used latent profile analysis (LPA; Lubke & Muthén, 2005), a person-centered analysis method aimed at identifying naturally occurring profiles (i.e., configurations) among the variables of interest. We used the first measurement point (T1) to identify the best fitting number of work reflection profiles. Subsequently, at T2 and T3, we again identified the profile solution. We analyzed the data using MPlus Version 7.4 (Muthén & Muthén, 1998-2015). We began by specifying a model with two latent profiles using the manifest mean scores of positive and negative work reflection, respectively. Using the default settings in MPlus, the variances of the profile indicators were assumed to be invariant across profiles. Subsequently, we increased the number of profiles until model fit did not improve anymore. Consistent with past research using a LPA approach (Bennett et al., 2016; Gabriel et al., 2015), we used seven fit statistics to determine the appropriate number of reflection

profiles: log likelihood (LL), Akaike information criterion (AIC), Bayesian information criterion (BIC), sample-size-adjusted BIC (SSA–BIC), Lo-Mendell-Rubin likelihood ratio test (LMR), bootstrap likelihood ratio test (BLRT), and entropy. The best profile solution should have smaller AIC, BIC, and SSA-BIC statistics than the other solutions. Moreover, LMR and BLRT should be significant and entropy should be above .70 (ranging from 0 to 1 with higher values indicating higher classification accuracy). Finally, to achieve model parsimony, latent profiles containing less than 1% of the sample should not be considered (Bennett et al., 2016).

Results and Discussion

Table 2 displays the results of the profile enumeration. At T1, a six-profile solution yielded the best statistical fit with smaller AIC, BIC, and SSA-BIC statistics, higher entropy, and significant LMR and BLRT statistics. Additionally, all profiles contained more than 1% of the sample. Descriptive information for the profile solution at T1 is shown in Table 3 and illustrated in Figure 1. The largest profile (50.9%) included persons who displayed equally moderate levels of positive and negative work reflection during leisure time. We labeled this profile *moderate reflectors.* The second-largest profile (15.2%) included persons with equally low levels of positive and negative work reflection. We labeled this profile *low reflectors.* The third largest profile (14.9%) included persons who reported high levels of positive work reflection and very low levels of negative work reflection. We labeled this profile *positive reflectors.* The fourth largest profile (7.8%) included persons who displayed high levels of negative work reflection and low levels of positive work reflection. We labeled this profile *negative reflectors.* The next largest profile (6.5%) contained persons who displayed the lowest values on positive as well as negative work reflection. We labeled this profile *non-reflectors.* The final profile (4.8%) included persons who reported the highest values of both positive and negative work reflection. We labeled this profile *high reflectors.* In sum, the

results showed two unbalanced profiles with different levels of positive and negative work reflection (i.e., *positive reflectors* and *negative reflectors*) that differed qualitatively from the other profiles. Additionally, four balanced profiles with equal levels of positive and negative work reflection emerged (i.e., *non-reflectors* and *low, moderate, and high reflectors*) that differed quantitatively from each other.

Subsequently, we also identified the best-fitting profile solution at T2 and T3. At T2, a seven-profile solution yielded the best fit statistics with smaller AIC, BIC, and SSA-BIC, significant LMR and BLRT statistics as well as higher entropy (see Table 2). However, examination of the profiles showed that one of the classes was comprised of less than one percent of the sample (i.e., 8 persons out of 849). Consistent with earlier research, we used a profile size of 1% as a meaningful cutoff criterion (Bennett et al., 2016) and thus chose the six-profile solution. The six-profile solution also displayed an entropy larger than .70 and significant LMR and BLRT statistics[2]. Descriptive information on the six-profile solution is displayed in Table 2. The pattern of the profiles at T2 was very similar to the pattern at T1. Also, the order of profile sizes was the same with one exception: Whereas the *high reflectors* profile was the smallest profile at T1, it was the second smallest profile at T2, while the *non-reflectors* profile was the smallest profile. At T3, a six-profile solution showed the best fit statistics (i.e., smaller AIC, BIC, SSA-BIC, higher entropy, and significant LMR and BLRT statistics; see Table 2). Again, the pattern of the profiles was very similar to that at T1 and T2. The order of profile sizes was the same as at T2.

In response to our research question, analyses showed that qualitatively and quantitatively different profiles of positive and negative work reflection during leisure time

[2] We note that at T2, the four-profile solution showed a non-significant LMR statistic. However, we continued to increase the number of profiles for two reasons: First, AIC, BIC and SSA-BIC continued to decrease with the addition of profiles. Second, because we identified a 6-profile solution at T1, we had substantive reasons to expect a 6-profile solution at T2 as well.

exist. Specifically, two unbalanced and four balanced profiles emerged in our analyses. The two unbalanced profiles displayed unequal levels of positive and negative work reflection during leisure time and included persons who only engaged in positive work reflection during leisure time (*positive reflectors)* or persons who only engaged in negative work reflection during leisure time (*negative reflectors).* The four balanced profiles included persons with equal levels of positive and negative work reflection that differed in the extent to which they engaged in both reflection modes (*non-reflectors, low reflectors, moderate reflectors,* and *high reflectors).* Taken together, the majority of people engage to the same extent in positive and negative work reflection during leisure time.

Part II: Positive and Negative Work Reflection Profiles and Well-Being

In the second part of the study, we examined how employees differ in their energetic well-being (i.e., vigor and exhaustion) depending on profile membership. Six profiles emerged in the first part of the study: Two unbalanced profiles with unequal levels of positive and negative work reflection that differed qualitatively from the other profiles (i.e., *positive reflectors* and *negative reflectors)* and four balanced profiles with equal levels of positive and negative work reflection that differed quantitatively from one another (i.e., *non-reflectors, low reflectors, moderate reflectors,* and *high reflectors*).

We suggest that persons in these profiles differ in vigor and exhaustion, which are indicators of employees' energetic well-being. Vigor is the energetic component of work engagement and is characterized by feelings of high motivation, resilience, and energy (Schaufeli & Bakker, 2004). When employees experience vigor, they are willing to invest effort into their work and persist in their tasks even when encountering difficulties (Schaufeli & Bakker, 2004). Exhaustion is the core dimension of burnout and is characterized by feelings of being drained and overextended by one's job demands (Maslach, Schaufeli, & Leiter, 2001). Overall, our hypotheses are guided by the idea that positive work reflection is a

resource-generating leisure experience that helps employees to replenish their resources during leisure time (Fritz & Sonnentag, 2006), which should be reflected in higher levels of vigor while negative work reflection is a resource-consuming leisure experience (Fritz & Sonnentag, 2006) that further drains employees' resources during leisure time, which should be reflected in higher levels of exhaustion.

Positive Reflectors' Well-Being Compared to Other Profiles

We expect that persons in the *positive reflectors* profile experience the highest levels of vigor compared to other profiles. Persons in this profile display the highest level of positive work reflection and very low levels of negative work reflection. In line with conservation of resources theory (Hobfoll, 1989) and past research (Fritz & Sonnentag, 2006), we argue that positive work reflection is a resource-generating leisure time experience that increases employees' resources. Positive work reflection can be seen as a form of savoring positive experiences one had at work (Bryant, 1989). By thinking about pleasurable experiences with one's coworkers or personal accomplishments during after-work hours, employees may extend the positive impact of these experiences. In line with this reasoning, positive work reflection is associated with positive affective states (Meier et al., 2016). Moreover, thinking about personal accomplishments one had at work or praise from one's supervisor may increase personal resources such as self-efficacy beliefs (Bandura, 1982), feelings of competence (Gagné & Deci, 2005) or the feeling that one's job has meaning and significance (Wrzesniewski, Dutton, & Debebe, 2003). These personal resources, in turn, may energize employees and increase vigor (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Thus, we suggest that persons in the *positive reflectors* profile experience the highest vigor compared to persons in the other profiles.

Notably, persons in the *high reflectors* profile engage in equally high levels of positive work reflection as persons in the *positive reflectors* profile. However, these

individuals engage in as much negative work reflection as in positive work reflection. We suggest that persons in the *positive reflectors* profile experience higher vigor than persons in the *high reflectors* profile because the presence of negative work reflection in the *high reflectors* profile might dampen the positive effects of positive work reflection on employees' vigor to some extent. We argued that positive work reflection energizes employees because it increases the impact of positive experiences and because it may increase personal resources such as self-efficacy and felt competence or meaningfulness. However, if employees engage to the same extent in negative work reflection, this might weaken the energizing effects of positive work reflection: For instance, if employees reflect about a personal success they had at work and subsequently think about a negative experience they had with a coworker, they might feel less vigorous and energized than if they only reflect about their personal success. In line with this reasoning, thoughts aimed at dampening positive feelings after a positive experience are associated with greater decreases in positive mood on the next day (Wood, Heimpel, & Michela, 2003). Taken together, we expect that persons in the *positive reflectors* profile experience the highest vigor compared to other profiles:

> *Hypothesis 1a:* Persons in the positive reflectors profile experience higher vigor than persons in the other profiles.

Additionally, we argue that employees in the *positive reflectors* profile experience less exhaustion than persons in the other profiles. First, past research has suggested that positive work reflection is a resource-generating leisure experience that is associated with lower burnout (Fritz & Sonnentag, 2005; but see Fritz & Sonnentag, 2006). Thus, *positive reflectors'* high levels of positive work reflection may reduce exhaustion because it helps employees to restore their resources. Additionally, persons in this profile do not – or only to a very little extent – reflect about the negative aspects of their work during leisure time. By refraining from negative thoughts about work during leisure time, *positive reflectors* do not

keep negative aspects of their jobs such as stressful encounters present during their leisure time (Brosschot et al., 2006). Thereby, positive recovery experiences such as relaxation or psychological detachment from work (Sonnentag & Fritz, 2015) are more likely to occur. Taken together, we expect that persons in the *positive reflectors* profile experience the lowest exhaustion compared to persons in other profiles:

> *Hypothesis 1b:* Persons in the positive reflectors profile experience lower exhaustion than persons in the other profiles.

Negative Reflectors' Well-Being Compared to Other Profiles

We suggest that persons in the *negative reflectors* profile experience higher levels of exhaustion compared to the other profiles because they engage in high levels of negative work reflection. In line with conservation of resources theory (Hobfoll, 1989) and past research (Binnewies et al., 2009; Fritz & Sonnentag, 2006), we argue that negative work reflection contributes to exhaustion because it is an energy-consuming leisure experience. By reflecting about the negative aspects of their work during off-job time, employees keep negative aspects of their work mentally present during leisure time. This mental representation of negative work aspects can be seen as prolonged activation that is assumed to be detrimental to employees' health and well-being (Brosschot et al., 2006). Moreover, negative work reflection makes it less likely that employees engage in positive recovery experiences such as relaxation and psychological detachment from work, which are associated with lower exhaustion (Bennett, Bakker, & Field, 2018). Thus, we argue that persons in the *negative reflectors* profile experience the highest exhaustion compared to persons in the other profiles.

Again, we note that persons in the *high reflectors* profile display equally high levels of negative work reflection as persons in the *negative reflectors* profile. However, persons in the *high reflectors* profile engage in as much positive work reflection as they do in negative

work reflection. We suggest that persons in the *negative reflectors* profile experience higher exhaustion than persons in the *high reflectors* profile because positive work reflection might counteract the negative effects of negative work reflection on employee exhaustion. In line with this reasoning, it has been argued that positive emotions can – to some extent – undo the effects of negative emotions (Fredrickson, 2004). With regard to positive and negative work reflection, positive work reflection might mitigate the negative effects of negative work reflection: Employees who reflected about the negative aspects of their job might deliberately decide to think about what they like about their job or try to see the negative aspects of their work in a more positive light. For instance, when thinking about an unpleasant interaction with a coworker, employees might deliberately try to think about positive experiences they had with that same colleague as a strategy of emotion regulation. Thus, positive work reflection might represent a way in which employees reappraise negative or stressful work situations (Lazarus & Folkman, 1984). In sum, we expect that persons in the *negative reflectors* profile experience the highest exhaustion compared to the other profiles:

Hypothesis 2a: Persons in the negative reflectors profile experience higher exhaustion than persons in the other profiles.

Additionally, persons in the *negative reflectors* profile do not reflect about the positive aspects of their work during leisure time. By not thinking about positive experiences they had at work, these persons do not savor the positive aspects that their job might have (Bryant, 1989). Thus, these employees are less likely to maximize the benefits of positive work experiences by thinking about them after their occurrence. Moreover, by not reflecting about personal accomplishments or goals they reached at work, employees are less likely to increase personal resources like self-efficacy that might energize them and help them feel vigorous (Xanthopoulou et al., 2007). Thus, we expect that persons in the *negative reflectors* profile will experience the lowest vigor compared to persons in the other profiles.

Hypothesis 2b: Persons in the negative reflectors profile experience lower vigor than persons in the other profiles.

High Reflectors' Well-Being in Comparison to Other Balanced Profiles

Finally, we propose that persons in the *high reflectors* profile experience higher vigor and higher exhaustion than persons in the other balanced profiles (i.e., *non-reflectors, low reflectors,* and *moderate reflectors)*. Persons in the *high reflectors* profile display equally high levels of positive and negative work reflection during leisure time. Thus, in sum, these persons engage in many work-related thoughts during leisure time. On the one hand, a high amount of work-related thoughts during leisure time makes the occurrence of other important recovery experiences less likely. When constantly thinking about work during leisure time, employees are less likely to detach from work or engage in relaxing activities, which are important recovery experiences that are associated with lower levels of exhaustion (Bennett et al., 2018). Employees in the other balanced profiles display very low to moderate amounts of both reflection forms, thus leaving enough time for other recovery experiences to occur. On the other hand, however, these employees might also benefit more from positive work reflection's potential benefits: They might savor the positive experiences they had at work (Bryant, 1989) and increase their personal resources (Xanthopoulou et al., 2007) by thinking about successes and accomplishments during leisure time. Taken together, we suggest that persons in the *high reflectors* profile experience higher exhaustion but also higher vigor than persons in the other balanced profiles:

Hypothesis 3a: Persons in the high reflectors profile experience higher exhaustion than persons in the other balanced profiles.

Hypothesis 3b: Persons in the high reflectors profile experience higher vigor than persons in the other balanced profiles.

Control Variables

In order to rule out alternative explanations for why persons with different work reflection profiles differ in vigor and exhaustion, we included several control variables in our analyses. First, one could argue that differences in well-being in the different profiles are due to differences in working conditions: Persons who reflect more about the positive aspects of their job might have more favorable working conditions and thus experience higher vigor and lower exhaustion than persons who have less favorable working conditions. Conversely, persons who reflect more about the negative aspects of their job might have more unfavorable working conditions and thus experience lower vigor and higher exhaustion than persons in more favorable working conditions. To exclude this alternative explanation for our results, we controlled for working conditions in our hypotheses tests: When predicting vigor, we controlled for social support from colleagues and supervisory coaching as important job resources that contribute to the experience of vigor (Bakker, Demerouti, & Sanz-Vergel, 2014). When predicting exhaustion, we controlled for challenge and hindrance stressors as a broad representation of stressors that contribute to exhaustion (LePine, Podsakoff, & LePine, 2005). Second, in order to make sure that previous levels of well-being do not explain profile membership, we controlled for the respective well-being outcome (i.e., vigor or exhaustion, respectively) at the previous time point when predicting well-being by profile membership. Thus, when predicting well-being at one measurement point by profile membership at the same measurement point, we predicted a change in well-being from the previous measurement point to the current measurement point.

Method

The sample and procedure of data collection are described in the first part of the study. We used the second and third measurement point of the longitudinal study to test our hypotheses. Specifically, we predicted employee well-being at T2 and T3, respectively, while

controlling for working conditions at the same measurement point and the respective outcome at the previous measurement point (i.e., at T1 and T2, respectively).

Measures. We assessed our outcome variables vigor and exhaustion at all three measurement occasions. The control variables (i.e., challenge stressors, hindrance stressors, social support from colleagues, and supervisory coaching) were assessed at T2 and T3. Unless indicated otherwise, the response format was a 5-point Likert scale ranging from 1 = *disagree* to 5 = *agree.* Descriptive statistics, Cronbach's alpha, and correlations between study variables are shown in Table 1.

We measured vigor with the 5-item subscale for physical strength of the Shirom-Melamed Vigor Measure (Shirom, 2003). We asked participants to indicate how often they experienced the described states at work during the last three months. These items had to be answered on a 7-point Likert scale ranging from 1 = *never or almost never* to 7 = *always or almost always*. A sample item is "I feel energetic".

We measured exhaustion with the 6-item subscale for physical fatigue of the Shirom-Melamed Burnout Measure (Shirom & Melamed, 2006). We asked our participants to indicate how often they experienced the described states at work during the last three months. These items were answered on a 7-point Likert scale ranging from 1 = *never or almost never* to 7 = *always or almost always*. A sample item is "I have no energy for going to work in the morning".

We measured challenge stressors with six items of a scale developed by Rodell and Judge (2009), including items referring to quantitative workload, job complexity, and job responsibility. Because the original scale measured day-specific challenge stressors, we adapted the items to our study timeframe. A sample item is "At my job, I have to work on a large number of projects and/or assignments".

We measured hindrance stressors with five items of a scale developed by Rodell and Judge (2009), including items referring to role ambiguity, role conflict, and hassles. Again, we adapted the day-specific items to refer to our study timeframe. A sample item is "At my job, I receive conflicting requests from two or more people".

We measured social support from colleagues with a 5-item scale (Frese, 1999) on a 4-point Likert scale ranging from 1 = *not at all* to 4 = *completely*. A sample item is "How much can you rely on your colleagues when work gets difficult?". We measured supervisory coaching with a 3-item scale developed by Bakker and Bal (2010). A sample item is "My supervisor is friendly and open".

Preliminary analyses. To test the construct validity of our study variables, we conducted confirmatory factor analyses in MPlus 7.4 (Muthén & Muthén, 1998-2015) for each measurement occasion. Results showed that the expected 8-factor model including the profile indicators, outcome variables and control variables fit the data well at Time 2 (χ^2 = 2203.649, *df* = 637, $p < .001$, RMSEA = .054, CFI = .929) and at Time 3 (χ^2 = 2251.677, *df* = 637, $p < .001$, RMSEA = .056, CFI = .926). Satorra-Bentler chi-square difference tests indicated that the 8-factor model was superior to a 7-factor model with one factor for positive and negative work reflection combined at T2 ($\Delta \chi^2$ = 2943.003, Δ *df* = 7, $p < .001$), and at T3 ($\Delta \chi^2$ = 2851.000, Δ *df* = 7, $p < .001$) as well as to a 7-factor model with one factor for vigor and exhaustion combined at T2 ($\Delta \chi^2$ = 2131.410, Δ *df* = 7, $p < .001$), and at T3 ($\Delta \chi^2$ = 1846.345, Δ *df* = 7, $p < .001$).

Analytic strategy. We analyzed the data using Mplus Version 7.4 (Muthén & Muthén, 1998-2015), following the automatic three-step procedure (Asparouhov & Muthén, 2014). In the first step, the best fitting number of profiles is identified (see Part 1). In the second step, the most likely class membership for each individual is identified. Finally, in the third step, auxiliary variables (e.g., distal outcome variables) are examined in relation to the

latent profiles using the DCON command in Mplus. This command provides a chi-square statistic for each outcome that indicates whether significant differences on the outcome variable exist among the profiles. Subsequently, pair-wise comparisons among all profiles indicate which profiles differ significantly from one another (for a detailed description of this analytic approach see Asparouhov & Muthén, 2014).

In the present case, we examined whether persons differ significantly in vigor and exhaustion depending on profile membership while including several control variables. Because the DCON command in Mplus does not allow for control variables to be included in the analyses, we used unstandardized residuals of the outcome variables for the analyses regarding differences in well-being among the profiles. To compute these residual scores, we ran regression analyses in SPSS, in which we predicted the outcome variables by the control variables (i.e., exhaustion by challenge and hindrance stressors; vigor by social support and supervisory coaching) as well as the respective outcome at the previous time point (i.e., at T1 for analyses at T2 and at T2 for analyses at T3). Subsequently, we examined whether profile membership predicted differences in these residual variables.

Results and Discussion

The results of the outcome analyses are shown in Table 4 and graphically displayed in Figure 2. At both T2 and T3, the overall chi-square statistic indicated significant differences among the profiles in vigor (T2: $\chi^2 = 58.026$, $df = 5$, $p < .001$; T3: $\chi^2 = 66.894$, $df = 5$, $p < .001$) and exhaustion (T2: $\chi^2 = 111.257$, $df = 5$, $p < .001$; T3: $\chi^2 = 70.871$, $df = 5$, $p < .001$). Hypothesis 1 stated that persons in the *positive reflectors* profile experience higher vigor (Hypothesis 1a) and lower exhaustion (Hypothesis 1b) than persons in the other profiles. With regard to vigor at T2, persons in the *positive reflectors* profile experienced the highest vigor ($M = .402$) and differed significantly from persons in the *moderate reflectors* ($M = -.095$), *low reflectors* ($M = -.047$), and *negative reflectors* ($M = -.478$) profiles. At T3,

persons in the *positive reflectors* profile also experienced the highest vigor (*M* = .549) and differed significantly in vigor from persons in all other profiles. Thus, results mainly supported Hypothesis 1a except for the non-significant comparisons at T2 between positive reflectors versus non-reflectors and versus high reflectors. With regard to exhaustion at T2, persons in the *positive reflectors* profile experienced the lowest exhaustion (*M* = -.671) and differed significantly from persons in all other profiles. At T3, persons in the *positive reflectors* profile also experienced the lowest exhaustion (*M* = -.448) and differed significantly in exhaustion from persons in all other profiles except the *non-reflectors* profile (*M* = -.097). Thus, results mainly supported Hypothesis 1b.

Hypothesis 2 stated that persons in the *negative reflectors* profile experience lower vigor (Hypothesis 2a) and higher exhaustion (Hypothesis 2b) than persons in the other profiles. With regard to vigor, persons in the *negative reflectors* profile at T2 experienced the lowest vigor (*M* = -.478) and differed significantly from persons in all other profiles. At T3, persons in the *negative reflectors* profile also experienced the lowest vigor and differed significantly from persons in all other profiles with the exception of the *non-reflectors* profile (*M* = -.379). Thus, results mainly supported Hypothesis 2a. With regard to exhaustion, persons in the *negative reflectors* profile experienced the highest exhaustion at T2 (*M* = .644) and T3 (*M* = .659) and differed significantly from persons in all other profiles at T2 and T3. Thus, results supported Hypothesis 2b.

Hypothesis 3 stated that persons in the *high reflectors* profile experience higher exhaustion (Hypothesis 3a) and higher vigor (Hypothesis 3b) than persons in the quantitatively different profiles (i.e., in the *non-reflectors, low reflectors,* and *moderate reflectors* profile). With regard to exhaustion, persons in the *high reflectors* profile experienced higher exhaustion at T2 (*M* = .335) than persons in the quantitatively different profiles and all pair-wise comparisons were significant. At T3, persons in the *high reflectors*

profile did not differ significantly from the other balanced profiles. Thus, only data at T2 supported Hypothesis 3a. With regard to vigor, *high reflectors* at T2 experienced higher vigor (M = .253) than persons in the *low reflectors (*M = -.047) and *moderate reflectors* (M = -.095) profiles. At T3, *high reflectors* did not differ significantly in vigor from persons in the other profiles. Thus, Hypothesis 3b was not supported.

To summarize the results of the profile comparisons, we calculated the ratio of possible profile comparisons across all measurement points to significant comparisons for qualitative and quantitative profile comparisons (see Table 5). In sum, for the qualitative profile comparisons, there were 36 possible comparisons across all measurement points (i.e., at T2 and at T3). Of these 36 possible profile comparisons, 30 profile comparisons (i.e., 83.3%) were significant with regard to vigor and 34 profile comparisons (i.e., 94.4%) were significant with regard to exhaustion. For the quantitative comparisons, there were 24 possible profile comparisons across all measurement points (i.e., at T2 and at T3). Of these 24 possible profile comparisons, eight profile comparisons (i.e., 33.3%) were significant regarding vigor and 12 profile comparisons (i.e., 50.0%) were significant regarding exhaustion.

Taken together, profile comparisons revealed significant differences in exhaustion and vigor among the profiles. With regard to exhaustion, *negative reflectors* experienced the highest exhaustion compared to all other profiles. *Positive reflectors* experienced the lowest exhaustion compared to all other profiles (except for *non-reflectors).* With regard to vigor, *negative reflectors* experienced lower vigor than all other profiles. *Positive reflectors* experienced higher vigor than most other profile members (except for *non-reflectors* and *high reflectors*). Analyses showed no consistent differences between the *high reflectors* profile and the other balanced profiles. Thus, differences in energetic well-being were apparent between

qualitatively different profiles but not consistently apparent between quantitatively different profiles.

General Discussion

In the present study, we examined positive and negative work reflection during leisure time from a person-centered analytical perspective. We expected that qualitatively and quantitatively different profiles of positive and negative work reflection during leisure time exist and that persons from the different profiles differ with regard to their energetic well-being (i.e., exhaustion and vigor). Results of latent profile analysis showed six latent profiles of positive and negative work reflection during leisure time that differed qualitatively (*positive reflectors* and *negative reflectors*) and quantitatively (*non-reflectors, low reflectors, moderate reflectors,* and *high reflectors)* from one another. Profile comparisons in energetic well-being showed that *negative reflectors* experienced the lowest well-being (i.e., higher exhaustion and lower vigor) compared to all other profiles. Overall, *positive reflectors* experienced the highest well-being (i.e., lower exhaustion and higher vigor) compared to other profiles. However, while *positive reflectors* consistently experienced lower exhaustion than all other profiles, *positive reflectors* did not consistently experience higher vigor than *non-reflectors* and *high reflectors*.

Theoretical Implications

The first major implication of our study is that different configurations of positive and negative work reflection during leisure time exist and that the majority of people engage in balanced levels of positive *and* negative work reflection during leisure time. These results are in line with results from variable-centered research showing that positive and negative work reflection are positively related (Binnewies et al., 2009; Meier et al., 2016). Our study results imply that positive and negative work reflection do not occur in isolation but occur together for most people: Persons who reflect about the positive aspects of their work during leisure

time also tend to reflect about their work's negative aspects to the same extent. While our results show that these reflection modes co-occur within persons, research using a daily diary design also showed that they are positively related at the day-level (Meier et al., 2016). Thus, positive and negative work reflection may mutually provoke each other and positive thoughts about one's work may elicit negative thoughts about one's work and vice versa.

Second, the results of our study imply that the ratio of positive and negative work reflection may be important for employee well-being. While most employees engage in balanced levels of positive and negative work reflection during leisure time, persons who engage in unbalanced levels of the reflection modes experience the highest (*positive reflectors)* and lowest (*negative reflectors*) well-being compared to other profiles. Thus, positive work reflection is most positively associated with well-being in the absence of negative work reflection while negative work reflection is most negatively related to well-being in the absence of positive work reflection. Moreover, persons from the different balanced profiles (i.e., who differed only in their level of both reflection modes) did not differ from each other in well-being. These results are in line with cognitive-behavioral therapy research (Amsel & Fichten, 1990; Schwartz, 1986) showing that the ratio (rather than the separate frequencies) of positive and negative thoughts is important for well-being.

Third, for research on positive reflection interventions (Bono et al., 2013; Clauss et al., 2018; Meier et al., 2016), our findings imply that these interventions should take into account that positive and negative work reflection co-occur within persons. Past intervention studies focused exclusively on increasing positive (work) reflection in employees, neglecting the role of negative work-related thoughts during leisure time. Because most people tend to think about work in a balanced way with regard to the valence of their thoughts, it is conceivable that instructions to reflect about the positive aspects of their work may also elicit thoughts about the negative aspects of work. Research on positive reflection interventions

should take this interplay between positive and negative work reflection into account when designing interventions.

Limitations and Future Research

Our study results should be interpreted in light of their limitations. First, we used data from a sample of young employees who were between 18 and 25 years of age. On the one hand, this sample may have the advantage that employees' work-reflection tendencies have not yet been shaped by years of work experience. On the other hand, future research should still investigate whether the reflection profiles that emerged in our study generalize to samples with older employees. Thus, future studies should examine work reflection profiles in other samples and investigate whether the profiles are the same as in our study. Second, we relied on self-reports of all study variables, which may enhance the risk of common-method variance (Podsakoff, MacKenzie, & Podsakoff, 2012). However, positive and negative work reflection as well as employee well-being are internal experiences that are best assessed by the persons experiencing them. Nevertheless, future research could include physiological measures of employee well-being when studying positive and negative work reflection.

Finally, we assessed profile indicators and outcome variables at the same point in time, which raises the issue of causality. However, we took several steps in order to ensure the robustness of our results. First, we ruled out that differences in working conditions might explain the differences in well-being between the reflection profiles. Additionally, we included previous well-being outcomes as control variables, thus ruling out that persons in the different reflection profiles differed in their well-being from the beginning on. Nevertheless, future research should temporally separate predictor and outcome variables while keeping in mind that the associations between work reflection and well-being might be rather immediate (Meier et al., 2016).

Certainly the most relevant question for future research is how persons in different reflection profiles differ on other relevant outcome variables than well-being. For instance, our analyses showed that persons in the *high reflectors* profile experience higher exhaustion compared to the *positive reflectors* profile. However, it is conceivable that these persons fare better on other outcome variables than positive reflectors. Perhaps these person's high levels of negative work reflection are associated with consequences for on-the-job behaviors. For instance, reflecting about the negative aspects of one's job may stimulate proactive behavior (Crant, 2000). When employees think about negative aspects of their work during leisure time, they might be more likely to come up with ideas and suggestions on how to improve things. Also, realizing what one does not like about one's job may encourage persons to engage in job crafting (Bakker & Demerouti, 2017; Wrzesniewski & Dutton, 2001) which may in the long run help employees to create better work environments for themselves.

Moreover, very little is known about antecedents of positive and negative work reflection during leisure time. In our study, we also did not examine predictors of profile membership. Thus, an important question for future research is which workplace or personal factors predict whether employees engage in positive and negative thoughts about their work during off-job time. Past research showed that negative affect is related to negative work reflection (Binnewies et al., 2009). Thus, work events that cause affective reactions (Ohly & Schmitt, 2015; Weiss & Cropanzano, 1996) may be a potential work-related predictor of positive and negative work reflection.

Finally, future research could examine if employees' profile membership is stable over time. Specifically, it would be of theoretical and practical interest to examine whether employees change from a more favorable reflection profile to a more unfavorable one and vice versa. Most importantly, research should investigate factors that may predict these

changes of profile membership over time. Analytical techniques such as latent transition analysis (Wang & Chan, 2011) could be used in order to answer these questions.

Practical Implications

Our study yields several practical implications. First, our results showed that positive work reflection is most positively associated with well-being in the absence of negative work reflection. Thus, interventions aiming to increase positive work reflection should take this finding into account and also aim at reducing negative work reflection during leisure time. However, it is unlikely helpful to instruct people *not* to think about negative aspects of their work during leisure time. Thus, interventions might want to include instructions on how employees should handle negative thoughts about their work. For instance, employees may be instructed to engage in positive reappraisal (Lazarus & Folkman, 1984) when negative thoughts about their work arise. Another possibility might be to encourage employees to think about how they can change the negative aspects of their job (i.e., job crafting; Wrzesniewski & Dutton, 2001) in order to achieve better well-being in the long run. In sum, if employees experience negative thoughts about their work during leisure time about aspects that they are able to change, developing job-crafting strategies may be a helpful cognitive strategy. If employees think about negative aspects of their job that they cannot change, positive reappraisal might be valuable in enhancing their well-being.

However, our results also suggest that negative work reflections' detrimental associations with well-being might to some extent be mitigated by additional positive work reflection. Specifically, persons who only reflect about the negative aspects of their job during leisure time experienced lower well-being than those who reflect about the negative as well as the positive aspects. Sometimes, employees might reflect about the negative aspects of their job and are not able to avoid these thoughts. In these cases, employees could try to reduce negative work reflection's potential negative consequences by additionally engaging

in positive work reflection. Thus, if employees find themselves dwelling on the negative aspects of their job during leisure time, they should deliberately try to think about the positive aspects of their job as well. Simply put, if employees think about three negative things of their job, they could try to come up with three things that they like about their job in order to enhance their well-being.

Conclusion

Our study showed that positive and negative work reflection occur in different configurations within employees and that these configurations explain differences in employees' energetic well-being. Exclusive positive work reflection emerged as the most favorable configuration for employees' well-being while exclusive negative reflection showed most detrimental associations with well-being. Employees in profiles with balanced levels of positive and negative work reflection did not show differences in well-being depending on the absolute level of work reflection. Our results suggest that the interplay between positive and negative work reflection plays a role for employees' energetic well-being.

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Table 1
Means, Standard Deviations, Cronbach's Alpha, and Intercorrelations of All Study Variables

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. T1 PWR	2.92	0.91	.89																			
2. T1 NWR	2.78	0.97	.05	.91																		
3. T2 PWR	2.94	0.93	.45	-.07	.89																	
4. T2 NWR	2.78	1.03	-.04	.54	.13	.91																
5. T3 PWR	2.96	0.93	.40	-.05	.51	-.04	.91															
6. T3 NWR	2.77	1.00	-.02	.46	-.01	.52	.05	.92														
7. T1 Vigor	4.03	1.15	.38	-.34	.29	-.29	.24	-.26	.92													
8. T1 Exhaustion	3.65	1.36	-.30	.46	-.23	.39	-.16	.33	-.66	.92												
9. T2 Vigor	4.02	1.18	.26	-.28	.41	-.30	.30	-.28	.64	-.53	.94											
10. T2 Exhaustion	3.79	1.37	-.21	.37	-.22	.51	-.22	.39	-.57	.70	-.61	.92										
11. T2 Challenge stressors	3.33	0.77	.21	.04	.19	.08	.15	.01	.13	.00	.15	.09	.83									
12. T2 Hindrance stressors	2.05	0.78	-.08	.32	-.06	.37	.01	.29	-.29	.38	-.24	.38	.18	.78								
13. T2 Social support	3.03	0.67	.18	-.22	.28	-.22	.19	-.15	.29	-.24	.38	-.26	.05	-.33	.90							
14. T2 Supervisory coaching	3.38	1.03	.18	-.25	.29	-.27	.24	-.17	.26	-.28	.38	-.31	.13	-.31	.48	.83						
15. T3 Vigor	3.97	1.23	.27	-.22	.32	-.29	.44	-.34	.54	-.44	.64	-.58	.07	-.22	.24	.27	.94					
16. T3 Exhaustion	3.73	1.40	-.18	.26	-.18	.38	-.29	.47	-.44	.57	-.50	.69	.09	.26	-.18	-.22	-.63	.92				
17. T3 Challenge stressors	3.32	0.76	.10	.02	.12	.03	.15	.04	.07	.00	.07	.08	.61	.12	.06	.01	.09	.09	.83			
18. T3 Hindrance stressors	2.15	0.80	-.01	.22	-.02	.29	-.09	.33	-.18	.24	-.19	.24	.19	.55	-.29	-.23	-.29	.35	.17	.82		
19. T3 Social support	3.08	0.67	.16	-.18	.19	-.17	.27	-.21	.29	-.22	.24	-.23	-.00	-.23	.54	.24	.38	-.25	.11	-.31	.91	
20. T3 Supervisory coaching	3.37	1.00	.19	-.21	.17	-.23	.37	-.26	.28	-.25	.29	-.22	.05	-.18	.32	.58	.41	-.34	.13	-.29	.50	.83

Note. N (T1) = 1,036 N (T2) = 849 N (T3) = 814. 588 < N > 1,036. N for the bivariate correlations range from 588 to 849.
PWR = Positive work reflection; NWR = Negative work reflection. Cronbach's alpha is shown in the diagonal. Correlations ≥ |.11| are significant at $p < .01$.

Table 2
Latent Profile Enumeration Fit Statistics for T1, T2, and T3

# of Profiles	LL	FP	AIC	BIC	SSA-BIC	LMR (*p*)	BLRT (*p*)	Entropy
Time 1								
2	-2787.589	7	5589.178	5623.780	5601.547	.000	.000	.835
3	-2733.841	10	5487.681	5537.112	5505.351	.000	.000	.822
4	-2696.107	13	5418.215	5482.475	5441.186	.000	.000	.768
5	-2674.645	16	5381.290	5460.380	5409.562	.002	.000	.754
6	-2652.566	19	5343.131	5437.051	5376.704	.001	.000	.768
7	-2636.877	22	5317.754	5426.503	5356.628	.145	.000	.807
Time 2								
2	-2353.940	7	4721.881	4755.089	4732.859	.000	.000	.585
3	-2329.042	10	4678.083	4725.524	4693.767	.000	.000	.633
4	-2312.319	13	4650.639	4712.312	4671.027	.556	.000	.668
5	-2269.227	16	4570.453	4646.358	4595.547	.000	.000	.735
6	-2240.911	19	4519.821	4609.958	4549.620	.000	.000	.779
7	-2230.112	22	4504.225	4608.594	4538.729	.005	.000	.793
8	-2193.131	25	4436.261	4554.863	4475.470	.985	1.000	.856
Time 3								
2	-2232.884	7	4479.769	4512.682	4490.453	.000	.000	.828
3	-2198.656	10	4417.312	4464.332	4432.576	.000	.000	.778
4	-2160.536	13	4347.071	4408.197	4366.914	.000	.000	.776
5	-2131.798	16	4295.595	4370.827	4320.017	.002	.000	.769
6	-2110.334	19	4258.668	4348.005	4287.669	.005	.000	.788
7	-2097.828	22	4239.657	4343.100	4273.237	.386	.000	.821

Note. Time 1, $N = 1036$; Time 2, $N = 849$; Time 3, $N = 814$. LL = log likelihood; FP = free parameters; AIC = Akaike information criteria; BIC = Bayesian information criteria; SSA-BIC = sample-size adjusted BIC; LMR = Lo, Mendell, and Rubin test; BLRT = bootstrapped log-likelihood ratio test. At T2, the likelihood ratio test computation for the model with 8 profiles did not terminate normally, resulting in a BLRT value of 1.

Table 3
Descriptive Information for Latent Profiles at Time 1, Time 2, and Time 3

Profile	*N*	% of Sample	*M* (PWR)	*M* (NWR)
Time 1				
Non-reflectors	67	6.5%	1.33	1.22
Moderate reflectors	527	50.9%	3.14	3.10
Positive reflectors	154	14.9%	3.87	1.80
Low reflectors	157	15.2%	2.28	2.12
Negative reflectors	81	7.8%	1.68	4.21
High reflectors	50	4.8%	3.89	4.05
Time 2				
Non-reflectors	54	6.4%	1.28	1.24
Moderate reflectors	311	36.6%	3.10	3.11
Positive reflectors	139	16.4%	3.92	1.86
Low reflectors	153	18.0%	2.40	1.94
Negative reflectors	93	11.0%	1.87	3.98
High reflectors	99	11.7%	3.98	4.06
Time 3				
Non-reflectors	51	6.3%	1.29	1.20
Moderate reflectors	393	48.3%	3.21	2.98
Positive reflectors	106	13.0%	3.97	1.63
Low reflectors	109	13.4%	2.27	2.02
Negative reflectors	86	10.6%	1.91	4.13
High reflectors	69	8.5%	3.86	3.97

Note. M = Mean. PWR = Positive work reflection; NWR = Negative work reflection.

Table 4
Differences in Unstandardized Residuals of Vigor and Exhaustion Between Profiles at Time 2 and Time 3

Outcome	Non-reflectors (A)	Moderate reflectors (B)	Positive reflectors (C)	Low reflectors (D)	Negative reflectors (E)	High reflectors (F)	χ^2 (df = 5)
Time 2							
Vigor	.122^{E}	-.095^{CEF}	.402^{BDE}	-.047^{CEF}	-.478^{ABCDF}	.253^{BDE}	58.026***
Exhaustion	-.331^{BCDEF}	.026^{ACEF}	-.671^{ABDEF}	.047^{ACEF}	.644^{ABCDF}	.335^{ABCDE}	111.257***
Time 3							
Vigor	-.379^{BCD}	.039^{ACE}	.549^{ABDEF}	.004^{ACE}	-.483^{BCDF}	-.082^{CE}	66.894***
Exhaustion	-.097^{E}	-.127^{CDE}	-.448^{BDEF}	.246^{BCE}	.659^{ABCDF}	.026^{CE}	70.871***

Note. N (Time 2) = 662; N (Time 3) = 587. Analyses were done with the DCON command that uses listwise deletion. The values per outcome are unstandardized residuals of vigor and exhaustion when controlling for working conditions at the same time point and the respective outcome at the previous time point. Superscripts indicate profiles that are significantly different at least at $p < .05$. We note that the following comparisons were significant at $p < .10$: At Time 2 (vigor), positive reflectors versus non-reflectors; at Time 3 (vigor) non-reflectors versus high reflectors; at Time 3 (exhaustion) positive reflectors versus non-reflectors and low reflectors versus non-reflectors.

Table 5
Summary of Profile Comparisons by Type of Comparison

				Vigor		Fatigue
Profile	Type of difference between profiles	Number of possible comparisons	Significant comparisons	Ratio of significant/ possible comparisons (%)	Significant comparisons	Ratio of significant/ possible comparisons (%)
Non-reflectors	Qualitative	4	2	50.0	3	75.0
	Quantitative	6	2	33.3	3	50.0
Moderate reflectors	Qualitative	4	4	100.0	4	100.0
	Quantitative	6	2	33.3	3	50.0
Positive reflectors	Qualitative	10	8	80.0	9	90.0
	-	-	-	-	-	-
Low reflectors	Qualitative	4	4	100.0	4	100.0
	Quantitative	6	2	33.3	3	50.0
Negative reflectors	Qualitative	10	9	90.0	10	100.0
	-	-	-	-	-	-
High reflectors	Qualitative	4	3	75.0	4	100.0
	Quantitative	6	2	33.3	3	50.0
	Σ of qualitative comparisons	36	30	83.3	34	94.4
	Σ of quantitative comparisons	24	8	33.3	12	50.0

Note. Σ = sum. Type of difference between profiles states whether the respective profile was compared to a qualitatively or quantitatively different profile. The number of possible comparisons indicates how many pair-wise comparisons were possible over all measurement occasions.

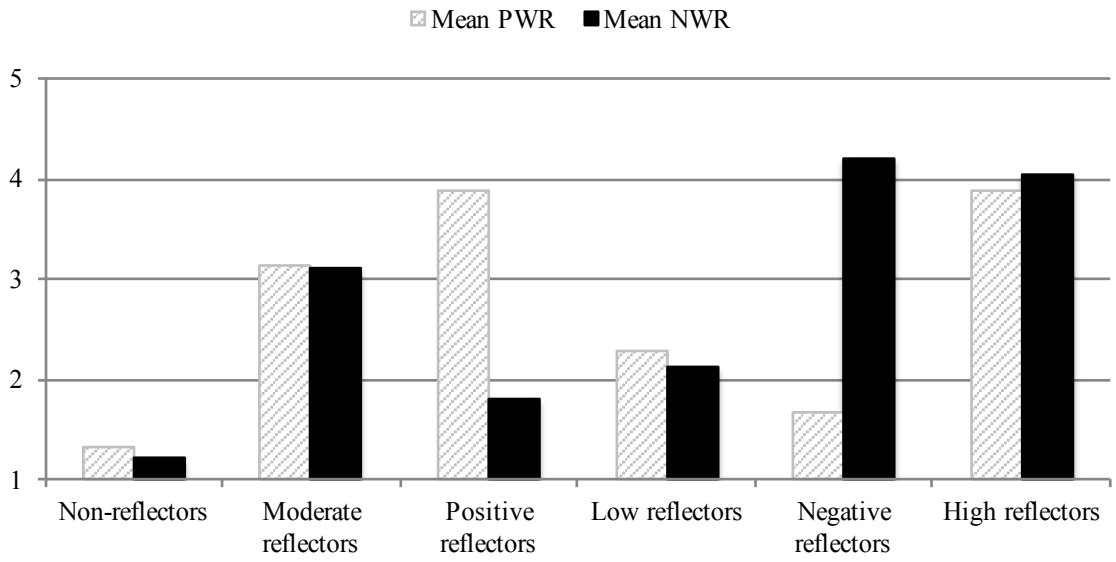

Figure 1. Latent profiles for positive (PWR) and negative work reflection (NWR) at Time 2.

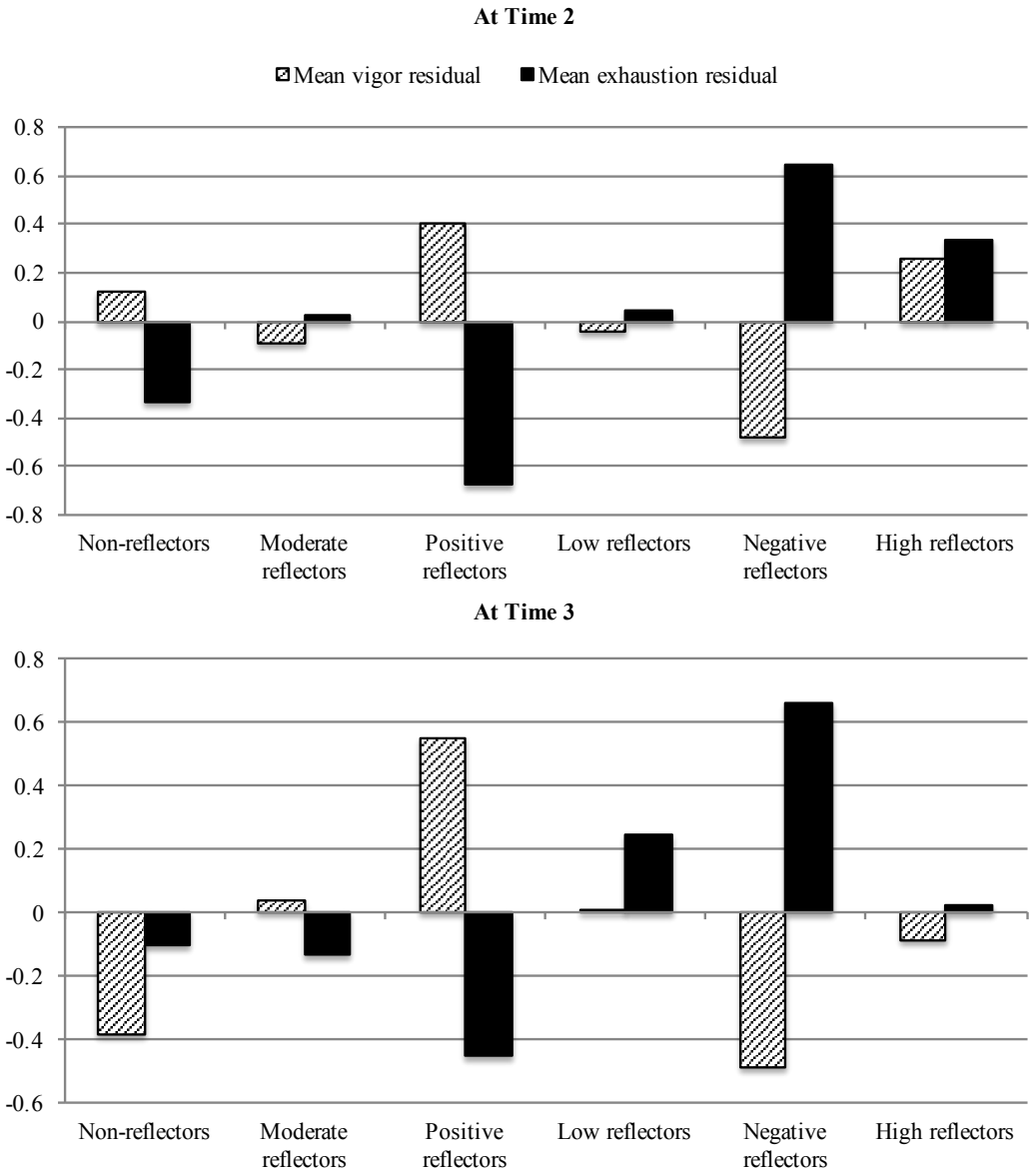

Figure 2. Vigor and exhaustion residuals by profile membership.

The Power of Affect: A Three-Wave Panel Study on Reciprocal Relationships Between Work Events and Affect at Work

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Abstract

In this study, we investigate longer-term relationships between interpersonal and task-related work events and employees' positive and negative affect at work. To examine both causal and reversed causal relationships, we conducted a three-wave panel study with time lags of three months and collected data from 491 young employees. Path modeling revealed only few and inconsistent causal relationships between work events and affect at work. However, reversed causal relationships were more robust, demonstrating the power of affect: Positive affect at work predicted an increase in positive interpersonal and task-related work events, and negative affect at work predicted an increase in negative interpersonal and task-related work events. Our additional analysis revealed an upward and loss spiral: Positive affect was related to increased subsequent positive affect via positive interpersonal work events, and negative affect was related to increased subsequent negative affect via negative task-related work events. Our results suggest that employees do not just passively experience positive and negative events at work, but rather actively contribute to what happens to them, with their positive or negative affect shaping work life in a positive or negative way.

Practitioner points:

- Employees' affect predicts an increase in positive and negative work events over time.
- Positive affect is associated with an increase in positive events whereas negative affect is associated with an increase in negative events.
- Organizations should foster employees' positive affect and help employees down-regulate negative affect.

Keywords: work events, affect at work, longitudinal study, panel study, young employees

The Power of Affect: A Three-Wave Panel Study on Reciprocal Relationships Between Work Events and Affect at Work

Work events and affect at work are strongly related (Basch & Fisher, 2000). Affective events theory proposes that work events are proximal causes of affect at work (Weiss & Cropanzano, 1996), and research on work events has shown that what happens to employees at work predicts short-term changes in affect (e.g., Ohly & Schmitt, 2015). While work events may not only have immediate effects on employees, little is known about affective longer-term consequences of experiencing positive and negative events at work. However, to fully capture the significance of work events, it is important to know whether they only explain fluctuations in employees' day-to-day affect, or whether they also matter in the long run. In the current study, we therefore investigate the recurring experience of positive and negative work events over three months as a predictor of changes in affect at work.

While affective events theory states that work events and affect at work are related because work events cause affective reactions in employees (Weiss & Cropanzano, 1996), this causal order has rarely been tested in the event literature. However, employees' positive and negative affect on the job might not only be a consequence of what happens at work, but work affect might also predict the experience of specific work events. For instance, research has shown that experiencing positive or negative affect in the workplace changes the way employees behave at work (Brief & Weiss, 2002). By approaching tasks or coworkers differently, employees might actively contribute to the occurrence of positive as well as negative work events. Examining these reversed causal relationships between work events and affect at work is important to gain a better understanding of how employees' affect might shape the kind of work events employees experience.

In this three-wave panel study with time lags of three months, we investigate causal and reversed causal[1] longer-term relationships between work events and positive and negative affect at work using path modeling. To cover a broad range of work events and in line with previous approaches of work-event classification (Ohly & Schmitt, 2015), we study both positive and negative work events that are either interpersonal or task-related. We test the hypothesized relationships using a sample of young employees between the age of 18 and 25. At the beginning of their working life, young employees experience many work events for the first time, and the way they react to these events may set the stage for their following career (Loughlin & Barling, 2001). Thus, we are able to study relationships between work events and affect at work when they begin to develop.

Our study contributes to research in occupational health psychology in several ways. First, we extend knowledge on affective short-term consequences of work events by examining longer-term relationships between work events and affect at work. While research showed that work events are highly relevant for day-to-day affective reactions at work (Ohly & Schmitt, 2015), these relationships may be short-lived and it is important to find out whether recurring exposure to positive and negative work events over time can also have a lasting impact on employees' affect. Accumulated negative work events have been conceptualized as work stressors and related research has indicated long-term consequences for specific and pronounced forms of strain, such as depression or anxiety (Ford et al., 2014). We add to this research by studying negative affect at work as a more general and common reaction to negative work events. Furthermore, surprisingly little is known about potential lasting consequences of positive work events on employees' affect. By examining affective longer-term consequences not only of negative but also of positive work events, we

[1] The terms *causal* and *reversed causal* do not refer to an experimental study design that actually tested causation, but rather indicate the theoretically assumed direction of lagged relationships examined in this study.

complement existing research and contribute to a better knowledge about positive processes at work.

Second, we shed more light on the relationship between work events and affect at work by testing both causal and reversed causal relationships. While the majority of work event research has adopted a rather straightforward view of the interplay between work events and affect at work by focusing on causal relationships between events and affect (Weiss & Cropanzano, 1996), we suggest that this relationship is more complex and dynamic. By employing a three-wave panel design and modelling reciprocal relationships between work events and affect at work, we show that the way employees feel at work is more than just a reaction to the events they experience at work, but that employees' work affect is also a substantial predictor of events that happen at work. Focusing on young employees offers the opportunity to study these dynamic, reciprocal relationships in employees who have just entered the workforce and are not yet influenced by other work experiences (De Witte, Verhofstadt, & Omey, 2007).

Third, we take a comprehensive approach and map a variety of work events at the same time. By using path modeling and by analyzing both positive and negative interpersonal and task-related work events simultaneously, we capture the unique contribution of respective events to changes in positive and negative affect at work. For instance, we examine the relationship between positive interpersonal work events and positive affect at work while controlling for positive task-related work events. Thus, we can rule out that potential relationships between interpersonal work events and affect are due to third variables such as task-related work events and vice versa. Furthermore, using three waves of data collection, we can examine how robust these relationships are by testing them in two separate time lags of three months. In the following, we will first address the causal perspective and develop our hypotheses stating that work events predict change in affect at work. After that, we will

introduce the reversed causal perspective and derive our hypotheses stating that affect at work predicts change in work events.

The Causal Perspective: Work Events Predict Change in Affect at Work

Work events are "things [that] happen to people in work settings" (Weiss & Cropanzano, 1996, p. 11) and can be either positive or negative (Basch & Fisher, 2000), such as receiving a compliment by a coworker or making a mistake at work. Based on affect symmetry (Watson, Wiese, Vaidya, & Tellegen, 1999), we expect positive work events to relate to positive affect at work (i.e., a pleasant emotional state of positive valence; Watson, Clark, & Tellegen, 1988), and negative work events to relate to negative affect at work (i.e., an unpleasant and aversive emotional state; Watson et al., 1988).

Work events cannot only be distinguished according to their affective valence (i.e., positive or negative), but can also be differentiated based on their associated values, such as communion or agency (Ohly & Schmitt, 2015). Communion and agency are two fundamental dimensions of human experience (Fiske, Cuddy, & Glick, 2007; Trapnell & Paulhus, 2012): While communion relates to social values, such as interpersonal connectedness, warmth, and trust, agency relates to values like competence, achievement, and status. Put differently, human experiences can be classified with regard to their dominant motive of getting along versus getting ahead (Hogan & Holland, 2003). In line with this framework, we examine positive and negative work events that relate to the dimension of communion (i.e., interpersonal work events), as well as positive and negative work events that relate to the dimension of agency (i.e., task-related work events).

Affective events theory, although often only associated with short-term effects, also addresses effects of experiencing recurring work events over a longer period of time (Weiss & Cropanzano, 1996): It is assumed that oftentimes work events are no isolated happenings, but belong to a series of events with an underlying theme (e.g., receiving recognition or experiencing failure). Furthermore, repeatedly experiencing work events that are related to

such a theme (e.g., every other day or week) can produce a heightened level of arousal and attention which relates to intensified positive and negative affective reactions to work events (Weiss & Cropanzano, 1996). Imagine a young worker in his or her first job: Getting positive feedback from a coworker once might not have such a great impact on this employee's affect as recurring positive feedback from time to time. The idea that recurring events can have a cumulative impact has already been mentioned in research on daily hassles and uplifts (Kanner, Coyne, Schaefer, & Lazarus, 1981). On a related note, the frequent experience of negative events has been connected to prolonged activation (Brosschot, Pieper, & Thayer, 2005) as well as allostatic overload (McEwen, 1998, 2007). Thus, we propose that recurring exposure to positive and negative work events over time predicts an increase in positive and negative affect at work, respectively.

Interpersonal Work Events Predict Change in Affect at Work

Interpersonal work events are experiences at work that are related to other people. For instance, positive interpersonal work events can include a nice chat with a coworker or helping a coworker out, while negative interpersonal work events might be a disagreement or emotional conflict within a team. Interpersonal work events involving coworkers belong to the most frequent work events (Basch & Fisher, 2000) and can evoke strong affective reactions (Ohly & Schmitt, 2015). For young employees, interpersonal work events might be particularly important (Frone, 2000) because young adulthood is a significant phase in life and the development of social competence is critical for adjustment (DiTommaso, Brannen-McNulty, Ross, & Burgess, 2003).

We propose that positive interpersonal work events predict an increase in positive affect at work, while negative interpersonal work events predict an increase in negative affect at work. Interpersonal work events relate to the basic human value of communion (Ohly & Schmitt, 2015; Trapnell & Paulhus, 2012): People have an intrinsic need for relatedness (Ryan & Deci, 2000), they want to be connected and belong to others (Baumeister & Leary,

1995). Events that are relevant to people's goals and needs can cause positive or negative affective reactions, depending on whether they indicate goal progress or threat to goal achievement (Lazarus, 1991): While approaching goals and fulfilling needs is related to positive affective reactions, threats to goals and need thwarting are related to negative affective reactions. We argue that positive interpersonal events at work appeal to employees' communal values and represent progress towards fulfilling their need for relatedness. Thus, positive interpersonal work events should be related to positive affect at work. For instance, if employees repeatedly experience positive interactions with coworkers, they may feel appreciated and well-integrated into their team and thus experience an increase in positive affect at work over time. Negative interpersonal work events, however, threaten communal values, they signal a lack of need fulfilment and thus will be related to negative affect at work. For instance, if employees experience disagreements or conflicts with their coworkers every other day and their need to belong is constantly thwarted, their negative affect will pile up over time.

Cross-sectional studies provide support for the outlined relationships between interpersonal work events and affective reactions at work. Positive coworker behavior relates to feelings of happiness (Basch & Fisher, 2000), while interpersonal conflicts with coworkers are related to negative affect (Bruk-Lee & Spector, 2006; Guerra, Martínez, Munduate, & Medina, 2005). Also, short-term relationships have been found between positive interactions with coworkers and positive affect (Dimotakis, Scott, & Koopman, 2011; Miner, Glomb, & Hulin, 2005), and between conflicts with coworkers and negative affective reactions (Ilies, Johnson, Judge, & Keeney, 2011; Meier, Gross, Spector, & Semmer, 2013; Ohly & Schmitt, 2015). Adding to this research, we study longer-term relationships between positive and negative interpersonal work events and affect at work. Thus, our first hypothesis states:

Hypothesis 1: Interpersonal work events predict change in affect at work, such that (a) positive interpersonal work events predict an increase in positive affect, and (b) negative interpersonal work events predict an increase in negative affect.

Task-Related Work Events Predict Change in Affect at Work

Task-related work events are experiences at work that are related to the execution of work assignments. Positive task-related work events include engaging in a challenging task or finding a solution for a problem, while negative task-related work events can be experiencing failure or having equipment break down. Task-related work events are common in the workplace (Basch & Fisher, 2000) and may be of particular importance to young employees: They are new in their job and positive task-related events might serve as an indicator that they have chosen an occupation that fits them. However, young employees also experience many negative task-related work events (Grebner, Elfering, Semmer, Kaiser-Probst, & Schlapbach, 2004), possibly because they lack work experience and thus might be prone to making mistakes or experiencing failure.

We propose that positive task-related work events predict an increase in positive affect, while negative task-related work events predict an increase in negative affect. Task-related work events relate to the basic human value of agency (Ohly & Schmitt, 2015; Trapnell & Paulhus, 2012): People have an intrinsic need for competence (Ryan & Deci, 2000), they want to be good at what they are doing and want to get ahead (Hogan & Holland, 2003). Based on Lazarus (1991), we argue that positive task-related work events represent progress towards fulfilling this need for competence and are thus related to positive affect at work, while negative task-related work events signal a threat to goal achievement and are therefore related to negative affect at work. For instance, if employees repeatedly experience that they can solve work-related problems or are given discretion to do their work how they want to, they probably feel more competent and thus experience an increase in positive affect at work over time. Likewise, if employees frequently experience failure during the execution

of their assigned tasks, a feeling of incompetence and being unsuited for the job may grow and negative affect at work might increase over time.

Cross-sectional research shows that positive task-related work events such as engaging in challenging tasks and being involved in planning, problem solving, or decision making are associated with feelings of enthusiasm and power, while task problems or not achieving a goal are related to feelings of frustration, annoyance, and fear (Basch & Fisher, 2000). With respect to short-term relationships, goal attainment and problem solving were found to be related to enthusiasm, while hindrances in goal attainment and problems with equipment were related to anger (Grandey, Tam, & Brauburger, 2002; Ohly & Schmitt, 2015). Extending this research on proximal relationships, we focus on longer-term consequences of positive and negative task-related work events for affect at work. Thus, we propose the following as our second hypothesis:

Hypothesis 2: Task-related work events predict change in affect, such that (a) positive task-related work events predict an increase in positive affect at work, and (b) negative task-related work events predict an increase in negative affect at work.

The Reversed Causal Perspective: Affect at Work Predicts Change in Work Events

How employees feel at work may not only be a consequence of positive and negative work events, but may also influence the kind of events that employees experience at work. Studies on strain-stressor effects (i.e., strain as a predictor of stressors) have tried to explain reversed causal processes with changes in perception (de Lange, Taris, Kompier, Houtman, & Bongers, 2005): Employees with high levels of well-being are thought to have a "rosy" perception of their experiences at work, and employees with low levels of well-being presumably have a "gloomy" perception. While positive and negative affect can influence recall and information processing (Bower, 1981), not only employees' evaluation of work events may change when they experience positive or negative affect at work. The way employees feel on the job might also change their behavior at work.

According to affective events theory, affective states at work trigger affect-driven behavior (Weiss & Cropanzano, 1996), and past research has shown that how employees feel at work can indeed change problem solving, helping, and performance at work (Brief & Weiss, 2002). By acting or reacting differently depending on their affect, employees might thus actively contribute to the occurrence of specific work events. This might especially be the case for young employees because they have less emotional control and are more expressive of their emotions (Gross et al., 1997). In the following, we will first address positive affect predicting an increase in positive interpersonal and task-related work events, then we will focus on negative affect predicting an increase in negative interpersonal and task-related work events.

Positive Affect at Work Predicts an Increase in Positive Work Events

We propose that positive affect at work predicts an increase in positive interpersonal and task-related work events. According to Fredrickson (2001), positive affect broadens people's thought-action repertoires and facilitates forming new ideas and behaviors. In line with this, positive affect was found to predict increased broad-minded coping (Fredrickson & Joiner, 2002). Therefore, employees who experience positive affect at work might be more open and cooperative towards coworkers and thus increase the experience of positive interpersonal events at work, such as positive interactions. Supporting evidence comes from a related field of study: Research on work engagement (which is a positive affective state at work) found that being engaged at work predicts supportive relationships with others at work (Biggs, Brough, & Barbour, 2014; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009).

Furthermore, employees who experience positive affect at work might also approach their tasks differently. With a broadened thought-action repertoire (Fredrickson, 2001), they might think of a new way to solve a difficult problem and thus experience success at work. In line with this reasoning, positive affect has been conceptualized as a stimulator of proactive behavior at work (Parker, Bindl, & Strauss, 2010). Research showed that employees in

positive affective states at work actively shape their work environment by setting and engaging in more challenging goals and tasks (Ilies & Judge, 2005; Tims, Bakker, & Derks, 2012) and by taking steps to increase their job control (Lu, Wang, Lu, Du, & Bakker, 2014). Thus, our third hypothesis states:

Hypothesis 3: Positive affect at work predicts (a) an increase in positive interpersonal work events, and (b) an increase in positive task-related work events.

Negative Affect at Work Predicts an Increase in Negative Work Events

We propose that negative affect at work predicts an increase in negative interpersonal and task-related work events. In contrast to the broadening effect of positive affect, negative affect narrows people's thought-action repertoires (Fredrickson, 2001). Thus, when employees experience negative affect at work, they may think and behave differently: Fewer and less novel thoughts and behaviors come to their mind, which might contribute to the occurrence of negative work events (Fredrickson, 2001). For instance, during a disagreement with a coworker on how to approach a task, employees experiencing negative affect might merely focus on interpersonal aspects of the disagreement rather than on the task they have to deal with and might react in an offended and aggressive way. Thus, disagreements with coworkers might quickly escalate and turn into conflicts. Indeed, research showed that people who experience more negative emotions tend to use more confrontative, hostile coping (Folkman & Lazarus, 1986), and Dudenhöffer and Dormann (2013) found short-term relationships between negative affect and customer-related social stressors.

Furthermore, negative affect at work might also increase negative task-related events because negative affective experiences may create cognitive demands that interfere with performance activities (Beal, Weiss, Barros, & MacDermid, 2005): Emotion regulation such as expression suppression can occupy cognitive resources and rumination can disrupt on-task thoughts. Thus, employees experiencing negative affect at work might lack concentration and make mistakes. In line with this reasoning, negative affect has been found to relate to lower

performance at work (Ford, Cerasoli, Higgins, & Decesare, 2011; Miner & Glomb, 2010), making negative task-related events such as experiencing failure more likely. Thus, we propose the following as our fourth hypothesis:

Hypothesis 4: Negative affect at work predicts (a) an increase in negative interpersonal work events, and (b) an increase in negative task-related work events.

Method

Procedure and Sample

The current study was part of a larger research project about work stress and well-being of young employees in Germany (see Authors, 2018), that comprised a total of four waves of data collection separated by three months each. We recruited participants by introducing the study during participants' regular or inter-company vocational training and via advertising in vocational schools and social media. After participants had registered online for study participation, we sent them a link to the first survey (T0). Three (T1), six (T2), and nine (T3) months later, participants received the links to the second, third, and fourth survey, respectively. As an incentive, participants received a 5-Euro-voucher for an online store for each completed survey.

The current study comprises demographic information assessed at T0, with all other study variables being measured at T1, T2, and T3. At T0, the sample comprised 1,641 persons. The first wave (T1) comprised 1,203 persons (1,068 T1 surveys could be matched to T0 surveys; retention rate = 65%), the second wave (T2) comprised 1,003 persons (816 T2 surveys could be matched to T1 data sets; retention rate = 68%), and the third wave (T3) comprised 889 persons (589 T3 surveys could be matched to T1-T2 data sets; retention rate = 72%). Finally, we excluded 98 persons (e.g., because they were unemployed during at least one wave of data collection) and arrived at a final sample of 491 persons, with 474 participants providing demographic information.

The sample had a mean age of 21.5 years (SD = 2.2) and comprised 62.9% women. While all participants were employed, almost two thirds (65.2%) were still in vocational training, meaning a full-time employment as a trainee. Participants worked in a variety of occupations and industries, for example in administration (32.8%), sales and services (11.4%), and electrical engineering and information technology (9.3%). Most participants had a higher education entrance qualification, 40% for university entrance and 20% for entrance in universities of applied sciences.

We tested for selective attrition and compared our final sample to the participants who had to be excluded or dropped out after T1. Our final sample was slightly older (21.5 years vs. 21.2 years, $t(1066) = 2.379$, $p < .05$, $d = 0.15$), comprised more women (62.9% vs. 55.7%, $\chi^2(1) = 5.560$, $p < .05$, $\varphi = 0.10$), and included more participants who were still in vocational training (65.2% vs. 46.5%, $\chi^2(1) = 37.315$, $p < .001$, $\varphi = 0.25$). There was no difference in education, $t(1066) = 0.780$, *ns*. With respect to work events and affect at T1, our sample reported less negative interpersonal work events (M = 1.55 vs. M = 1.77, $t(1026.805) = -4.421$, $p < .001$, $d = -0.27$), less negative task-related work events (M = 2.03 vs. M = 2.12, $t(1034.141) = -2.045$, $p < .05$, $d = -0.13$), but no difference in positive interpersonal work events, $t(1035.988) = -0.533$, *ns*, and no difference in positive task-related work events, $t(1036) = -0.455$, *ns*. Furthermore, our sample reported more positive affect (M = 4.34 vs. M = 4.17, $t(1036) = 2.126$, $p < .05$, $d = 0.13$), and less negative affect (M = 1.89 vs. M = 2.15, $t(1032.209) = -3.852$, $p < .001$, $d = -0.24$). However, because all effect sizes for the differences we found were rather small, it is unlikely that selective attrition has biased our results.

Measures

All items were presented in German. Unless instructed otherwise, participants were asked to indicate how often they had experienced certain events in the previous three months on 5-point rating scales ranging from 1 (*never*) to 5 (*daily*). Table 1 shows means, standard

deviations, Cronbach's alphas, and intercorrelations of all study variables at all three measurement waves.

Positive interpersonal work events. We used the affective events matrix by Basch and Fisher (2000) to derive three items for measuring positive events with coworkers: "I had positive experiences with coworkers", "I was asked for advice or support by coworkers", and "I received recognition by coworkers". Cronbach's alpha for T1, T2, and T3 was .74, .75, and .76, respectively.

Positive task-related work events. We used three items to assess positive task-related work events based on Basch and Fisher (2000). The items are "I could participate in challenging tasks", "There were situations in which I had influence or leeway in decision making", and "I could participate in decisions, plans, or solution of problems". Cronbach's alpha for T1, T2, and T3 was .87, .89, and .88, respectively.

Negative interpersonal work events. We assessed negative interpersonal work events with four items by Giebels and Janssen (2005) which refer to emotional conflicts with coworkers. A sample item is "There were personal clashes between me and my coworkers". Cronbach's alpha was .89, .88, and .91 for T1, T2, and T3, respectively.

Negative task-related work events. Based on Basch and Fisher (2000), we created three items to capture negative task-related work events. The items are "I experienced failures", "I had difficulty managing my tasks because important resources (e.g., equipment) were faulty or missing", and "There were situations in which I had too little influence or leeway in decision-making". Cronbach's alpha was .65, .65, and .61 for T1, T2, and T3, respectively. These rather low internal consistencies are not surprising. Considering that the three items covered rather different kinds of negative task-related work events, we did not expect them to correlate highly with each other (MacKenzie, Podsakoff, & Jarvis, 2005).

Positive and negative affect. We measured positive and negative affect at work with items from the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). We

asked participants to indicate to what extent they had felt the following way in the previous three months at work: “active”, “excited”, “proud”, enthusiastic”, “determined” and “interested” (for positive affect), and “afraid”, “guilty”, “hostile”, “ashamed”, “scared” (for negative affect). Participants answered on 7-point rating scales ranging from 1 (*not at all*) to 7 (*very strongly*). Cronbach’s alpha for T1, T2, and T3 was .92, .93, and .92 for positive affect, and .86, .85, and .87 for negative affect, respectively.

Construct validity. Table 2 presents the results of confirmatory factor analyses that we conducted with MPlus 6.1 (Muthén & Muthén, 1998-2010) to ensure construct validity of our measures. For all three data collection waves, a six-factor model (i.e., positive interpersonal work events, positive task-related work events, negative interpersonal work events, negative task-related work events, positive affect, negative affect) resulted in the best fit compared to models with fewer factors. Thus, we concluded that our study variables measure distinct constructs.

Metric invariance. We also ran confirmatory factor analyses to test metric invariance across time. We started with an unconstrained model (i.e., configural longitudinal invariance model) that included the six-factor models of all three data collection waves. The unconstrained model included correlations between corresponding latent factors at T1, T2, and T3, and between corresponding manifest variables (i.e., items) at T1, T2, and T3. This model provided a good fit, $\chi^2(2261) = 3771.272$, $p < .001$, CFI = .937, TLI = .929, and RMSEA = .037. In the next step, we ran a constrained model (i.e., metric invariance model) in which we constrained the corresponding factor loadings of our six constructs to be equal across time. This model also resulted in a good fit, $\chi^2(2297) = 3814.308$, $p < .001$, CFI = .937, TLI = .930, and RMSEA = .037, and did not fit significantly worse than the unconstrained model, $\Delta\chi^2(36) = 43.036$, $p = .195$. Thus, our data supported metric invariance across time.

Analytical Strategy

We analyzed our data with path modeling using MPlus 6.1 (Muthén & Muthén, 1998-2010), and fit four competing path models to our data (see Figure 1): a stability model, a normal causation model, a reversed causation model, and a reciprocal causation model. The *stability model* included only temporal stabilities (i.e., paths between corresponding variables for each possible pair of data collection waves) and synchronous correlations (i.e., correlations between different variables measured at the same time). The *normal causation model* built on the stability model, and also included cross-lagged paths between work events and subsequent affect. The *reversed causation model* was also based on the stability model, but included cross-lagged paths between affect and subsequent work events. Finally, the *reciprocal causation model* included cross-lagged paths between work events and affect as well as cross-lagged paths between affect and work events. The competing nested models were compared via χ^2 difference tests. Because all models included three waves of data collection and thus two separate time lags, we were able to test our hypotheses with respect to the time lag between T1 and T2, and with respect to the time lag between T2 and T3.

Results

Table 3 presents the fit indices of the competing models and the results of the χ^2 difference tests we ran to compare the nested models. Our first model, the *stability model* (M1), included temporal stabilities as well as synchronous correlations and had a good fit, $\chi^2(90) = 179.084$, $p < .001$, CFI = .974, TLI = .960, RMSEA = .045. All stability coefficients were significant ($p < .001$) and estimates ranged between 0.222 ($SE = 0.042$) for the T1→T3 stability of negative interpersonal work events and 0.587 ($SE = 0.031$) for the T1→T2 stability of negative affect (all presented coefficient estimates are unstandardized).

To test Hypotheses 1 and 2, which referred to work events predicting an increase in subsequent affect, we added cross-lagged paths between work events and affect and calculated our second model, the *normal causation model* (M2). This model fit significantly

better to the data than the stability model (M1), $\chi^2(82) = 162.811$, $p < .001$, CFI = .976, TLI = .960, RMSEA = .045, $\Delta\chi^2(8) = 16.273$, $p < .05$. However, out of eight possible lagged relationships, only two relationships were significant. Positive interpersonal work events at T2 were related to an increase in positive affect at T3, estimate = 0.123, *SE* = 0.058, $p < .05$, and negative task-related work events at T2 were related to an increase in negative affect at T3, estimate = 0.142, *SE* = 0.054, $p < .01$. The corresponding relationships for the time lag between T1 and T2, however, were not significant. Thus, Hypotheses 1a und 2b were only partially supported. Hypothesis 1b, stating that positive task-related work events predict an increase of positive affect at work over time, and Hypothesis 2a, stating that negative interpersonal work events predict an increase of negative affect at work over time, were not supported.

To test Hypotheses 3 and 4, which referred to affect predicting an increase in subsequent work events, we calculated our third model, the *reversed causation model* (M3), including cross-lagged paths between affect and work events in addition to temporal stabilities and synchronous correlations. This model had a better fit than the stability model (M1), $\chi^2(82) = 112.428$, $p < .05$, CFI = .991, TLI = .985, RMSEA = .027, $\Delta\chi^2(8) = 66.656$, $p < .001$, and resulted in seven significant out of eight possible lagged relationships:

Positive affect was related to an increase in positive interpersonal work events, both for T1→T2, estimate = 0.113, *SE* = 0.028, $p < .001$, and for T2→T3, estimate = 0.078, *SE* = 0.026, $p < .01$, supporting Hypothesis 3a. Positive affect was also related to an increase in positive task-related work events, both for T1→T2, estimate = 0.131, *SE* = 0.034, $p < .001$, and for T2→T3, estimate = 0.102, *SE* = 0.030, $p < .01$. Thus, Hypothesis 3b was also supported. Furthermore, negative affect was related to an increase in negative interpersonal work events for T1→T2, estimate = 0.131, *SE* = 0.031, $p < .001$, but not for T2→T3, estimate = 0.049, *SE* = 0.033, *ns*. Therefore, Hypothesis 4a was partially supported. Also, negative affect was related to an increase in negative task-related work events, both for

T1→T2, estimate = 0.119, *SE* = 0.027, $p < .001$, and for T2→T3, estimate = 0.065, *SE* = 0.028, $p < .05$, providing support for Hypothesis 4b.

Finally, we calculated the *reciprocal causation model* (M4) which included cross-lagged paths in both directions (i.e., work events-affect and affect-work events) and yielded comparable coefficients as M2 and M3 (see

Figure *2*). The reciprocal causation model (M4) fit significantly better to the data in comparison to the stability model (M1), $\chi^2(74) = 99.000$, $p < .05$, CFI = .993, TLI = .986, RMSEA = .026, $\Delta\chi^2(16) = 80.084$, $p < .001$, and also in comparison to the normal causation model (M2), $\Delta\chi^2(8) = 63.811$, $p < .001$. However, the reciprocal causation model (M4) did not have a significantly better fit than the reversed causation model (M3), $\Delta\chi^2(8) = 13.428$, $p = .098$. Thus, the reversed causation model (M3) with cross-lagged paths from affect to work events is our final model as it simultaneously has the best fit and is most parsimonious.

Additional Analysis

Based on the notion that work events and affect can influence each other reciprocally and thus trigger upward or loss spirals over time (Fredrickson & Joiner, 2002; Hobfoll, 1989), we also modeled the following indirect relationships: We tested whether, in addition to direct relationships between work events at T1 and work events at T3 (i.e., T1→T3 stabilities), there were indirect relationships via affect at T2. Likewise, we tested whether, in addition to direct relationships between affect at T1 and affect at T3 (i.e., T1→T3 stabilities), there were indirect relationships via work events at T2. We found two significant out of eight possible indirect relationships: Positive affect at T1 was positively related to positive affect at T3 via positive interpersonal work events at T2, estimate = 0.013, *SE* = 0.008, 95% CI [0.001, 0.034], and negative affect at T1 was positively related to negative affect T3 via negative task-related events at T2, estimate = 0.016, *SE* = 0.008, 95% CI [0.003, 0.038].

Discussion

The aim of this study was to investigate causal and reversed causal longer-term relationships between work events and affect at work in a sample of young employees. Our analyses revealed only few causal relationships and only for the time lag between T2 and T3: Positive interpersonal work events predicted an increase in positive affect at work, and negative task-related work events predicted an increase in negative affect at work. Results for reversed causal relationships were more robust: Positive affect at work consistently predicted an increase in positive interpersonal and task-related work events for both time lags. Negative affect at work predicted an increase in negative interpersonal work events for the time lag between T1 and T2, and an increase in negative task-related work events for both time lags. Furthermore, the reversed causation model, including cross-lagged paths between affect and work events in addition to temporal stabilities and synchronous correlations, was the model with the best fit and highest parsimony.

Theoretical Implications

Our study contributes to current work event research by examining longer-term relationships between work events and affect at work. Surprisingly, we found only few causal relationships between work events and affect at work: Interpersonal work events at T2 were related to an increase in positive affect at work at T3. Young employees in particular might have strong communal values (Fiske et al., 2007; Trapnell & Paulhus, 2012) because they may feel that they depend on their more experienced coworkers to show them their way around at work, to get integrated, and to grow into their new role as an employee. Furthermore, negative task-related work events at T2 were related to an increase in negative affect at T3. Experiencing failure or having no control over one's tasks had an impact on employees, possibly because the need for competence (Ryan & Deci, 2000) may be particularly salient at the beginning of work life. Young employees may be insecure about their abilities and competencies and recurring failures might confirm their potential fear of

being incompetent. However, it is important to note that the causal relationships between work events and affect at work were rather inconsistent over time. Because we only found significant relationships for the time lag between T2 and T3, the results should be interpreted with caution.

The current study also extends past research by shedding more light on reversed causal relationships between work events and affect at work and demonstrating the power of affect. In contrast to the few causal relationships between work events and affect at work, results for reversed causal relationships were more robust and imply that the way employees feel at work can influence the kind of events they will experience at work: Positive affect was related to an increase in both positive interpersonal and task-related events for both time lags. Thus, if employees were feeling positive at work, they subsequently experienced more positive work events. Employees' positive affect might have broadened their thought-action repertoires (Fredrickson, 2001), so that they approached their coworkers as well as their tasks differently. For instance, employees might have acted more positively in interactions with coworkers, increasing the chance to experience positive interpersonal events at work, or they might have thought more creatively about the solution to a problem, increasing the chance to experience positive task-related events at work. Furthermore, negative affect was related to an increase in both negative interpersonal work events (for the time lag between T1 and T2) and negative task-related work events (for both time lags). Thus, if employees were feeling negative at work, they subsequently experienced more negative work events. Employees' negative affect might have narrowed their array of available cognitive and behavioral options (Fredrickson, 2001), so that employees thought and behaved in a different way and actively contributed to the occurrence of negative work events: Employees who experienced negative affect at work might have reacted more aggressively in confrontations with coworkers, leading to conflict escalation. Also, regulating negative affect is costly and reduces performance, particularly in young employees whose emotion regulation skills are still developing (Scheibe & Blanchard-

Fields, 2009). Thus, young employees who experience negative affect at work might struggle more with their work tasks and thus increase the likelihood of negative task-related work events.

Finally, in our additional analysis we also found evidence for indirect relationships. In line with the idea of upward spirals stating that "positive emotions not only feel good in the present, but also increase the likelihood that one will feel good in the future" (Fredrickson & Joiner, 2002, p. 172), we found that positive affect at T1 was related to increased positive affect at T3 via increased positive interpersonal work events at T2. Furthermore, there was also evidence of a loss spiral (Hobfoll, 1989) with negative affect at T1 predicting increased negative affect at T3 via negative task-related work events at T2. Again, these findings underline the significance of affect at work not only as a *consequence* of work events, but also as an important *predictor* of the kind of events that employees experience at work. Thus, employees are not just passive beneficiaries or victims who undergo positive and negative events at work and have affective reactions as a consequence. Instead, employees may also actively contribute to what happens to them at work, with their positive or negative affect shaping work life in a positive or negative way.

All in all, reversed causal relationships between work events and affect at work were much more consistent than causal relationships in our study. In contrast to research showing short-term relationships between work events and affect at work (Ohly & Schmitt, 2015), experiencing recurring work events over a longer period of time did not have reliable longer-term consequences for employees' affect in our study. This could be explained by the hedonic treadmill theory (Diener, Lucas, & Scollon, 2006) which assumes that events only have temporary effects on affect and people quickly go back to their affective set points after experiencing a positive or negative event. Another reason for the pattern of results in our study might be our choice of affect measures. We assessed positive and negative affect with items from the PANAS (Watson et al., 1988) that only capture activated positive and negative

affect. However, Ohly and Schmitt (2015) found that negative interpersonal and task-related work events also predicted low activation emotions, such as being at rest or being exhausted. Possibly, activated affect as a *consequence* of work events is rather fleeting and recurring work events might have stronger longer-term effects on deactivated affect. However, activated affect as a *predictor* might have a particularly strong association with employees' behavior at work because it relates to the two biobehavioral systems of approach and withdrawal (Watson et al., 1999). Feeling, for instance, afraid or hostile at work over an extended period of time might be hard to hide or control, particularly for young employees who more readily act on their feelings and use less effective emotion regulation (Gross et al., 1997). However, deactivated affect such as serenity or exhaustion might not translate directly into changes of behavior and would produce less reversed causal effects on work events.

Strengths, Limitations, and Future Research

The current study has several strengths and limitations that offer directions for future research. One strength of our study is the longitudinal research design with three data collection waves. We used a panel design and assessed all variables at each wave. Thus, we were able to control for previous levels of respective outcomes and predicted change in work events and affect at work. Furthermore, by including three waves of data collection, we could test the hypothesized relationships with two time lags and examine the consistency of relationships.

Our sample represents both a strength and a limitation: We had a relatively large sample of 491 employees working in various industries and occupations, which makes our results both reliable and generalizable to a broad range of organizational contexts. However, our sample included only young employees between the age of 18 and 25. Thus, generalizability to other age groups of the working population might be limited. As argued before, reversed relationships between work events and affect at work might be more pronounced in young employees due to their less developed emotion regulation. Nevertheless,

other studies found reversed relationships between stressors and strain in samples with a broader age range (Ford et al., 2014) which suggests that our findings might not only apply to young employees.

A second limitation of our study is that we solely relied on self-report data, thus raising concerns about common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). Collecting data from the same source can result in artificially strong relationships between variables. However, we found that several relationships did not reach common significance levels, suggesting that common method variance may not be a major problem in our study. Nevertheless, future studies could include other measures than self-report where possible, for instance by having coworkers assess positive and negative interpersonal events at work.

Third, while we have argued that reversed causal relationships between work events and affect at work can be explained by an affect-motivated change in behavior, we did not test this mediating mechanism. Thus, we cannot exclude the possibility that employees' work affect merely altered the perception of work events. Specifically, employees who experience positive affect at work might perceive more positive work events or evaluate events more positively (rosy perception mechanism), while employees who experience negative affect at work might perceive more negative work events or evaluate events more negatively (gloomy perception mechanism; de Lange et al., 2005). Future studies should therefore assess employees' behavior at work that might promote certain work events as a possible mediator. Also, finding reversed causal relationships with coworker-rated work events could help to rule out simple perception mechanisms.

Future research regarding causal relationships between work events and affect at work may want to look into need fulfilment (Ryan & Deci, 2000) as a possible mediator that can explain how work events influence affect at work. Because the fulfilment of specific needs and values, such as the need to belong, might be more important for some employees than for others (Baumeister & Leary, 1995), future studies could investigate possible moderators that

amplify or buffer the impact of specific work events on employees' affect at work. Finally, while our study focused on causal and reversed causal relationships between work events and activated affect at work, future studies may want to cover a wider range of emotions by investigating both activated and deactivated affect.

Practical Implications

Our study also offers some practical implications for organizations and employees. The dominance of reversed causal relationships between work events and affect at work in our study underlines the importance of affect regulation in the workplace. On the one hand, our results show that positive affect at work predicts an increase in positive work events. Put differently, good things will follow if employees feel good at work. Thus, organizations should try to foster positive affect in their employees, for instance by allowing enough breaks during the workday (Trougakos, Beal, Green, & Weiss, 2008). Employees themselves could capitalize on their positive affect at work by sharing positive experiences with coworkers (Gable, Reis, Impett, & Asher, 2004).

On the other hand, our study shows that negative affect at work predicts an increase in negative work events. To prevent vicious circles between negative affect and negative work events, organizations should help to down-regulate negative affect in their employees, for instance by offering stress management interventions (Richardson & Rothstein, 2008) or providing counselling as part of an employee assistance program. Employees may want to talk to coworkers who can help them to see things in a different light (Nils & Rimé, 2012). In any way, employees should be aware of the important role their affect plays for what happens at work and acknowledge their active role in eliciting positive and negative work events.

Conclusion

The current study demonstrates the power of affect: While we found only few and inconsistent causal longer-term relationships between work events and affect at work, reversed causal longer-term relationships were rather robust. Positive affect predicted an

increase in positive work events and negative affect at work predicted an increase in negative work events over time. Thus, work events do not just happen to employees, but can be shaped by employees themselves, both in a positive and a negative way. Our study extends current work event research and highlights the importance of longitudinal research designs by studying reciprocal longer-term relationships between work events and affect at work.

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Table 1
Means, Standard Deviations, Cronbach's Alpha, and Intercorrelations of all Study Variables

	M	*SD*	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Positive interpersonal events T1	3.33	0.81	.74	–																	
2. Positive interpersonal events T2	3.38	0.83	.75	.50	–																
3. Positive interpersonal events T3	3.34	0.82	.76	.49	.50	–															
4. Positive task-related events T1	2.92	0.96	.87	.52	.28	.30	–														
5. Positive task-related events T2	3.04	0.98	.89	.35	.57	.32	.48	–													
6. Positive task-related events T3	3.00	0.95	.88	.34	.32	.56	.53	.47	–												
7. Positive affect T1	4.34	1.23	.92	.43	.34	.32	.48	.36	.34	–											
8. Positive affect T2	4.29	1.25	.93	.31	.48	.35	.33	.48	.38	.63	–										
9. Positive affect T3	4.27	1.28	.92	.29	.37	.46	.29	.32	.47	.57	.66	–									
10. Negative interpersonal events T1	1.55	0.71	.89	-.18	-.08	-.13	-.15	-.05	-.09	-.29	-.14	-.13	–								
11. Negative interpersonal events T2	1.58	0.73	.88	-.20	-.25	-.18	-.11	-.15	-.16	-.23	-.28	-.24	.47	–							
12. Negative interpersonal events T3	1.58	0.78	.91	-.19	-.13	-.26	-.02	-.03	-.19	-.16	-.18	-.28	.40	.52	–						
13. Negative task-related events T1	2.03	0.70	.65	-.11	-.08	-.09	-.12	-.03	-.05	-.30	-.18	-.21	.43	.30	.23	–					
14. Negative task-related events T2	2.04	0.69	.65	-.11	-.15	-.10	-.04	-.08	-.06	-.14	-.20	-.19	.23	.45	.26	.56	–				
15. Negative task-related events T3	2.07	0.69	.61	-.17	-.12	-.17	-.09	-.08	-.10	-.22	-.20	-.30	.26	.37	.44	.47	.54	–			
16. Negative affect T1	1.89	0.99	.86	-.26	-.16	-.14	-.20	-.10	-.12	-.34	-.24	-.20	.46	.37	.29	.33	.33	.31	–		
17. Negative affect T2	1.89	0.98	.85	-.23	-.23	-.20	-.15	-.13	-.16	-.30	-.32	-.24	.31	.50	.31	.24	.42	.29	.66	–	
18. Negative affect T3	1.89	1.01	.87	-.18	-.12	-.24	-.10	-.08	-.18	-.24	-.22	-.31	.25	.35	.49	.28	.34	.45	.56	.56	–

Note. Correlations greater than |.09| are significant at $p < .05$, correlations greater than |.12| are significant at $p < .01$, and correlations greater than |.15| are significant at $p < .001$.

Table 2
Results of Confirmatory Factor Analyses

	χ^2	*df*	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf
T1							
Model 1A: Six-factor model	613.811	237	.942	.932	.057		
Model 2A: Best fitting five-factor model	752.972	242	.921	.910	.066	139.161	5
Model 3A: Best fitting four-factor model	954.862	246	.890	.877	.077	341.051	9
Model 4A: Best fitting three-factor model	1934.601	249	.739	.711	.117	1320.790	12
Model 5A: Best fitting two-factor model	2247.173	251	.691	.660	.127	1633.362	14
Model 6A: One-factor model	3624.070	252	.478	.428	.165	3010.259	15
T2							
Model 1B: Six-factor model	603.655	237	.946	.937	.056		
Model 2B: Best fitting five-factor model	736.291	242	.927	.917	.064	132.636	5
Model 3B: Best fitting four-factor model	929.321	246	.899	.887	.075	325.666	9
Model 4B: Best fitting three-factor model	2012.638	249	.740	.712	.120	1408.983	12
Model 5B: Best fitting two-factor model	2266.078	251	.703	.673	.128	1662.423	14
Model 6B: One-factor model	3824.496	252	.473	.423	.170	3220.841	15
T3							
Model 1C: Six-factor model	673.263	237	.938	.928	.061		
Model 2C: Best fitting five-factor model	821.265	242	.918	.906	.070	148.002	5
Model 3C: Best fitting four-factor model	1025.008	246	.890	.876	.080	351.745	9
Model 4C: Best fitting three-factor model	2174.146	249	.727	.698	.126	1500.883	12
Model 5C: Best fitting two-factor model	2495.474	251	.682	.650	.135	1822.211	14
Model 6C: One-factor model	4100.622	252	.455	.403	.177	3427.359	15

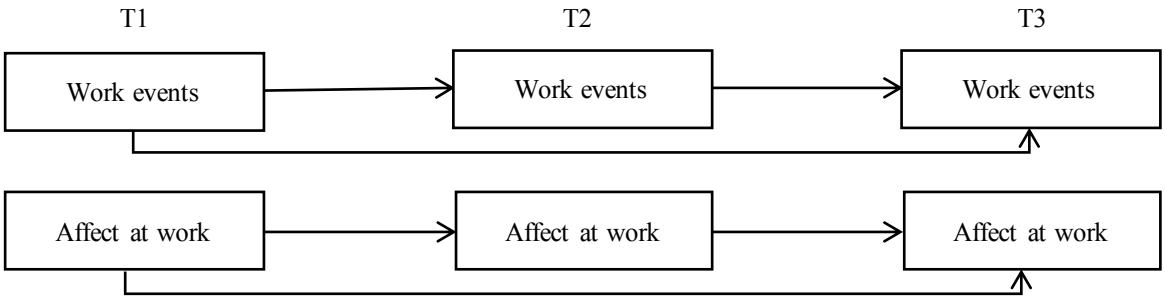
Note. CFI = comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root mean square error of approximation; $\Delta\chi^2$ for comparison to Model 1; all χ^2 and $\Delta\chi^2$ values are significant at $p < .001$.
Model 2: Negative work events loading on one common factor. Model 3: Positive work events loading on one common factor and negative work events loading on one common factor. Model 4: Positive work events loading on one common factor, negative work events loading on one common factor, and positive and negative affect loading on one common factor. Model 5: Positive work events and positive affect loading on one common factor and negative work events and negative affect loading on one common factor.

Table 3
Fit Indices for Competing Models and Results of Chi Square Difference Tests

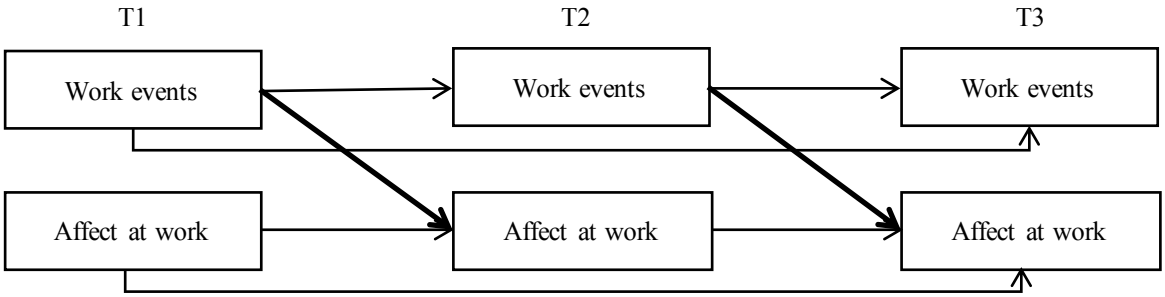
	χ^2	*df*	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf
Stability model (M1)	179.084***	90	.974	.960	.045		
Normal causation model (M2)	162.811***	82	.976	.960	.045	16.273* [a]	8
Reversed causation model (M3)	112.428*	82	.991	.985	.027	66.656*** [a]	8
Reciprocal causation model (M4)	99.000*	74	.993	.986	.026	80.084***[a]	8
						63.811***[b]	8
						13.428[†c]	8

Note. CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation.
[a] In comparison to Model 1
[b] In comparison to Model 2
[c] In comparison to Model 3
[†] $p < .10$. * $p < .05$. *** $p < .001$.

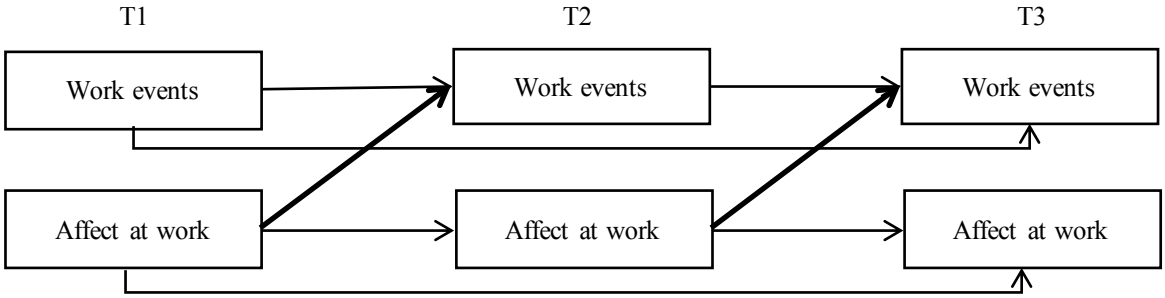
Model 1: Stability model



Model 2: Normal causation model



Model 3: Reversed causation model



Model 4: Reciprocal causation model

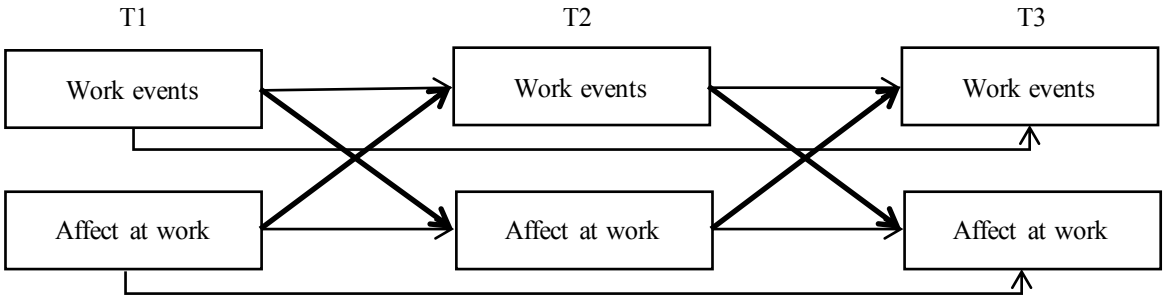


Figure 1. Schematic representation of the four competing models

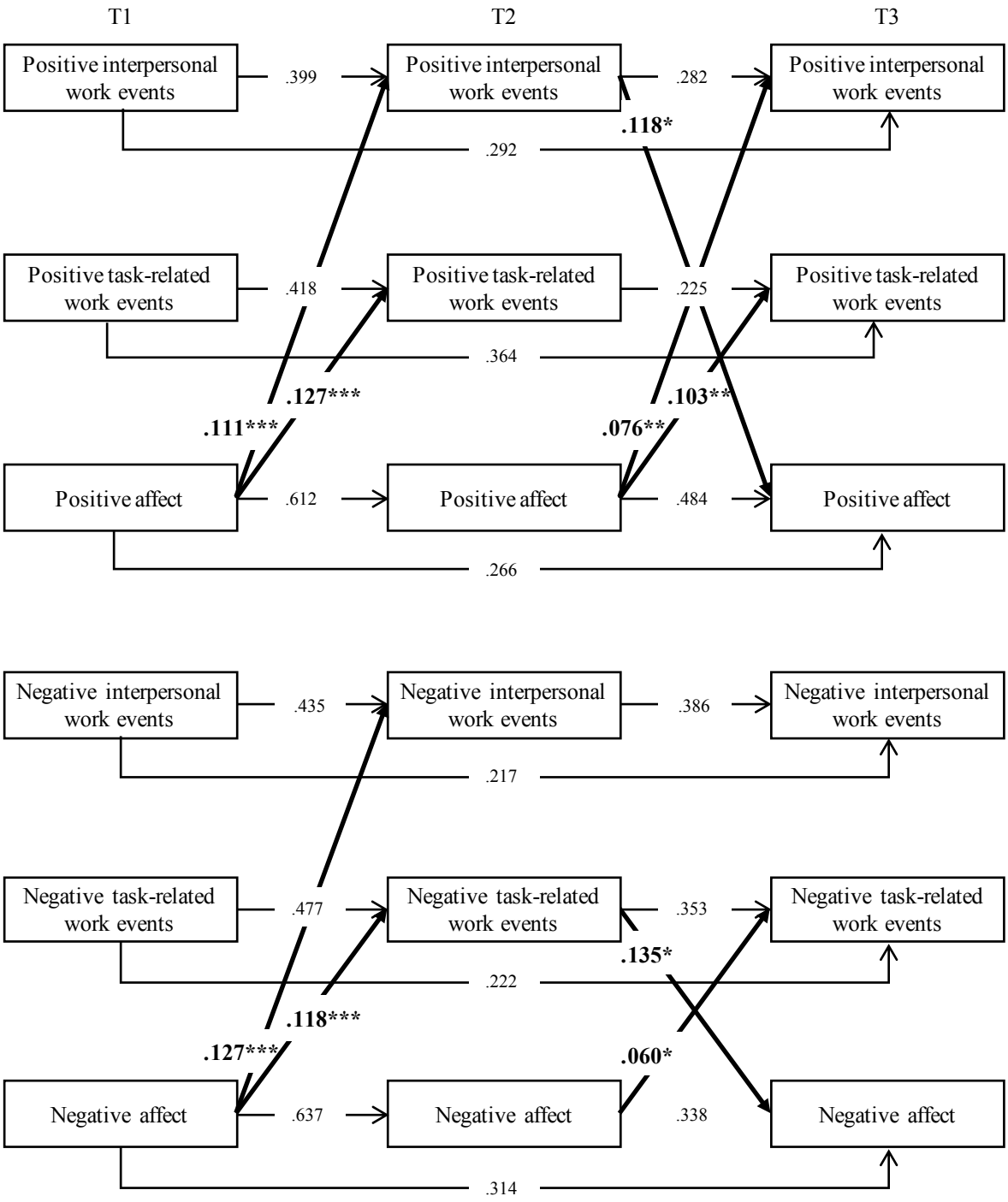


Figure 2. Unstandardized estimates for significant paths in the reciprocal causation model. All stability coefficients are significant ($p < .001$). For clarity of presentation, synchronous correlations are omitted from this figure, but were included in the analyses.

Zeitdruck, implizite Erholungstheorien und fehlendes Abschalten von der Arbeit: Ein latenter Wachstumskurven-Ansatz

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Angenommener Vortrag
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Menschen, die während ihrer Freizeit gedanklich von der Arbeit abschalten, weisen eine bessere psychische Gesundheit auf als Menschen, die dies nicht tun. Bislang weiß man jedoch noch wenig darüber, wie sich das gedankliche Abschalten über längere Zeiträume entwickelt und wovon unterschiedliche individuelle Entwicklungsverläufe abhängen.

In einer Längsschnittstudie untersuchten wir, wie sich das gedankliche Abschalten über die Zeit entwickelt und ob Merkmale der Arbeitssituation (Zeitdruck) und der Person (implizite Erholungstheorien; d.h. die Überzeugung sich auch nach einem anstrengenden Tag gut erholen zu können) den Verlauf des Abschaltens vorhersagen. Konkret nahmen wir an, dass Zeitdruck mit einem geringen Ausmaß des Abschaltens und mit einer Abnahme des Abschaltens über die Zeit zusammenhängt. Wir postulierten, dass günstige implizite Erholungstheorien mit dem Ausmaß des Abschaltens positiv einhergehen und dass sie den Zusammenhang zwischen Zeitdruck und einem abnehmenden Verlauf des Abschaltens abfedern.

Die Stichprobe umfasste 1432 junge Berufstätige aus unterschiedlichen Branchen, die zu vier Messzeitpunkten (Abstand jeweils 3 Monate) Angaben zu ihrem gedanklichen Abschalten von der Arbeit machten. Zusätzlich haben wir Zeitdruck und implizite Erholungstheorien zum ersten Messzeitpunkt erfasst.

Die Datenanalyse – basierend auf einem latenten Wachstumskurven-Ansatz – zeigte interindividuelle Unterschiede im Ausmaß und Verlauf des Abschaltens über die Zeit. Sowohl Zeitdruck als auch implizite Erholungstheorien waren signifikante Prädiktoren des Ausmaßes des Abschaltens. Es zeigte sich ein Interaktionseffekt von impliziten Erholungstheorien und Zeitdruck auf den Verlauf des Abschaltens über die Zeit: Bei hohem Zeitdruck und ungünstigen Erholungstheorien nahm das gedankliche Abschalten von der Arbeit über die Zeit ab.

Die Ergebnisse erweitern das Verständnis von Erholungsprozessen, indem sie zeigen, dass das Zusammenspiel von Zeitdruck und ungünstigen impliziten Erholungstheorien das gedankliche Abschalten von der Arbeit unterminieren können.