**Learned helplessness and its relevance for psychological suffering: A new perspective illustrated with attachment problems, burn-out, and fatigue complaints**

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**Abstract**

We develop a new perspective on various forms of psychological suffering — including attachment issues, burn-out, and fatigue complaints — by drawing on the construct of learned helplessness. We conceptualize learned helplessness in operant terms as the behavioral effects of a lack of reinforcement and in goal-directed terms as the dysregulation of goal-directed behavior. Our central claim is that if one fails to reach a goal (e.g., the goal to secure a job), then not only this goal, but also other related goals (e.g., the goal to maintain social relationships) may lose their motivating effects. The similarity relation between goal stimuli can therefore shed light on how failure in one life domain can come to affect various other life domains. We detail the relation between our proposal and existing theories and discuss new research and clinical directions.

 *Keywords*: learning, motivation, psychopathology

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| Because of their illness, **Sacha**’s parents were not in the position to easily meet his requests during his childhood (e.g., bringing him to the sports club or listening to his problems at school whenever he asked to). Nonetheless, his parents described him as an easy and quiet child during those years - maybe except for what concerns clothing: They often had to prevent him from wearing, what they considered, inappropriate sports clothing on school days. Now a young adult, Sacha describes himself as lonely. He is disappointed in his friends **around whom he feels** **insecure**. He also keeps a low profile at work, because he does not see himself as somebody who has what it takes to climb the career ladder. |
| **Zulma** is a postdoctoral researcher who aims for a career in academia. During her postdoctoral years, she invests in multiple time-consuming research lines and in the unofficial (and therefore unacknowledged) supervision of several PhD students. However, her research efforts did not result in the hoped-for recognition or job prospects but were met with - what she experiences as - indifferent reactions from colleagues. Although this initially made her work even harder to prove herself, she eventually developed what her general practitioner describes to be a **burn-out**. During that period, she was extremely dependent upon her partner without whom she was completely helpless. For example, taking a shower would have been too much without her partner accompanying her to the bathroom, having the water run at the right temperature, and helping her stand up for drying after the shower.  |
| **Caro** is a middle-aged woman. Since a couple of years, she has a lot of pain in her joints. This has led to a search for a clear-cut medical cause of this problem. However, none of the experts that she visited have been able to identify or remedy her problem. Recently, Caro is facing an additional complaint: She often feels tired, which makes that she has withdrawn from much of her social life, has quit her job, and relies on her parents to help her at home and with her children. She is now on a waiting list to be treated for chronic **fatigue** syndrome in a specialized centre.  |

The names are fictitious, but the stories sketched in the above case studies are real. Mental-health problems affect one in four people worldwide and account for more than 15% of the global disease burden in developed countries (Holmes, Craske, & Graybriel, 2014). In the field of experimental psychopathology, researchers invoke laboratory models and broadly applicable explanatory constructs with the aim to enhance the understanding and treatment of these problems (Boddez, Davey, & Vervliet, 2017). In the current paper, we will draw on the construct of learned helplessness with the aim to do exactly this. To account for how helplessness or passivity may generalize across life domains, we will present an analysis in which the paralyzing impact of a failure to reach a specific goal (e.g., the goal to secure a job), does not remain limited to that one goal but can “contaminate” other goals as well (e.g., the goal to maintain social relationships or to take care of oneself) due to the perceived similarity between goals.

**Learned helplessness**

The original learned helplessness experiment (Seligman & Maier, 1967) is nothing short of a classic. In the group of interest, dogs were confronted with shocks that got turned on and off irrespective of their behavior. A second group with the same amount of exposure to shocks, but for which shock-offset was made contingent upon a behavior (i.e., pressing a panel with their nose) served as control. The well-known finding is that, when subsequently exposed to electric shocks in a different test context, the second but not the first group of dogs succeeded in acquiring a new avoidance behavior to prevent these shocks. Perhaps put somewhat prosaically, it seemed as if the initial failure to escape the shock made the dogs in the first group learn that they are helpless.

Starting from this classic experiment, learned helplessness is sometimes narrowly described as a failure to avoid shocks caused by prior exposure to uncontrollable shocks (Maier & Seligman, 2016). This has favored learned helplessness as a model for depression, in part because of the surface similarity to cases of depressed patients who, for example, fail to leave from a violent relationship (cf. the failure to avoid shocks) after a history of abuse (cf. the prior exposure to uncontrollable shocks) (Seligman, 1975). However, an analysis at a higher level of abstraction might reveal that learned helplessness is of relevance for a variety of clinical phenomena beyond depression. We present such an abstract analysis below and illustrate its scope with attachment-related phenomena, burn-out, and fatigue complaints.

The elements of the narrow description of learned helplessness — avoidance of shocks and a history of uncontrollable shocks — make it difficult to see how learned helplessness would apply to real-life case studies as those of Sacha, Zulma, and Caro. We therefore propose to abstractly define learned helplessness as the behavioral effects of a lack of reinforcement.[[1]](#footnote-1) Reinforcement entails that a response (e.g., dogs pressing a panel with their nose) increases in frequency due to its consequences (e.g., due to the omission of shock). If consequences that encourage responding do not (or no longer) occur, then a host of effects — by definition including depressed responding or, in other words, behavioral passivity — may occur. Conceptualizing learned helplessness as concerned with the behavioral effects of a lack of reinforcement makes it easier to appreciate the relevance of learned helplessness for various forms of psychological suffering.

However, before turning to the issue of psychological suffering, it is relevant to note that the abstract operant analysis of learned helplessness in terms of reinforcement can be integrated with a goal-directed perspective on behavior (Kuhl, 1981; Moors, Boddez, & De Houwer, 2017; Moors & Boddez, 2021; Moors & Fischer, 2019). In the goal-directed perspective, one speaks of (mental representations of) goal stimuli rather than of reinforcers. A “reinforcer” is a functional term: any outcome stimulus that leads to an increase in the frequency of the responses at hand is a reinforcer. So, when one speaks of reinforcement, the analysis focuses on the relation between environmental stimuli and responding (De Houwer & Hughes, 2020). The goal-directed perspective moves the analysis to the mental level: this perspective holds that a response is emitted because (1) the outcome of responding (i.e., the goal stimulus) is considered to be valuable and (2) the response is believed to result in this outcome or goal stimulus. So, using these terms, one could say that the dogs in the experimental group of Seligman’s experiments failed to serve one of their goals (e.g., the goal to remain harm-free) and that this failure impacted their behavior in the subsequent test phase. More generally, this perspective allows us to conceptualize learned helplessness as a dysregulation of goal-directed responding due to a failure[[2]](#footnote-2) to reach a goal: individuals stop trying, because (1) (former) goals lose value and / or (2) they no longer believe that their responding will result in procuring their goals. For reasons of simplicity and consistency, we will from now onwards use the term “goal stimulus[[3]](#footnote-3)” rather than the term “reinforcer” when referring to outcome stimuli that control responding.

**Psychological suffering**

We now illustrate the relevance of the abstract analysis of learned helplessness for various forms of psychological suffering. More specifically, we discuss attachment-related phenomena, burn-out, and fatigue complaints[[4]](#footnote-4).

Consider children who are confronted with nonresponsive parents as illustrated in the case study of Sacha. These children are confronted with the lack of a contingency between specific responses and the obtainment of a goal stimulus (for related arguments see Seligman, 1975). One example could be that the child points to a toy that is out of reach (response) but does not receive help from his parents to secure the toy (goal stimulus). A first result of this lack of contingency could be a decrease in frequency of this specific response. Maybe less obviously, one can hypothesize that this absence of contingency may also lead to a more general reduction in support seeking from parents (see discussion of the concept operant class below and for related arguments see Bosmans, Waters, Finet, De Winter, & Hermans, 2019; Bosmans, Bakermans-Kranenburg, Vervliet, Verhees, & van Ijzendoorn, 2020) and under some conditions even to withholding responding in other life domains. For example, the literature indicates that children with non-responsive parents (i.e., with a so-called “insecure attachment base”) can develop difficulties in other life areas including poor performance at school and at work (e.g., Bosmans & De Smedt, 2015). Invoking learned helplessness in this context implies hypothesizing that these difficulties can be traced back to a lack of contingencies between behavior and the obtainment of goal stimuli earlier in life.

Let us consider a second example. In the period preceding a burn-out, people may be confronted with a lack of contingency between their job activities (response) and, for example, the hoped-for recognition or job prospects (goal stimulus) (Jaremka et al., 2020) as illustrated in the case study of Zulma. Again, the hypothesis that we put forward is that this lack of contingency may not only result in a reduction of specific work-related efforts, but also in a reduction of behavior in other life areas (e.g., self-care or maintaining a social network). Interestingly, the psychoanalyst who first coined the term burn-out (Freudenberger, 1974) defined burn-out as “the extinction of motivation or incentive, especially where one's devotion to a cause or relationship fails to produce the desired results.” Similarly, we situate the cause of burn-out in the lack of contingency between one’s efforts and the obtainment of goal stimuli.

As a final example, learned helplessness may also help us understand (chronic) fatigue as illustrated in the case study of Caro. Maier and Seligman (2016) already made note of anecdotal observations that fatigue is an effect of experimental learned helplessness experiences (although they do not provide details about the basis of this claim). In addition, a systematic review on the relation between medical problems (i.e., chronic pain) and persistent fatigue showed that, in five out of the six prospective studies included, fatigue developed after fruitless attempts to control these problems (Fishbain et al., 2013; Van Damme, Becker, & Van der Linden, 2018). As such, a possible analysis entails that the fruitless attempts to deal with these problems (e.g., actions to minimize pain) would eventually not only result in a reduction of these attempts, but may – through generalization – also affect a plethora of other responses (e.g., hobby- or family-related actions) and, as such, result in a high level of passivity. In the sections below, we will provide a detailed treatise of generalization and of how a high level of passivity may translate to a subjective feeling of fatigue, but for now this characterization of fatigue as generalized passivity suffices for our purposes.

In summary, we argue that a variety of response patterns which characterize psychological suffering may fit a broad conceptualization of learned helplessness. As said, this analysis implies a hypothesis about the etiology of these response patterns. More precisely, it implies that the suffering results from the non-contingency between a response and a goal stimulus (e.g., requests for help from parents do not lead to the desired object; job activities do not lead to recognition; attempts to control a medical problem do not result in a recovery from the medical problem).

**Generalization**

In the examples provided above, we noted that the effects of a lack of reinforcement do not remain limited to the unreinforced responses. For instance, the lack of contingency between job efforts and recognition may not only result in a reduction of specific work-related efforts, but also in a reduction of behavior in other life areas (e.g., self-care or maintaining a social network). An important question that we did not address in detail yet is how to account for this generalization: Why does the effect of a lack of reinforcement not remain limited to the unreinforced response(s)?

*Similarity between discriminative stimuli*

For discriminative stimuli, it has long been established that the strength of generalization effects is inversely related to the similarity to the originally trained stimulus (Ghirlanda & Enquist, 2003). A discriminative stimulus signals when a relation between a response and an outcome stimulus is either present or not and may therefore increase or decrease responding, respectively. For example, a certain light may signal that pressing a lever results in a piece of cheese or not. Crucially, stimulus control (i.e., the effect of discriminative stimuli on the level of responding) typically is not limited to the light used during training, but generalizes to similar stimuli (e.g., lights of other intensity, color, etc.). Translating this to a clinically relevant setting, a child may experience that pointing towards a toy that is out of reach (i.e., the response) does result in help to secure the toy (i.e., the outcome / goal stimulus) when its sister is around, but not when its mother is around. The resulting reduction in responding may not be limited to the mother’s presence, but extend to other “stimuli” (e.g., when being around other adults at kindergarten). It is not hard to see how such generalization may increase levels of passivity. Indeed, if a reduction in responding does not stay limited to one stimulus, but extends to more stimuli, then there will be a higher level of passivity (i.e., then there will be less responding). Such widespread passivity is what characterizes the clinical problems that we discussed above.

There may be historical reasons for why research has focused on generalization across discriminative stimuli. At the mental level of analysis, the dominant idea has long been that operant learning boils down to the acquisition of an association between the discriminative stimulus and the response (e.g., Thorndike, 1911; Hull, 1943). According to this theoretical idea, the outcome stimulus is something that only serves to “stamp in” the relation between discriminative stimulus and response as opposed to something that invites behavior as in the goal-directed approach. If the discriminative stimulus is seen as the driving force behind the response, then it makes most sense to assess how varying this discriminative stimulus affects responding. In contrast, from this traditional view, it would not have been meaningful to assess the effects of varying the outcome stimuli (i.e., the goal stimuli), because (representations of) these stimuli were not considered as a cause of responding in the first place. However, in recent times, there has been a departure from this traditional view, as the goal-directed perspective has gained traction as a successful explanatory framework for both non-human and human animal behavior (Moors et al., 2017; Moors & Boddez, 2021; Moors & Fischer, 2019). In this explanatory framework, goal stimuli are considered as causes of responding, which makes studying the effects of varying these stimuli a logical next step.

*Similarity between goal stimuli*

Considering not only the similarity between discriminative stimuli but also the similarity between goal stimuli may provide a completely new way of looking at (the clinical implications of) learned helplessness. Specifically, our claim here is that if one fails to reach a goal stimulus, then not only this goal stimulus, but also other goal stimuli will become less likely to invite action. The more subjectively similar these other goal stimuli are to the goal stimulus that was not achieved, the stronger the hypothesized impact. For example, according to this proposal, a failure to reach a sense of belongingness with family will not only result in a reduction of attempts to reach belongingness with family, but also in a reduction to reach belongingness with friends *if* the individual considers these two goals to be similar. In contrast, when being professionally successful is considered to be a less similar goal from reaching belongingness with family, then it will suffer less impact from such failure.

As the example above already illustrates, the similarity of goal stimuli should not be limited to physical (perceptual) similarity. Goal stimuli may also be considered similar if they belong to the same category (e.g., the category of belongingness may contain belongingness with family and belongingness with family; Dymond, Dunsmoor, Vervliet, Roche, & Hermans, 2015). In our recent work, we invoked a new principle – the shared features principle – that may shed further light on such categorical generalization (Hughes, De Houwer, Mattavelli, & Hussey, 2020). This principle states that if two entities are similar with regard to one element, people will assume that they are similar with regard to other elements as well. So, if two goal stimuli are similar in one way (e.g., because they are both work related), people may infer that those outcomes are similar also in other ways (e.g., how likely it is that they can be achieved). Hence, if one’s actions fail to secure one goal stimulus (e.g., good student evaluations), then not only this goal stimulus, but also similar goal stimuli (e.g., scientific publications) may be considered unachievable.

Relatedly, goal-directed theories typically assume that goals are organized hierarchically with more numerous low-level goals that serve fewer high-level goals (Deci & Ryan, 2000; Kuhl, 1981; Kruglanski et al., 2002). This implies that a failure to reach a lower-level goal stimulus also implies a failure to reach the higher-level goal stimulus. However, depending on one’s interpretation of the failure, more or less actions may become affected. For example, if a failure to publish a paper is not interpreted as a failure to publish (a lower level goal), but as a failure to be professionally successful (a higher-level goal), then all responses that serve that latter (higher-order) goal may become affected (e.g., teaching and socializing with colleagues).

This analysis of generalization as a function of similarity between goal stimuli provides a new perspective on how and why learned helplessness (and psychological suffering) arises. The impact of a lack of reinforcement in one area of life on other areas of life will be a function of the extent to which one differentiates between goals in life. It also allows to go beyond some of the “all or none” discussions that have plagued the field (e.g., Hiroto and Seligman, 1975, versus Cole and Coyne, 1977): the focus should not be on whether or not a so-called generalized state of learned helplessness exists, but on which goals are affected by a setback (e.g., a failure to reach a sense of belongingness with family may result in a reduction of efforts to reach belongingness with friends, but leave efforts to reach more different goals intact).

Our conceptualization of the impact of learned helplessness in terms of the extent of generalization across goal stimuli may also facilitate better understanding of individual differences. While some approaches explain individual differences in reference to mental processes (e.g., as individual differences in attribution or perceived control; also see Mehu & Scherer, 2015 and Scherer, 2020), our approach invites to (also) trace the (learning) history that leads to these individual differences. That is, depending on one’s learning history throughout life, people may learn to treat certain goal stimuli as more or less similar (cf. discrimination learning and perceptual learning; Mitchell & Hall, 2014), which can account for the degree of generalization of learned helplessness.

It may further be of interest that our proposal to consider the similarity between goal stimuli is related to the concept of an operant class, but also goes beyond it. An operant class is a class of responses that produce the same outcome / goal stimulus given the presence of a discriminative stimulus. For example, pressing a lever may produce a piece of cheese given a certain discriminative stimulus. Crucially, the operant class of lever pressing contains a variety of responses that may differ in appearance (e.g., pressing it with the nose or paw). So, the operant class is defined by function rather than by appearance. A reduction across the variety of responses that make up an operant class may have broad implications in real life. For example, there are many ways in which one may request instrumental support. A reduction across the responses that make up the operant class implies that if one response (e.g., pointing one’s fingers towards a problematic situation) does not sort the wanted outcome (i.e., receiving instrumental support), other responses will disappear as well (e.g., calmly talking about one’s personal problems or letting one’s emotions run freely). Although it is not hard to see the clinical relevance of such broad impact of unsuccessful responding, our theoretical proposal here in principle allows for an even broader impact: the effects of unsuccessful responding could not only affect responses that produce the same outcome (i.e., the operant class), but also responses that serve other but similar outcomes. In terms of the goal-directed perspective, the impact of the failure to reach a goal may not remain limited to that one goal but “contaminate” other goals as well.

**Reconsidering attachment theories and depletion accounts of burn-out and fatigue**

The quality of a theoretical proposal depends on the extent to which it allows to organize existing knowledge (i.e., its heuristic value) and the extent to which it allows to generate new knowledge (i.e., its predictive value; De Houwer & Hughes, 2020). Below, we detail the relation between our proposal and existing constructs and findings as well as new research and clinical directions.

We offer a transdiagnostic perspective on psychological suffering that cuts across symptom clusters as categorized in diagnostic manuals (American Psychiatric Association, 2013; also see Griffiths, Morris, and Balleine, 2014). Disorder-specific explanations for the forms of psychological suffering discussed in this paper include the attachment behavioural system, on the one hand, and depletion accounts for burn-out and fatigue complaints, on the other hand.

Bowlby (1982) proposed that human beings are born with an innate psychobiological system that motivates them to seek proximity to protective others (i.e., attachment figures) in times of need. Interactions with attachment figures who are responsive and supportive install a sense of safety and foster the formation of positive mental representations of others’ benevolence that maintain proximity-seeking behavior (Bowlby, 1973). In contrast, when attachment figures are not supportive, such sense of security is not attained, which has a host of negative consequences (e.g., poor relations and poor performance at school; Bosmans & De Smedt, 2015). Although we do not take position about the need to invoke a separate psychobiological system, at least some of Bowlby’s ideas are compatible with what we are proposing here. Under the assumption that the attachment figures can provide access to appetitive stimuli or goal stimuli, it makes sense that more actions will be directed towards responsive caregivers from an operant and goal-directed perspective, respectively (also see Bosmans et al., 2019).

On top of this, considering the similarity between goal stimuli as we discussed above may provide insight in how the effects of successful versus unsuccessful responding may spread across life domains: the failure to reach one goal may stop people from pursuing other goals as well. A further link between attachment theory and the current perspective may be found in the important role that the goal-directed approach attributes to expectancies: goals that were not accomplished (or goals that are similar to goals that were not accomplished) may no longer be pursued, because the individual stops expecting that actions will help attain these goals. For example, the case study of Sacha illustrates that he entertains low expectancies about positive consequences of actions directed at parents and friends. In traditional attachment theory, such expectancies are subsumed under the terms “internal working models” and “secure base scripts”[[5]](#footnote-5) (for a critical discussion see Allen, 2016). Given that learning psychology can be described as the study of ontogenetic adaptation — the adaptation of individual organisms to the environment during the lifetime of those organisms (De Houwer & Hughes, 2020) — we consider a marriage between learning psychology and developmental psychology as long overdue.

We now turn to a discussion of depletion theories as applied to burn-out and fatigue complaints. Both in daily life and in science, burn-out and fatigue are often conceived as the depletion of a finite resource of physical and/or psychological energy (Johnston et al., 2019). The term “burn-out” itself is even a metaphor that appeals to the idea that one has run out of a finite source of energy. The view that psychological resources can become depleted over time has been popularized by Baumeister’s ego depletion theory (Baumeister, Vohs, & Tice, 2007) but has been criticized on theoretical (Inzlicht, Schmeichel, & Macrae, 2014) and empirical grounds (e.g., Carter, Kofler, Forster, & McCullough, 2015). The ideas discussed in this paper may offer an alternative perspective on these forms of psychological suffering. As explained above, we conceptualize burn-out as resulting from a lack of contingency between efforts and goal stimuli. For example, as described in the case study above, the hard work of Zulma did not result in the hoped-for job prospects or recognition and – through generalization – this affected her behavior in a variety of life areas. Interestingly, we may even try to explain why Zulma initially started to work even harder. When a reinforcer is unexpectedly omitted, there is typically a short-lived rise in the frequency or intensity of responding (i.e., the extinction burst; De Houwer & Hughes, 2020; for a related analysis see Kuhl, 1981).

Applying our analysis to the fatigue complaints that are described in the case study of Caro implies that the fruitless attempts to deal with her pain (e.g., avoidance actions to minimize pain) affected a plethora of other actions and, as such, result in a high level of passivity. This still leaves the question of how to go from this lack of action to the feeling of subjective fatigue. According to the premises of goal directed models (Moors et al., 2017), a sequelae of goals (no longer) inviting action is that there will be (no) action tendencies and (no) bodily responses to support the execution of actions (either). Still according to the premises of these models, such action tendencies and supporting bodily responses are integrated and centrally represented as feelings (in nonverbal form) after which they are categorized and verbally labelled. Although these theoretical premises are typically invoked to account for emotional feelings and labels (e.g., an action tendency to flee and high levels of physiological responses would translate to feeling fearful), our proposal here holds that they may also account for the feeling of subjective fatigue. More precisely, we propose that the absence of action tendencies and bodily responses translates in what feels and is termed as subjective fatigue[[6]](#footnote-6). From this perspective, fatigue is a state in which nothing moves the individual to action anymore (for related ideas see Bartley and Chute, 1947; Hockey, 1997).

It is of note that there are previous accounts that have conceptualized fatigue as a “stop-emotion” that leads to goal-disengagement and would, in a subsequent step, give room to consider other goals (Lenaert, Bennett, Boddez, & van Heugten, 2021; van der Linden, 2011). In other words, the thesis of these motivational models is that fatigue serves to shift priorities from the current goal to other goals. Note that our account differs from these previous accounts: we state that fatigue does not result in goal disengagement but is the result of it.

**Further directions**

Starting from our proposal that the perceived similarity between goal stimuli is an important determinant of the impact of a setback, at least two directions for the treatment of psychological suffering are worth exploring: (1) reducing the similarity between the failed goal and the other goals, and (2) relying on (generalization from) a success experience to counter the generalization from failure.

With respect to the first direction, inspiration can be found in the fear conditioning literature. Recent studies have shown that training people to spot differences between stimuli can reduce generalization from a fear conditioned stimulus to similar stimuli. Relatedly, highlighting the differences rather than the similarities between goals (e.g., between belongingness with family and belongingness with friends) might prove to be a valuable approach. Research instruments to elicit personal goals in domains including health, relations with others, leisure, daily tasks, and personal growth (Little, 1983) exist and could be used to first survey goals and subsequently differentiate between them in research and in clinical practice.

An additional technique may be to rely on (generalization from) a success experience to counter the effects of a failure (also see Klein & Seligman, 1976). This technique is inspired by two independent research lines: resurgence of extinguished responding due to presentation of a valued outcome by itself (i.e., reinstatement of operant conditioning; Gámez & Bernal-Gamboa, 2018) as well as the idea that positive events lead to a broadening of one’s range of exploratory actions (i.e., broaden-and-build theory; for details see Fredrickson & Joiner, 2018). So, the suggestion is to tempt individuals to respond again and to subsequently emphasize the similarity between the goal that invites renewed responding and other goals in order to maximize the number of goals affect the agent. Along the same lines, a strategy to reinstate responding could be to introduce people who experienced a setback to a successful model (e.g., a vignette of somebody who went on to have a successful career and life despite having experienced the same work-related setback). In line with principles of observational learning, people might demonstrate renewed pursuance of goals that the model managed to achieve (e.g., Bandura, 1977).

Shifting the focus to restoring responding connects our approach to acceptance and commitment therapy (ACT; Hayes, 2004). As discussed above, goal-directed theories typically assume that goals are organized hierarchically with more numerous low-level goals that serve fewer high-level goals (Deci & Ryan, 2000). As such, a worthwhile approach can also consist of linking extinguished responses and (former) goals to (higher-order) goals that are still valued. For example, in the case of Zulma, engaging in teaching activities can be linked to the further and still valued goal of educating future generations instead of to recognition of colleagues or job prospects.

A future direction for fundamental research follows from our proposal that the failure to reach a certain goal can affect the pursuit of other goals due to the similarity between goal stimuli. What may seem to be generalization of responding due to similarity between goal stimuli (e.g., belongingness to family is considered as similar to belongingness to friends) may in fact also be driven by similarity between responses (e.g., acts to reach belongingness with family – say, going to a restaurant together – are similar to acts to reach belongingness with friends – say, going to a bar together) and even by the similarity in relation between response and outcome stimulus (i.e. , by analogies: outcome stimulus X relates to response X in the way that outcome stimulus Y relates to response Y, which might suffice to support generalization; De Houwer & Hughes, 2020). A possibility for future research is to set up carefully designed experiments in which the similarity between responding is controlled for, so that generalization can only be due to the similarity between goal stimuli. This could be done by controlling the similarity between responses (e.g., by using arbitrary responses that are randomly allocated to goal stimuli), so that remaining effects can only be due to similarity between the goal stimuli. Still, the difference between these forms of similarity may be jointly at play in many situations that are of clinical interest.

**Conclusion**

We conceptualized learned helplessness in operant terms as the effects of a lack of reinforcement and in goal-directed terms as the dysregulation of goal-directed behavior. We argued that a failure to achieve a certain goal stimulus cannot only affect the extent to which this specific goal will still invite action, but also the extent to which other, related goals will invite action due to perceived similarity between the unobtained goal and these other goals. This generalized lack of responding may be at play in various forms of psychological suffering including attachment-based problems, burn-out and fatigue complaints. Countering generalization of failure and reviving action are the ways to recovery from this perspective.

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1. This could be a lack of either negative or positive reinforcement. In the case of negative reinforcement, a response increases in frequency due to the omission of an aversive stimulus. For example, the dogs in the control group of the above-mentioned experiment of Seligman and Maier (1967) were negatively reinforced: If they pressed a panel with their nose, then the shock stimulus was omitted. However, the omission of an aversive stimulus is but one way to reinforce a response. In the case of positive reinforcement, a response increases in frequency because the response results in the presence of an appetitive stimulus. For example, children may increase the frequency of responses that result in attention from their parents. Please note that our conceptualization is therefore also more broad than definitions of learned helplessness that invoke “uncontrollable negative experiences” as the causal factor, as our conceptualization also covers uncontrollable positive events. [↑](#footnote-ref-1)
2. From a goal-directed perspective, failure is a discrepancy between the actual and the desired state. In at least some situations, some level of discrepancy may be tolerated though. Predictive processing theories refer to *precision* in this context: less precise estimates about the desired (expected) states will lead to less discrepancy (prediction error) with information about actual states than more precise estimates (Van de Cruys et al., 2014). [↑](#footnote-ref-2)
3. We use the term “goal stimuli”, because we see goals as a special kind of stimuli. Stimuli are entities that evoke a response (operant tradition) and / or that form the input of (further) information processing (cognitive tradition). Outcomes of actions can be conceptualized as stimuli just like events or objects can be conceptualized as such (Hommel, Müsseler, Ascherschleben & Prinz, 2001). What is typically added for goals is that they are *valued* stimuli. For these reasons, we define a goal stimulus as a stimulus that is (a representation of) a valued outcome. [↑](#footnote-ref-3)
4. We see insecure attachment, burn-out and chronic fatigue as clear examples of forms of psychological suffering that can be analyzed from the perspective of learned helplessness. We do not mean to say that our analysis cannot be applied to other forms of psychological suffering. [↑](#footnote-ref-4)
5. A question that may be worth considering is whether the category of attachment-related behavior is a category of behavior that needs its own explanatory principles (e.g., working models or secure base scripts) or whether more general principles suffice (e.g., reinforcement or goal-directed action). Perhaps it is the stimulus material rather than the explanatory principles that make attachment-related behavior special: the discriminative stimulus and / or the goal stimulus cannot just be any stimulus, but concerns the presence of the caregiver or something that is provided by the caregiver. [↑](#footnote-ref-5)
6. This perspective allows to shed light on the difference between fatigue and sleepiness. Fatigue can be understood as (former) goals no longer inviting responses, while sleepiness can be understood as the goal to go to sleep. Relatedly, it is important to appreciate that our conceptualization of fatigue might not perfectly overlap with the many ways in which the term is used in daily life – as is often the case in science (Duffy, 1941). [↑](#footnote-ref-6)