

**Widerstandsfähigkeit kommt nicht von
ungefähr**

**-Biologische und psychologische
Faktoren von Resilienz-**



Dr. Maria Kensche

Dr. Sarah Lehmann

Münster, 20.06.2015

INDIVIDUELLE RESILIENZ

Von uns erfahren Sie...

- ◉ Wie Resilienz entsteht.
- ◉ Von welchen Faktoren Resilienz beeinflusst wird.
- ◉ Warum Krisen nicht immer etwas Schlechtes sein müssen.

**Was heißt es, resilient zu
sein?**

Resilienz ist...

....die Fähigkeit, psychisch-seelische Belastungen bis hin zu schweren Schicksalsschlägen zu meistern.

Resilienz ist...

„...die Fähigkeit von Menschen, Krisen im Lebenszyklus unter Rückgriff auf persönliche und sozial vermittelte Ressourcen zu meistern und als Anlass für persönliche Entwicklung zu nutzen.“

Was sagt Pub Med?



Understanding resilience

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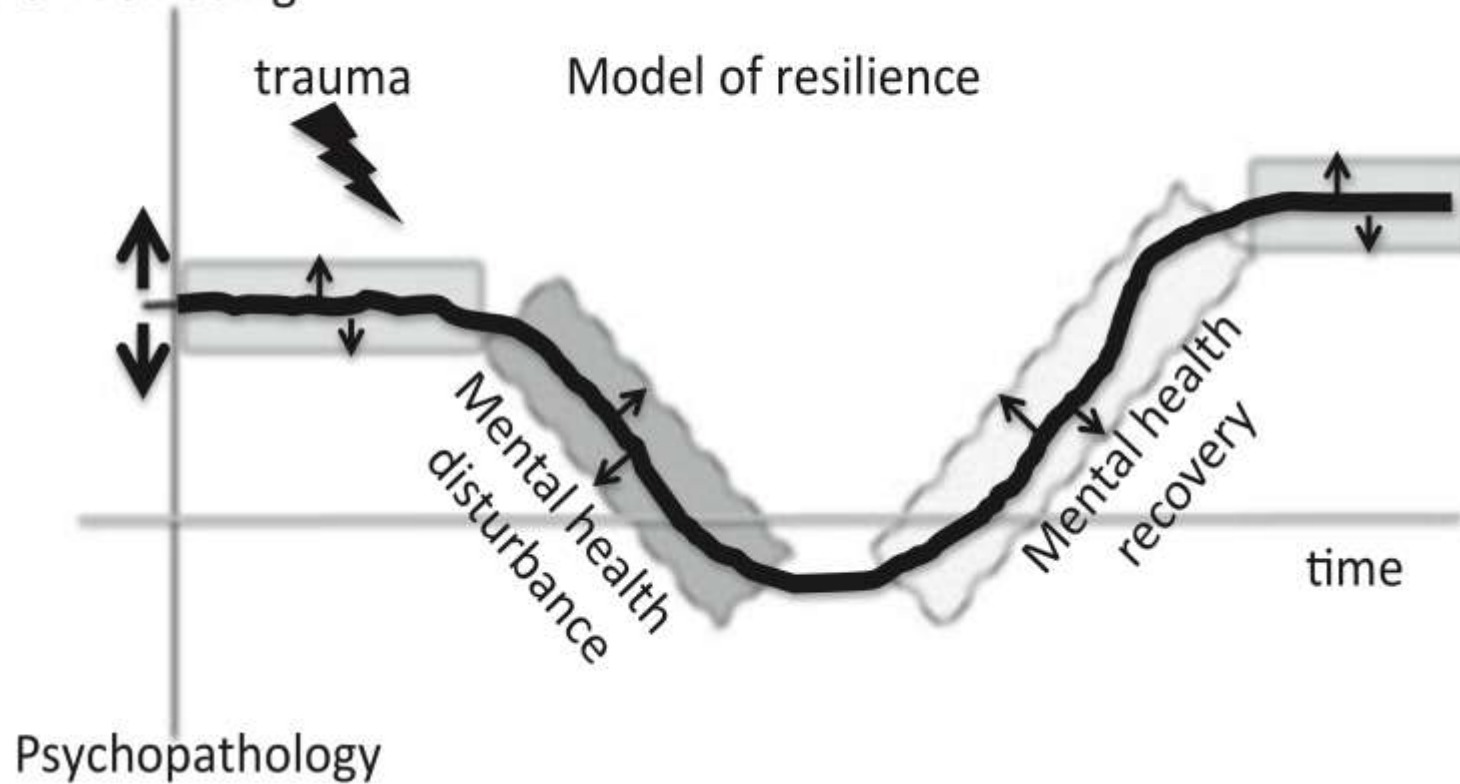
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Resilience is the ability to adapt successfully in the face of stress and adversity. Stressful life events, trauma, and chronic adversity can have a substantial impact on brain function and structure, and can result in the development of posttraumatic stress disorder (PTSD), depression and other psychiatric disorders. However, most individuals do not develop such illnesses after experiencing stressful life events, and are thus thought to be resilient. Resilience as successful adaptation relies on effective responses to environmental challenges and ultimate resistance to the deleterious effects of stress, therefore a greater understanding of the factors that promote such effects is of great relevance. This review focuses on recent findings regarding genetic, epigenetic, developmental, psychosocial, and neurochemical factors that are considered essential contributors to the development of resilience. Neural circuits and pathways involved in mediating resilience are also discussed. The growing understanding of resilience factors will hopefully lead to the development of new pharmacological and psychological interventions for enhancing resilience and mitigating the untoward consequences.

Keywords: resilience, stress, neurobiology, depression, PTSD

(a) Well being



Resilienz ist...

Resilienz

=

Widerstandsfähigkeit plus Lernfähigkeit

Definition der APA, 2015

“Resilience is the process of **adapting well in the face of adversity**, trauma, tragedy, threats or significant sources of stress — such as family and relationship problems, serious health problems or workplace and financial stressors. It means "bouncing back" from difficult experiences....

Research has shown that **resilience is ordinary, not extraordinary**.

Being resilient does not mean that a person doesn't experience difficulty or distress. Emotional pain and sadness are common in people who have suffered major adversity or trauma in their lives. **In fact, the road to resilience is likely to involve considerable emotional distress.**

Resilience is not a trait that people either have or do not have. It involves behaviors, thoughts and actions that can be learned and developed in anyone....”

...Die wichtigsten Erkenntnisse der letzten Jahre...

Resilienz ist ein dynamischer Prozess.

Resilienz ist kein angeborenes
Persönlichkeitsmerkmal.

Resilienz ist eine variable Größe.

(d.h. sie kann über Zeit und Situationen hinweg variieren).

**WARUM SIND EINIGE MENSCHEN
WIDERSTANDSFÄHIGER ALS ANDERE?**

**WODURCH WIRD BESTIMMT OB EIN
TRAUMATISCHES ERLEBNIS IN DER
KINDHEIT ZU VULNERABILITÄT ODER ZU
RESILIENZ FÜHRT?**

Malala Yousafzai

- Geboren am 12. 07. 1997
- Kinderrechtsaktivistin aus Pakistan
- Am 10. 10. 2014: Friedensnobelpreis (jüngste Preisträgerin in der Geschichte des Nobelpreises)
- 2009: Blog-Tagebuch auf Internetseite der BBC unter dem Namen Gul Makai über Gewalttaten der pakistanischen Taliban im Swat Tal
- 9. Oktober 2012 gezielter Angriff der Taliban auf Malala im Schulbus: Schüsse in Kopf und Hals

**SOZIALE
UNTERSTÜTZUNG**

RELIGION

FREIHEIT

KONTROLLE

HUMOR

OPTIMISMUS



Entwicklung

Entwicklungsbezogene Resilienzfaktoren

1. Erfolgreiche Copingerfahrungen und Kontrollerleben

- Russo, S. J., Murrough, J. W., Han, M. H., Charney, D. S. & Nestler, E. J. (2012). Neurobiology of resilience. *Nature Neuroscience*, 15 (11): 1475-1484.
- Wu, G., Feder, A., Cohen, H., Kim, J.J., Calderon, S., Charney, D.S. & Mathé, A.A.. (2013). Understanding resilience. *Frontiers in Behavioral Neuroscience*, 7 (10): 1-15.

Mild Early Life Stress Enhances Prefrontal-Dependent Response Inhibition in Monkeys

Karen J. Parker, Christine L. Buckmaster, Katharine R. Justus, Alan F. Schatzberg, and David M. Lyons

Background: Severely stressful early experiences have been implicated in the pathophysiology of psychiatric disorders. In contrast, exposure to mild early life stress (i.e., stress inoculation) strengthens emotional and neuroendocrine resistance to subsequent stressors. Herein we extend this research to examine the effects of mild early life stress on cognition.

Methods: Squirrel monkeys were randomized to a mild intermittent stress (IS; $n = 11$) or nonstress (NS; $n = 9$) condition from 17 to 27 weeks postpartum. At 1.5 years of age, monkeys were assessed for response inhibition on a test previously shown to reflect prefrontal-dependent cognitive function.

Results: IS monkeys demonstrated fewer response inhibition errors compared with NS monkeys. There were no rearing-related differences in aspects of performance that did not require inhibitory control. Compared with NS monkeys, IS monkeys had lower basal plasma pituitary-adrenal stress hormone levels. No rearing-related differences on neuroendocrine measures obtained 15 minutes after testing were found.

Conclusions: Results from this experiment provide the first evidence that exposure to mildly stressful early experiences improves prefrontal-dependent response inhibition in primates. Combined with our previous data, findings from this animal model suggest that exposure to mild early life stress may enhance the development of brain systems that regulate emotional, neuroendocrine, and cognitive control.

Parker, K. J., Buckmaster, C. L., Justus, K.R., Schatzberg, A.F. & Lyons, D. M. (2005). Mild early life stress enhances prefrontal-dependent response inhibition in monkeys. *Biol. Psychiatry*, 57: 848-855.

„Thank you to my father
for not clipping my wings,
for letting me fly“



„Thank you to all my wonderful teachers, who inspired me to believe in myself and be brave“

„Thank you for your letters and cards... I would like to thank my parents for their unconditional love“



Entwicklungsbezogene Resilienzfaktoren

2. Unterstützendes und liebendes Umfeld

- Masten, A. S. (2001). Ordinary magic. Resilience processes in development. *American Psychologist*, 56: 227-238.
- Rutter, M. (2012). Annual research review: resilience: clinical implications. *Journal of Child Psychology and Psychiatry* 54 (4): 474-487.
- Wu, G., Feder, A., Cohen, H., Kim, J.J., Calderon, S., Charney, D.S. & Mathé, A.A.. (2013). Understanding resilience. *Frontiers in Behavioral Neuroscience*, 7 (10): 1-15.

Aktives Bewältigungsverhalten



- Feder, A., Nestler, E. J. & Charney, D. S. (2009). Psychobiology and molecular genetics of resilience. *Nat Rev Neurosci.* 10(6): 446–457
- Holahan, C. J. & Moos, R. H. (1987). Risk, resistance, and psychological distress: A longitudinal analysis with adults and children. *Journal of Abnormal Psychology*, 96(1): 3-13.
- Wu, G., Feder, A., Cohen, H., Kim, J.J., Calderon, S., Charney, D.S. & Mathé, A.A. (2013). Understanding resilience. *Frontiers in Behavioral Neuroscience*, 7 (10): 1-15.

Prosoziales Verhalten

„altruism born of suffering“



- Staub, E. & Vollhardt, J. (2008). Altruism born of suffering: the roots of caring and helping after victimization and other trauma. American Journal of Orthopsychiatry, 78: 267-280.

Erste öffentliche Rede nach dem Attentat
vor der Jugendversammlung der UNO an
ihrem 16. Geburtstag am 12.07.2013

&

Überreichung von Petition für die Bildung
aller Kinder mit vier Millionen Unterschriften
an anwesenden UNO-Generalsekretär Ban Ki
Moon



Körperliche Aktivität



Winter, B., Breitenstein, C., Mooren, F.C., Voelker, K., Fobker, M., Lechtermann, A. et. al. (2007). High impact running improves learning. *Neurobiology of Learning and Memory*, 87: 597-609.

Kognitive Neubewertung



- Gross, J. J. (2002). Emotion regulation: affective, cognitive and social consequences. *Emotion*, 12(2): 250-255.
- McRae, K., Ciesielski, B., Gross, J.J. (2012). Unpacking cognitive reappraisal: goals, tactics, and outcomes. *Psychophysiology*, 39: 281-291.



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Seeing the Silver Lining: Cognitive Reappraisal Ability Moderates the Relationship Between Stress and Depressive Symptoms

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Abstract

Individuals differ in their adjustment to stressful life events, with some exhibiting impaired functioning, including depression, while others exhibit impressive resilience. The present study examined the hypothesis that the ability to deploy a particularly adaptive type of emotion regulation—cognitive reappraisal—may be a protective factor. It expands upon existing research in three ways. First, participants' ability to use reappraisal (cognitive reappraisal ability: CRA) was measured by using a behavioral challenge that assessed changes in experiential and physiological domains, rather than questionnaires. Second, all participants had been exposed to one or more recent stressful life events, a context in which emotion regulation may be particularly important. Third, a community sample of 78 women aged 20 to 60 was recruited, as opposed to undergraduates. Results indicate that, at low levels of stress, participants' CRA was not associated with depressive symptoms. However, at high levels of stress, women with high CRA exhibited less depressive symptoms than those with low CRA, suggesting that CRA may be an important moderator of the link between stress and depressive symptoms.

„I want there to be
peace everywhere...”



Optimismus



Southwick, S.M. & Charney, D.S. (2012). Resilience: The Science of Mastering Life's Greatest Challenges. Ten key ways to weather and bounce back from stress and trauma. Cambridge University Press.

Health-specific optimism mediates between objective and perceived physical functioning in older adults

Lisa M. Warner · Ralf Schwarzer · Benjamin Schüz ·
Susanne Wurm · Clemens Tesch-Römer

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Abstract Particularly in older adults, self-reports of physical health need not necessarily reflect their objective health status as they can be biased by optimism. In this study, we examine whether the effect of objective physical functioning on subjective physical functioning is modified by health-specific optimism and self-efficacy. A longitudinal study with three measurement points over 6 months and 309 older adults (aged 65–85) with multimorbidity was conducted. Subjective physical functioning was regressed on objective physical functioning, health-specific optimism and self-efficacy. Subjective physical functioning was predicted by both objective physical functioning and optimism as a mediator. Moreover, an interaction between optimism and self-efficacy was found: Optimism predicted subjective physical functioning only for individuals with low self-efficacy. Subjective physical functioning is as much based on objective physical functioning as it is on health-specific optimism. Older adults base their subjective physical functioning on objective indicators but also on optimism, when they are less self-efficacious.

Introduction

When people report their physical well-being and fitness, they do not rely exclusively on objective information. Personality characteristics, mood, and social context also affect their judgment. We assume that, among others, perceived self-efficacy and health optimism may have an effect on perceived physical functioning (Umstattd et al., 2007). In the following sections, we will address objective and subjective physical functioning in multimorbid older adults, and discuss the roles of risk perception and health-specific optimism as well as perceived self-efficacy.

Physical functioning in multimorbid older adults

Due to longer life expectancy and demographic change, the number of people with two or more chronic illnesses has increased in the last few decades (van den Akker et al., 1998). It has been estimated that more than 60% of the population over 60 years of age suffer from multimorbid-

„Along with that i am pretty certain,
that i am the first recipiant of the
nobel peace price, that still fights
with her younger brothers...”



Humor

*„humor combines optimism with a realistic look at the tragic“
(Ann Graber)*



Southwick, S.M. & Charney, D.S. (2012). Resilience: The Science of Mastering Life's Greatest Challenges. Ten key ways to weather and bounce back from stress and trauma. Cambridge University Press.

Southwick, S.M. & Charney, D.S. (2012). Resilience: implications for the prevention and treatment of depression. Science, 338: 79-82.

Soziale Unterstützung und soziale Unterstützung suchendes Verhalten

...über die gesamte Lebensspanne...

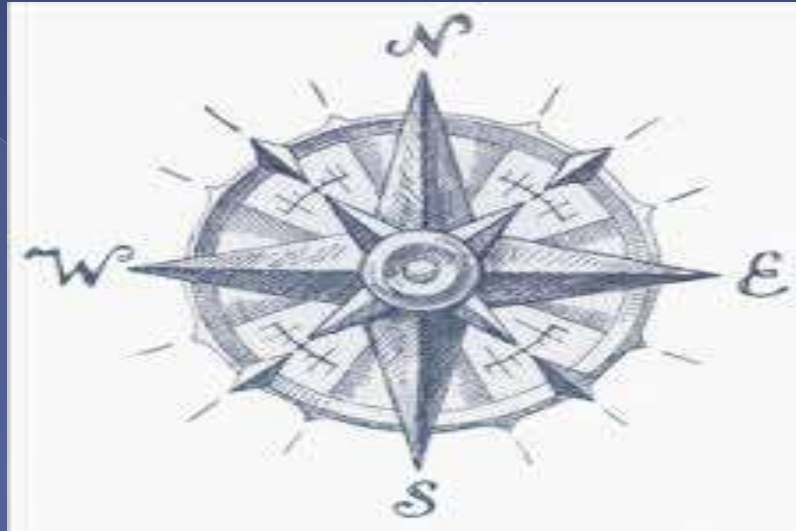


Ozbay, F., Fitterling, H., Charney, D. & Southwick, S. (2008). Social support and resilience to stress across the life span: a neurobiologic framework. *Current Psychiatry Reports*, 10 (4): 304-310.

„...the true message of
islam“



„Moralische Richtschnur“

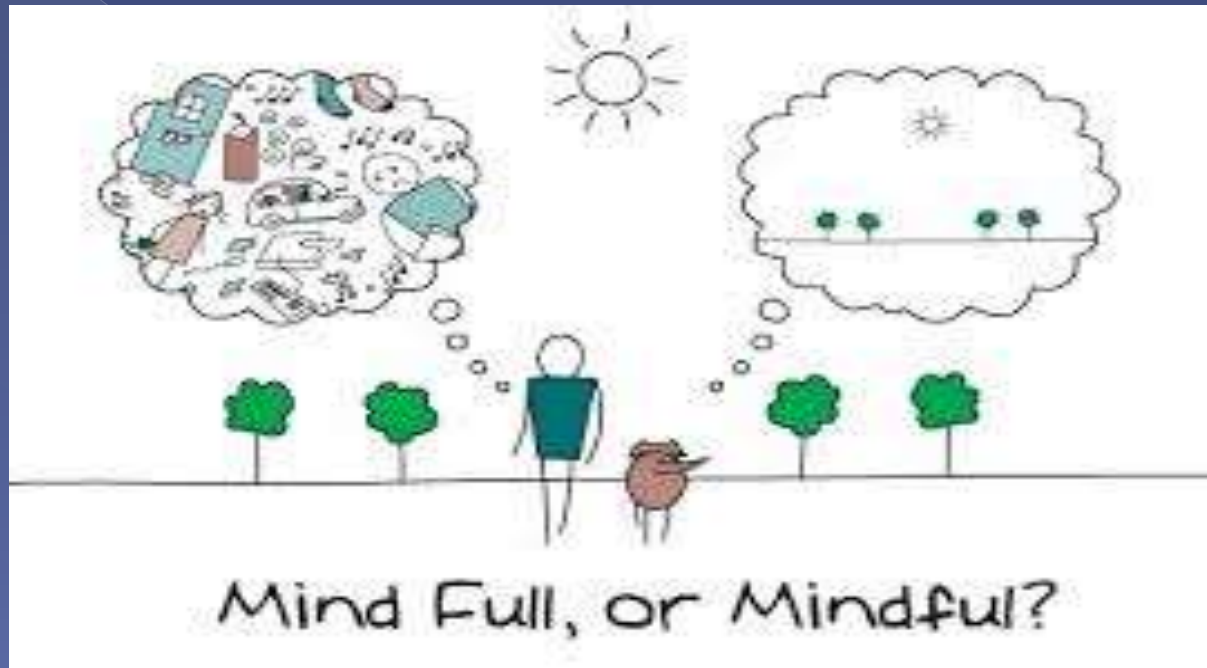


Rutten, B.P.F., Hammels, C., Geschwind, N., Menne-Lothmann, C., Pishva, E., Schruers, K., van den Hove, D., Kenis, G., van Os, J., Wichers, M. (2013). Resilience in mental health: linking psychological and neurobiological perspectives. *Acta Psychiatr Scand*, 128: 3–20.

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Wu, G., Feder, A., Cohen, H., Kim, J.J., Calderon, S., Charney, D.S. & Mathé, A.A.. (2013). Understanding resilience. *Frontiers in Behavioral Neuroscience*, 7 (10): 1-15.

Trait – Achtsamkeit



Thompson, R. W., Arnkoff, D.B. & Glass, C.R. (2011). Conceptualizing mindfulness and acceptance as components of psychological resilience to trauma. *Trauma, Violence, Abuse*, 12: 220-235.

Psychologische Flexibilität



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Psychological Flexibility as a Fundamental Aspect of Health

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Abstract

Traditionally, positive emotions and thoughts, strengths, and the satisfaction of basic psychological needs for belonging, competence, and autonomy have been seen as the cornerstones of psychological health. Without disputing their importance, these foci fail to capture many of the fluctuating, conflicting forces that are readily apparent when people navigate the environment and social world. In this paper, we review literature to offer evidence for the prominence of psychological flexibility in understanding psychological health. Thus far, the importance of psychological flexibility has been obscured by the isolation and disconnection of research conducted on this topic. Psychological flexibility spans a wide range of human abilities to: recognize and adapt to various situational demands; shift mindsets or behavioral repertoires when these strategies compromise personal or social functioning; maintain balance among important life domains; and be aware, open, and committed to behaviors that are congruent with deeply held values. In many forms of psychopathology, these flexibility processes are absent. In hopes of creating a more coherent understanding, we synthesize work in emotion regulation, mindfulness and acceptance, social and personality psychology, and neuropsychology. Basic research findings provide insight into the nature, correlates, and consequences of psychological flexibility and applied research provides details on promising interventions. Throughout, we emphasize dynamic approaches that might capture this fluid construct in the real-world.



Neurobiologie von Resilienz



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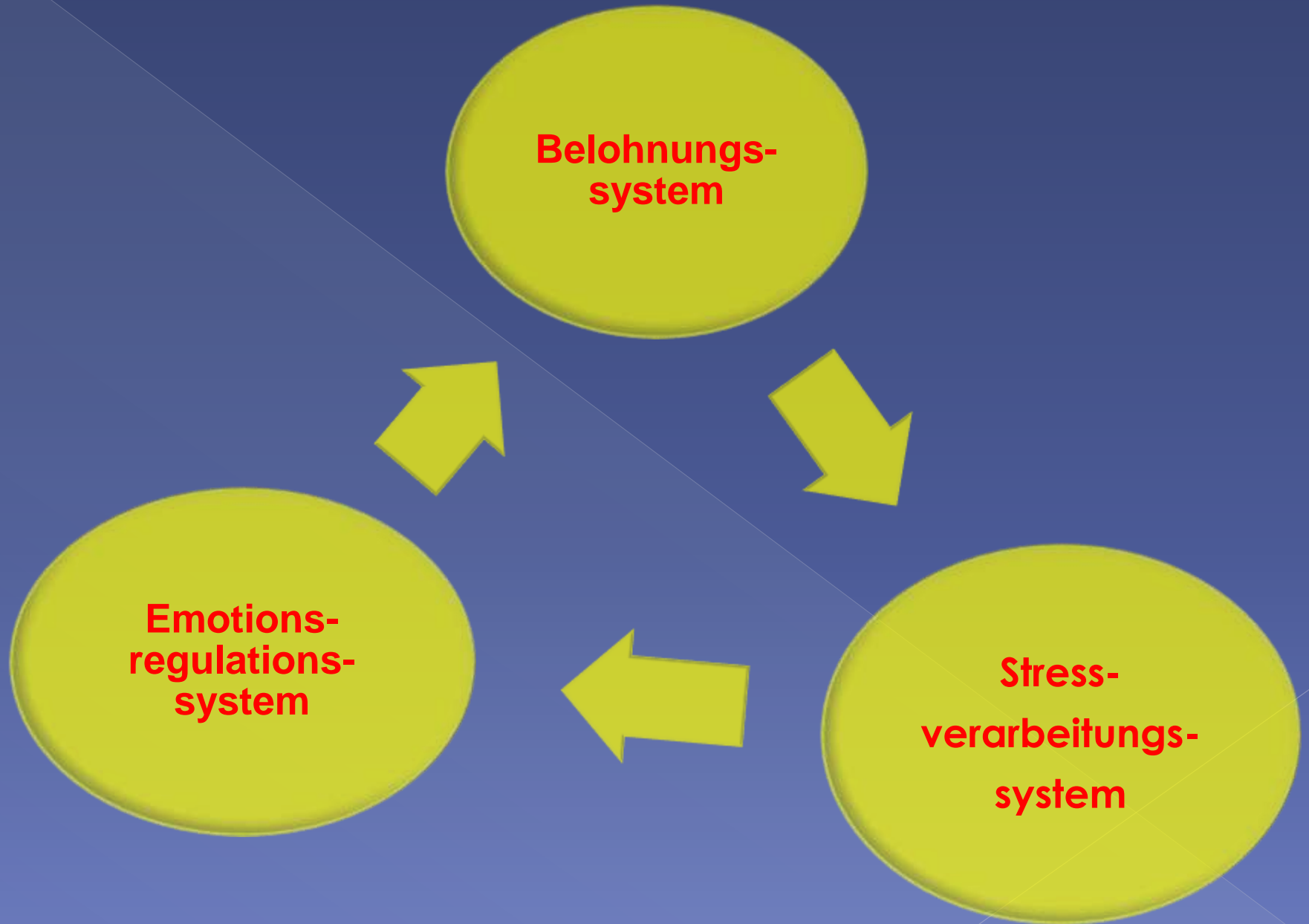
Neurobiology of Resilience

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Wichtige Schritte in der psychoneutralen Entwicklung

- Entwicklung des **Stress-Verarbeitungssystems** (vorgeburtlich, früh nachgeburtlich)
- Entwicklung des **internen Beruhigungssystems** (früh-nachgeburtlich)
- Entwicklung des **Impulshemmungssystems** (1.-20. Lebensjahr)
- **Entwicklung des Realitätssinns und der Risikowahrnehmung** (3.-20. Lebensjahr oder noch später)
- Entwicklung des **Bindungssystems und von Empathie und Theory of Mind** (2-20. Lebensjahr)

Vielen Dank für Ihre Aufmerksamkeit!

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