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Loss of control stimulates approach motivation ☆

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HIGHLIGHTS

- Control deprivation stimulates approach motivation.
- Low control people become energized and motivated to achieve their goals.
- This tendency is argued to be both palliative and functional in restoring control.

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ABSTRACT

The present research introduces a framework for understanding motivational reactions to control deprivation. Two experiments demonstrated that loss of control can stimulate approach motivation. Loss of control led to greater approach motivation in terms of enhanced motivation to achieve goals (Experiment 1) and greater self-reported high approach affect (Experiments 1 & 2). Experiment 2 additionally revealed that the effect of control deprivation on approach motivation was eliminated when participants misattributed their arousal to an external source. Overall, the findings demonstrate that loss of control can stimulate approach motivation as part of an adaptive motivational system aimed at coping with perceived lack of control.

Introduction

Control is the actual or perceived ability to alter events and achieve desired outcomes (Burger, 1989; Skinner, 1996). Given its definition, it is little wonder that feeling in control is a positive psychological experience with a range of personal benefits. As a result, individuals generally strive to feel in control (Burger, 1989; Rothbaum, Weisz, & Snyder, 1982; Skinner, 1996; Warburton, Williams, & Cairns, 2006) and fight forcefully against efforts to deprive them of control (Pittman & Pittman, 1980; Wortman & Brehm, 1975). Labeled a "fundamental human motivation" (Skinner, 1996), the desire for control is so strong that people sometimes perceive control over objectively uncontrollable events (Langer, 1975; Wortman, 1975). This desire means people are profoundly affected by loss of control, although research suggests that the effects may differ in their motivational impact in the short term compared to the long term.

In a seminal demonstration of the long-term effects of control deprivation, Seligman and Maier (1967) exposed dogs to a series of inescapable electric shocks. The dogs later experienced electric shocks that could be escaped by jumping over a low partition. Dogs that first were trained on uncontrollable shocks eventually stopped trying to avoid the pain, and later did not take available opportunities for escape. While those deprived of control became helpless, passive, and withdrawn, dogs that were exposed to the same aversive shocks over which they had control did not display the same evidence of learned helplessness.

This observation by Seligman and Maier (1967) fundamentally shaped the literature on control deprivation and formed the basis of a contemporary understanding of human depression (Alloy, Peterson, Abramson, & Seligman, 1984; Brown & Siegel, 1988). It is now generally accepted that long-term experiences of control deprivation ultimately sap individuals' energy, desire, and will to act. Yet, other research suggests that short-term reactions to control deprivation are quite different from the listless, helpless profile seen over the longer term in learned helplessness paradigms.

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The human aversion to control deprivation has spawned a large literature that documents reactions to perceived loss of control. For example, when deprived of personal control, people become attached to social ingroups (Agroskin & Jonas, 2013; Fritsche, Jonas, & Fankhanel, 2008; Fritsche et al., 2013); turn to secular and spiritual authorities (Kay, Gaucher, Napier, Callan, & Laurin, 2008; Kay, Shepherd, Blatz, Chua, & Galinsky, 2010; Kay, Whitson, Gaucher, & Galinsky, 2009; Knight, Tobin, & Hornsey, 2014; Shepherd, Kay, Landau, & Keefer, 2011); express prejudice (Greenaway, Louis, Hornsey, & Jones, 2014); emphasize scientific progress (Rutjens, van der Pligt, & van Harreveld, 2010; Rutjens, van Harreveld, van der Pligt, Kreemers, & Noordewier, 2013); endorse paranormal abilities (Greenaway, Louis, & Hornsey, 2013); engage in ritual behavior (Norton & Gino, 2013); and strive to perceive patterns in random noise (Whitson & Galinsky, 2008). In all, the literature shows that people find it aversive to be deprived of control and perform a range of psychological gymnastics to regain the perception that control is possible.

This vantage point suggests that loss of control can be mobilizing in the short-term. Indeed, researchers have theorized that loss of control leads to exhaustion and listlessness in the long term expressly because of a boost in motivation and effort in the short term (e.g., Sedek, Kofta, & Tyszka, 1993). For example, people exposed to uncontrollable aversive tones spend more time – not less – on challenging cognitive tasks like solving anagrams (Hiroto & Seligman, 1975). Control deprivation also changes people's cognitive style, causing them to process information in a more effortful and deliberate manner (Zhou, He, Lao, & Baumeister, 2012), which can improve performance on cognitive tasks (Pittman & D'Agostino, 1989). These initial boosts in activity appear to be short-lived: While brief experiences of no control facilitate ability and persistence on challenging puzzles, repeated control deprivation elicits learned helplessness (Roth & Kubal, 1975).

To understand these effects as related phenomena that are linked by an underlying motivational force we turn to work in the threat compensation literature. Recent attempts to unify numerous examples of threat compensation argue that violations of expectation can stimulate aversive arousal that people respond to by engaging in compensatory behaviors (Jonas et al., 2014). These compensatory behaviors are generally considered to be efforts to regulate the experience of arousal (e.g., Heine, Proulx, & Vohs, 2006; Proulx & Inzlicht, 2012; Proulx, Inzlicht, & Harmon-Jones, 2012). Research suggests that approach motivated states are activated in order to mute the aversive arousal stimulated by experiencing threat (McGregor, Nash, Mann, & Phills, 2010; McGregor, Nash, & Prentice, 2010). Building on this theorizing, we hypothesized that control deprivation might stimulate approach motivation as individuals attempt to cope with loss of control and perhaps act to regain control.

Approach motivation

Two basic forces are thought to guide human behavior: The behavioral activation system (BAS), which regulates approach tendencies and behavior, and the behavioral inhibition system (BIS), which regulates conflicts between desires to approach and avoid (Corr, DeYoung, & McNaughton, 2013; Gray, 1982, 1990). The BAS is activated by the prospect of attaining a desired object or state and in turn stimulates approach behavior and associated feelings of desire, eagerness, and excitement. Approach motivation has therefore broadly been defined as energization by and physical or psychological direction toward an incentive or reward (Elliot, 2008; Elliot & Covington, 2001). The approach system activates an "impulse to move toward" goal-relevant stimuli regardless of the valence of the stimulus or target of behavior (Harmon-Jones, Harmon-Jones, & Price, 2013). Approach motivation can therefore be stimulated by negative stimuli as well as positive stimuli.

Some researchers have distinguished between high and low approach states, which are activated prior to goal completion and following goal completion, respectively (e.g., Gable & Harmon-Jones, 2008, 2011). *High approach* characterizes feelings of energy and excitement observed when people are in pursuit of a goal or reward. When goal pursuit is thwarted, high approach tendencies are activated and intensified as the individual attempts to accomplish the goal (Harmon-Jones et al., 2013). In contrast, *low approach* characterizes feelings of satiation and contentment observed after a goal has been achieved. Control is the perception that if people pursue a goal, their effort will be met with success. Control deprivation therefore represents a decoupling of effort from reward, such that even if individuals were to try to achieve a goal they would not succeed. If one is deprived of control, people may be motivated in the short term to redouble their efforts and put more energy into goal pursuit. We therefore propose that loss of control will stimulate feelings of high approach as individuals increase efforts toward achieving their goals to combat the frustration of control deprivation.

Overview

The issue of motivation has long been in the theoretical background of research on control deprivation. Original work on this topic showed evidence that loss of control can lead to amotivation and even avoidance behavior. More recent work has shown that loss of control can boost motivation in the short term, leading to increased effort and active compensation attempts. In the present research we propose that this motivational lift may be underpinned by the initial stimulation of approach motivation following control deprivation. This perspective is consistent with recent theorizing on threat compensation (e.g., Jonas et al., 2014), although no direct evidence yet exists to demonstrate that loss of control indeed evokes an approach motivational state.

The present research presents experiments demonstrating that loss of control stimulates approach motivation. Experiment 1 assessed approach using self-report measures of high approach affect and motivation to achieve goals. In addition, in Experiment 2 we assessed a potential mechanism of the control–approach effect. Work in the broader threat defense literature has shown that expectancy violations (like, for example, loss of control) create arousal that can evoke compensatory reactions (e.g., Jonas et al., 2014; McGregor, Nash, Mann, et al., 2010; McGregor, Nash, & Prentice, 2010). In line with this view, we assessed whether arousal acted as a mechanism for the control–approach effect by manipulating this variable using a classic misattribution of arousal paradigm. We hypothesized that control deprivation would stimulate high approach affect and enhanced goal pursuit in Experiment 1, but that the effect of control deprivation on high approach affect would be eliminated when participants misattributed their arousal to a pill in Experiment 2.

Experiment 1

In Experiment 1 we measured approach through self-reported motivation to achieve goals. Motivation to achieve goals is a key hallmark of approach motivation (Carver & White, 1994), and we therefore hypothesized that participants in the low control condition would report greater goal pursuit motivations than participants in the high control condition. Insofar as individuals are pursuing goals (i.e., are prior to goal attainment), we expected that they would show greater evidence of high approach feelings – which are observed before a goal is completed – compared to low approach feelings, which are observed after a goal is completed (e.g., Gable & Harmon-Jones, 2008). Accordingly, we hypothesized that participants in the low control condition would report greater high approach feelings than participants in the high control condition, but not greater low approach feelings. Given that high approach feelings represent affect that is experienced prior to goal achievement, we hypothesized that these feelings might be channeled

into approach motivated goal pursuit. We therefore hypothesized that high approach affect would mediate the effect of control deprivation on self-reported motivation to achieve goals.

Method

Participants and design

One hundred and four female[1] psychology students ($M_{age} = 20.64$, $SD = 5.24$) participated in exchange for partial course credit. Participants were predominantly Caucasian (72%) and Asian (20%). The experiment employed a between-subjects design in which control (low vs. high) was manipulated. High approach feelings, low approach feelings, and self-reported goal pursuit were the dependent variables.

Materials and measures

Control manipulation. Control was manipulated via a computer-based auditory task (adapted from Warburton et al., 2006). Participants listened to sounds through headphones at an unpleasant but bearable volume. Participants in the *low control* condition heard sounds at random intervals over which they had no control. Participants in the *high control* condition had control over the sounds and administered the sounds by pressing the space bar on the keypad. The total number of sounds was the same in the high and low control conditions. Pilot testing ($N = 52$) confirmed that participants in the low control condition perceived that they had less control over the sounds than participants in the high control condition $F(1,51) = 24.11$, $p < .001$, $\eta_p^2 = .321$, although they did not find the sounds more uncomfortable, $F(1,51) = 2.05$, $p = .159$, or more unpleasant, $F(1,51) = 2.17$, $p = .147$. There was a brief delay of a few minutes prior to completing the approach measures as the experimenter navigated to the online questionnaire.

Approach feelings. Participants reported on feelings of *high approach* and *low approach* by responding to the stem "Right now I feel:" with ratings of four high approach states (energized, powerful, capable, competitive) and two low approach states (relaxed and cooperative). The *high approach* scale, comprising the items energized, powerful, capable, and competitive, had a satisfactory reliability level ($\alpha = .78$). The *low approach* state items, relaxed and cooperative, were correlated, $r = .22$, $p = .021$, so we combined them to form a single scale.

Goal motivation. Motivation to pursue goals was measured by agreement with three items ("I put a lot of effort toward achieving my goals in life"; "I am committed to achieving my goals in life"; "I am willing to work toward achieving my goals in life"). We combined the three items into an index of goal pursuit motivation ($\alpha = .85$). All items in the study were scored on a 9 cm visual analogue scale ranging from 0 (*Strongly Disagree*) to 9 (*Strongly Agree*). Independent coders who scored the dependent measures were blind to condition and hypotheses.

Results

Approach feelings

As predicted, there was a significant effect of the control manipulation on high approach, $F(1,102) = 4.16$, $p = .044$, $\eta_p^2 = .039$. Participants in the low control condition reported more high approach feelings ($M = 5.17$, $SD = 1.64$) than participants in the high control condition ($M = 4.52$, $SD = 1.56$). Also as expected, there were no effects of the control manipulation on low approach motivation, $F(1,102) = 1.08$, $p = .302$.

Goal motivation

Consistent with predictions, there was a marginal effect of the control manipulation on self-reported motivation to pursue goals, $F(1,102) = 3.78$, $p = .055$, $\eta_p^2 = .036$. Participants in the low control condition reported being more motivated to pursue their goals ($M = 6.81$, $SD = 1.31$) than participants in the high control condition ($M = 6.32$, $SD = 1.30$).

Indirect effect

We tested whether the control manipulation had an indirect effect on goal motivation via feelings of approach. In the second step of a hierarchical regression, high and low approach feelings significantly predicted goal motivation, $R^2_{\Delta} = .15$, $F_{\Delta}(2,100) = 8.82$, $p < .001$, although only high approach was a significant unique predictor, $\beta = .38$, $p < .001$ ($\beta_{\text{low approach}} = .02$, $p = .871$). The marginal effect of the control manipulation on goal motivation became non-significant with approach feelings entered in the model, $\beta = -.11$, $p = .230$.

Bootstrapping analyses with 10,000 resamples were conducted to test the indirect effects (Hayes, 2013). As hypothesized, there was a significant indirect effect of loss of control via high approach feelings ($IE = -0.20$, $SE = 0.12$, bias-corrected 95% *CI*: −0.493 to −0.014). The indirect effect via low approach feelings was non-significant ($IE = -0.03$, $SE = 0.05$, bias-corrected 95% *CI*: −0.195 to 0.019).

Discussion

Experiment 1 provided support for our hypothesis that control deprivation heightens approach, with participants who experienced a loss of control reporting more high approach feelings than participants who did not experience a loss of control. Low control participants did not show a greater degree of low approach feelings, however. This finding suggests that immediately upon experiencing a loss of control, people experience an affective state that orients them toward goal pursuit. That is, people appear to become approach motivated in a targeted way that focuses them on attaining important goals. Consistent with this interpretation, low control participants reported greater motivation to pursue their goals, and this effect was mediated by feelings of heightened approach emotions.

Experiment 2

From Experiment 1 it appears that loss of control creates an approach motivated state that is channeled into the pursuit of important goals. In Experiment 2 we investigated a potential mechanism of this effect. Work in the threat defense literature has implicated feelings of arousal as a core mechanism through which approach is stimulated after experiencing a threat (Jonas et al., 2014; McGregor, Nash, Mann, et al., 2010; McGregor, Nash, & Prentice, 2010). One way to test this mechanism is to introduce conditions that would interrupt or diffuse feelings of arousal (Spencer, Zanna, & Fong, 2005). If arousal is a process by which control deprivation stimulates approach tendencies, approach should be eliminated when participants are given the opportunity to misattribute this arousal to another source. Consistent with this theorizing, other work has shown that misattribution of arousal eliminates compensation effects when people experience a loss of control or another form of goal frustration (Kay, Moscovitch, & Laurin, 2010; Nash, McGregor, & Prentice, 2011).

Experiment 2 used a classic misattribution paradigm (Zanna & Cooper, 1974) to test whether arousal was a key driver of the effects of control deprivation on approach motivation.[2] Approach was

[1] This experiment was part of a project that also manipulated incentive for completing a physical task. We tested females to standardize strength across participants. There were no significant main or interactive effects of the incentive manipulation on the dependent variables (*ps* > .318).

[2] We would like to thank an anonymous reviewer for suggesting this design.

measured using self-reported high approach feelings as in Experiment 1. We hypothesized that participants in the low control condition would report greater approach feelings than participants in the high control condition only when they did not misattribute their arousal to an external source. In contrast, we hypothesized that providing participants with a reason for their arousal (ingesting a pill) would eliminate the effect of control deprivation on approach feelings.

Method

Participants

One hundred and twenty undergraduates participated in exchange for partial course credit. Nine participants expressed suspicion that the pill was a placebo and were excluded from analyses. One participant failed to complete the approach measure and was excluded using listwise deletion. This resulted in a final sample size of 110 (59 females; $M_{age} = 19.53$, $SD = 2.57$, age range 17 to 31).

Design

The experiment used a 2 × 2 factorial design in which control (low vs. high) and attribution of arousal (misattribution vs. control) were manipulated. High approach was the dependent variable.

Materials and measures

Misattribution manipulation. The study was described as investigating the effects of crystalline carbohydrate on attention. All participants ingested three placebo tablets. Half of the participants were told that the tablets would have no effect (control condition). The other half were told that the tablets would increase physiological arousal, including rapid breathing and increased heart rate (misattribution condition). While the substance "metabolized", participants completed the control manipulation as part of an ostensibly unrelated task.

Control manipulation. Control was manipulated in the same way as in Experiment 1 in which people listened to a series of sounds over which they had control (high control condition) or no control (low control condition). As in Experiment 1 there was a brief delay prior to completing the approach measures.

Approach feelings. High approach feelings were measured as in Experiment 1; participants reported the extent to which they felt energized, powerful, capable, and competitive ($\alpha = .75$) on a scale ranging from 1, *not at all* to 7, *very much*.

Results

As predicted, there was an interaction between the misattribution and control manipulations on high approach feelings, $F(1,106) = 4.08$, $p = .046$, $\eta_p^2 = .037$. Follow-up analyses revealed that the simple effect of control was significant and in the expected direction among participants who did not misattribute their arousal, $F(1,106) = 6.84$, $p = .010$, $\eta_p^2 = .061$. In that condition, low control participants reported feeling greater approach ($M = 4.27$, $SD = 0.86$) than high control participants ($M = 3.43$, $SD = 1.26$). As predicted, the control effect was eliminated when participants misattributed their arousal to a pill, $F(1,106) = 0.02$, $p = .879$; see Fig. 1.

The significant interaction qualified a marginal main effect of the control manipulation, $F(1,106) = 3.29$, $p = .073$, $\eta_p^2 = .030$: Participants in the low control condition reported greater approach feelings ($M = 4.07$, $SD = 1.04$) than participants in the high control condition ($M = 3.71$, $SD = 1.27$). There was no main effect of the arousal manipulation on approach feelings, $F(1,106) = 0.08$, $p = .775$.

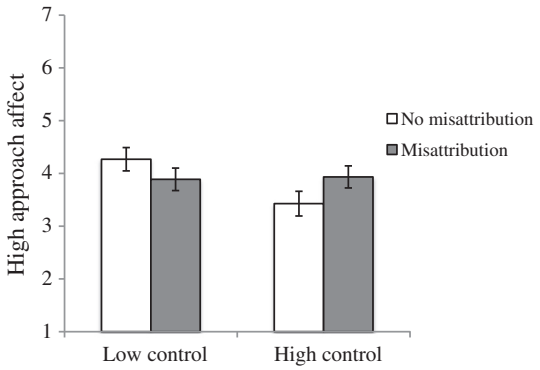

Fig. 1. The effect of control and misattribution of arousal on high approach affect. Error bars represent 1 standard error.

Discussion

Experiment 2 tested arousal as a mechanism of the effect of control deprivation in stimulating approach motivation. We replicated the finding in Experiment 1 that loss of control promotes high approach affect experienced while in pursuit of a goal. We also found that the effect of control deprivation in stimulating these approach feelings was eliminated when participants misattributed their arousal to an external source.

The findings implicate arousal as a driver of the effect of control deprivation on approach. They suggest that loss of control heightens feelings of arousal that stimulate approach tendencies. When this arousal is "explained away" as attributable to an external source, the link between control deprivation and approach is broken. This mechanism provides evidence that loss of control initially arouses individuals, creating a state of goal-directed approach.

General discussion

Two experiments provided support for the hypothesis that control deprivation can stimulate approach motivation. In Experiment 1, low control participants reported greater high approach affect and motivation to achieve their goals. Experiment 2 provided evidence that approach was stimulated in part by an increase in arousal engendered by loss of control. The results of a misattribution design showed that the effect of control deprivation in eliciting high approach affect disappeared when participants were encouraged to attribute their arousal to a source other than the control manipulation. The findings support our hypothesis that control deprivation acts as an immediate call to approach and action.

There are of course other ways to measure approach motivation that capture more implicit motivational responses. Here, the use of behavioral and perceptual measures would provide a useful complement to explicit measures (Baumeister, Vohs, & Funder, 2007). We made initial attempts to test for an increase in approach motivation using a perceptual measure in the form of a line bisection task (e.g., Nash, McGregor, & Inzlicht, 2010) and a behavioral measure in the form of aggression (Warburton et al., 2006). While we obtained some support for the effect of control deprivation on these measures, the effects did not replicate consistently.[3] This may reflect the fact that the effect of control deprivation on approach is specific to certain measures. Indeed, other research that has found manipulations that increase approach on cognitive measures (e.g., associative thought) do not always increase approach on perceptual measures (e.g., line bisection tasks; Gasper & Middlewood, 2014). Future research that continues to investigate the effects of loss of control on indirect indicators of approach will help to elucidate this point.

[3] Details are available from the authors on request.

Another methodological drawback was the lack of a "baseline" condition against which to compare the low and high control conditions. This is a limitation that makes it difficult to determine whether low control increases, or high control decreases, approach relative to baseline. This limitation is shared by several studies on control deprivation (e.g., Greenaway et al., 2013, 2014; Kay et al., 2008; Rutjens et al., 2010) and no consensus yet exists in the literature on what best constitutes an effective baseline. Future work should attempt to include baseline conditions in order to make this standard practice in the control literature.

This research helps to clarify a seeming discrepancy in the control literature. Early work on this topic emphasized the depleting and demotivating effects of control deprivation (Alloy et al., 1984; Brown & Siegel, 1988; Seligman & Maier, 1967). Yet, other research has demonstrated evidence of the opposite motivational profile, that individuals exert greater effort, energy, and compensatory action in response to control deprivation (Agroskin & Jonas, 2013; Fritsche et al., 2013, 2008; Greenaway et al., 2013, 2014; Hiroto & Seligman, 1975; Kay, Moscovitch and Laurin, 2010; Kay, Shepherd, Blatz, Chua and Galinsky, 2010; Kay et al., 2008 Rutjens et al., 2010, 2013; Sedek et al., 1993; Whitson & Galinsky, 2008). The present research indicates that individuals show evidence of initial approach motivation immediately following loss of control. This work therefore provides a motivational lens through which to view a range of compensatory control efforts observed across the literature.

Why approach?

Some readers may ask why approach-related processes are activated under conditions of low control. On the surface it may seem likely that people would become motivated to avoid the unpleasant experience of control deprivation. A recent theoretical analysis of threat models suggests that avoidance processes might work hand-in-hand with approach motivation to help people cope with threatening experiences like loss of control. In a recent comprehensive review, Jonas et al. (2014) outlined a model that accounts for defensive processes described in frameworks that span the threat literature, from terror management theory (Greenberg, Solomon, & Pyszczynski, 1997) to the meaning maintenance model (Heine et al., 2006), and reactive approach motivation (McGregor, Nash, Mann et al., 2010; McGregor, Nash, & Prentice, 2010). The authors argue that threat provokes anxiety, arousal, and avoidance—feelings that are produced by activation of the behavioral inhibition system (BIS). This state of anxious vigilance is thought to give way to approach motivation, which is produced by activation of the behavioral activation system (BAS). As Jonas et al. (2014) note, this switch from anxious inhibition to approach may happen quite quickly. A concrete test of this hypothesized temporal sequence could involve measuring approach and avoidance while the control manipulation is ongoing (e.g., while participants are listening to uncontrollable sounds) and at several time points after its completion to determine when exactly the switch to approach-related processes occurs.

Putting the issue of approach vs. avoidance aside, the fact that we found evidence of increased approach is consistent with previous research on threat compensation effects and our own theorizing about a potential function of this effect. Some research has argued that approach tendencies are purely palliative, in that approach serves no more specific purpose than to make people feel better after experiencing a threat (e.g., McGregor, Nash, Mann et al., 2010; McGregor, Nash, & Prentice, 2010). We believe that this is a strong possibility, and the results of Experiment 2 support this interpretation. In that experiment, misattribution of arousal was found to eliminate the effect of control deprivation on approach cognitions and behavior. This finding is consistent with the mechanism hypothesized in the threat compensation literature whereby compensatory behaviors are thought to be palliative attempts to regulate aversive arousal (e.g., Proulx & Inzlicht, 2012; Proulx et al., 2012).

However, this finding is also open to an additional interpretation, one that points to the functionality of the human motivational system. If loss of control is the perceived inability to succeed in goal pursuit, it makes sense to attempt initially to rectify this perception by redoubling one's effort to achieve a goal. Such an interpretation is consistent with our findings that control deprivation stimulated feelings of high approach, which promote goal pursuit. We submit that under some circumstances approach motivation following loss of control may be functional in helping people to achieve an important and salient goal—to restore perceived control (e.g., Smith, McCulloch, & Schouwstra, 2013). Our emphasis on function in complement to palliation fits with theorizing that loss of control results in determined efforts to regain control (e.g., Pittman & Pittman, 1980; Wortman & Brehm, 1975). It also complements theorizing by Jonas et al. (2014) that anxiety aroused by threat can be dampened either through palliation *or* through direct attempts to resolve the threat (e.g., by acting in a way that restores perceived control).

Related findings and theories

Our results are at the intersection of two complementary literatures on control and power. Typically, power and control are studied as complementary constructs. Indeed, control is considered to be the psychological driver behind many power effects (Fast, Gruenfeld, Sivanathan, & Galinsky, 2009). One might therefore imagine that power and control would have similar effects on approach. However, research demonstrates that approach motivation is stimulated by experiences of *high power* (Galinsky, Gruenfeld, & Magee, 2003; Keltner, Gruenfeld, & Anderson, 2003), compared to the experiences of *low control* observed in the present research.

Our perspective on this apparent discrepancy is informed by work by Lammers, Galinsky, Gordijn, and Otten (2008) who demonstrated a boundary condition to the power–approach effect. These authors found that high power stimulated approach only when it was legitimate (i.e., deserved and expected). However, when power was manipulated to be illegitimate, low power participants demonstrated the greatest approach motivation. We would argue that loss of control is often unexpected in everyday life. In general, people desire control (Burger & Cooper, 1979; Langer, 1975; Lerner, 1970), which causes them to react against loss of control with purpose and drive.

Another explanation for this discrepant finding could be that power is by nature a relational construct, whereas control refers more specifically to the ability to attain desired outcomes for the self. When one lacks power, it is still the case that "things are under control", insofar as there is another person in charge. Such a perspective is consistent with emerging research demonstrating that loss of control causes people to crave social hierarchy, even if they are at the bottom of that hierarchy (Friesen, Kay, Eibach, & Galinsky, 2014). The knowledge that someone else is in control may circumvent the motivational system that responds with such fervor when control is deprived in a purely personal context.

There is a literature showing the de-motivating effects of control deprivation (e.g., Lefcourt, 1976, 1980; Seligman, 1975; Seligman & Maier, 1967). We do not see our findings as inconsistent with that work, nor do we argue that people in low control situations will persist indefinitely in a chronic state of approach. Rather, control deprivation appears to activate the approach motivation system to help people cope with loss of control in the short term. It seems likely that if people are repeatedly denied opportunities to regain control, or fail consistently to do so, the initial motivational boost will fade, leaving people withdrawn and passive (e.g., Sedek et al., 1993; Wortman & Brehm, 1975).

Our findings show that after experiencing a loss of control, individuals can become initially energized and "pumped up" to approach opportunities or objects that will aid in control restoration. This explanation fits with demonstrations of enhanced concentration, persistence, and effort after control deprivation, evidence of active attempts to

compensate for loss of control, and theorizing on the existence of primary and secondary control strategies (Rothbaum et al., 1982). Underpinning this diverse suite of control restoration strategies, we propose that approach motivation orients people toward goal-relevant stimuli as a way to counteract perceived loss of control. Only after these efforts fail, or are thwarted, or control deprivation continues uninterrupted do individuals begin to show evidence of learned helplessness (Roth & Kubal, 1975; Sedek et al., 1993; Wortman & Brehm, 1975).

Conclusions

Being in control confers a wealth of benefits to the individual and society. People who feel in control live happier, healthier, wealthier lives as compared to people who do not feel in control (e.g., Ajzen & Madden, 1985; Burger, 1986; Rodin & Langer, 1977). The current work offers a bridge that allows for a better understanding of the dynamics of goal pursuit: It seems that when people initially experience a loss of control, their reaction is to compensate by reasserting effort, energy, and the motivation to reach their goals. Two experiments demonstrated evidence for this approach-based mobilization pattern. Yet, as the now-classic work on learned helplessness shows, control deprivation that is unyielding pushes people to relinquish the drive to attain their goals and instead save their energies. The pattern thus suggests a highly functional picture of human motivation.

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