Social Psychological and Personality Science

Published by:

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Society for Personality and Social Psychology

Association for Research in Personality

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Version of Record - Aug 14, 2012

>> OnlineFirst Version of Record - Dec 1, 2011

What is This?

Splitting of the Mind: When the *You* I Talk to is Me and Needs Commands

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Abstract

Self-talk has fascinated scholars for decades but has received little systematic research attention. Three studies examined the conditions under which people talk to themselves as if they are another person, indicating a splitting or fragmentation of the self. Fragmented self-talk, defined by the use of the second person, *You*, and the imperative, was specifically expected to arise in contexts requiring explicit self-control. Results showed that fragmented self-talk was most prevalent in response to situations requiring direct behavior regulation, such as negative events (Study 1), experiences of autonomy (Study 2), and action as opposed to behavior preparation or behavior evaluation (Study 3). Therefore, people refer to themselves as *You* and command themselves as if they are another person in situations requiring conscious self-guidance. The implications of these findings for behavior change are discussed.

Keywords

self, language, self-regulation, control, self/identity

Everyday life is filled with a constant stream of self-talk, which we define as inner speech that is self-directed and/or self-referential (Brinthaupt, Hein, & Kramer, 2009). Ninety-six percent of adults report engaging in an ongoing internal dialogue (Winsler, Feder, Way, & Manfra, 2006), and self-talk is reported in over 25% of sampled moments (Heavey & Hurlburt, 2008). Despite its ubiquity, self-talk has received little systematic research attention (see Hardy, 2006), which leaves basic questions about its characteristics and functions unanswered (Fields, 2002; Vicente & Manrique, 2011). What situations elicit self-talk? When do we talk to ourselves in the second person or attempt to self-command as we would do while commanding another person? These questions are of interest to social psychologists (Hart & Albarracín, 2009), cognitive scholars (Oppenheim & Dell, 2010), developmental researchers (Fernyhough & Fradley, 2005), and neuroscientists (Longe et al., 2010) concerned with the causes and consequences of self-directed language.

Theorists have long assumed that behavior regulation is achieved in part through the use of self-talk (e.g., Freud, 1927; Meichenbaum, 1977), yet evidence for these assertions has been elusive. The present research argues that *fragmented self-talk*, that is, self-talk in the form of second person statements (*you can do it*) and use of the imperative (*act nice*) should arise in situations requiring behavior regulation. An argument for this assumption is that, developmentally, the conscious control of human behavior is executed by somebody other than the actor, such as a caretaker or teacher. Therefore, initial commands associated with behavior control should have been committed to memory in the second person (Vygotsky,

1934/1987), suggesting that future verbal executions may proceed in a similar fashion. What was fragmented because the commander and the actor were physically independent may engender self-fragmentation within an actor using the same communicative schema to self-command.

If fragmented self-talk occurs in situations that require self-control, several conditions may predict the frequency of use of the second person and the imperative. In particular, we argue that fragmented self-talk may ensue in response to negative events, when people feel autonomous, and when they are currently attempting to execute a behavior. Relative to positive events, negative events have been shown to correlate with increased attention, memory, mental simulation, and causal analysis, and by definition require heightened self-control to either resolve the negative event or prevent its worsening (see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzmen, 2001). Another potential trigger of fragmented self-talk may be circumstances in which people feel autonomous (see Ryan & Deci, 2006) and therefore must exercise self-control as opposed to situations in which their behavior is

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externally constrained. Finally, the need for self-control may be increased during action relative to preparation/planning and post-behavior evaluation. Such increases in the need for self-control may result in greater prevalence of fragmented self-talk manifested in the use of the second person and the imperative.

Given that self-talk influences emotion (Wood, Perunovic, & Lee, 2009), athletic performance (Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011), intellectual performance (Senay, Albarracín, & Noguchi, 2010), and self-regulation (Tullett & Inzlicht, 2010), it is critical to uncover factors that elicit internal speech in the first place. However, few studies have examined whether and when contextual factors, such as the need for control, influence the content of self-talk. We argue that the self-system copes with situational demands for control by subdividing itself into two roles: a commander and a doer. Indeed, as self-regulatory skills develop, children learn to command themselves using self-talk much in the same way parents and caregivers used social speech to externally command them (see Winsler, 2009). Therefore, people should actively fragment the self into two entities when executive control is required, and this fragmentation should be reflected by imperative commands and the use of *You* in self-talk.

Three studies examined the conditions under which people refer to themselves as *You* and command themselves as if they are talking to another person. This *splitting of the mind* was expected to emerge in the presence of negative events, autonomous decisions, and action. In Study 1, participants imagined experiencing a positive event (e.g., winning a photography contest) or a negative event (e.g., being insulted by a crowd of people). In Study 2, participants imagined being autonomous (e.g., deciding whether or not to get out of bed) or externally constrained (e.g., remaining silent by order of one's parents). In Study 3, participants imagined situations involving action (e.g., mingling with people at a party), behavior preparation (e.g., considering whether or not to go to a party), or behavior evaluation (e.g., reflecting on one's experience at a party).[1] Events were imagined in the current research so that we could test how self-talk varied as a function of numerous scenarios without the need for large samples and multiple laboratory sessions. Additionally, we utilized third-person scenarios, where participants imagined the experiences of another person as if they were the actor. This decision was made to avoid explicitly using first-person scenarios that would necessarily prime participants with *I* or *You* self-references. After reading the scenarios, participants wrote down what the actors would say to themselves as the events occurred, based on their own experiences with similar situations. Participants' self-talk was coded for self-fragmentation in terms of use of the second pronominal person and the imperative grammatical category. We hypothesized that negative events, personal control, and action would increase fragmented self-talk.

Study 1: Fragmented Self-Talk Following Negative Events

The purpose of Study 1 was to test whether negative events promote fragmented self-talk. Participants read through a series of

Table 1. Summary of Scenarios in Study 1

Valence	Summary
Negative	Christine attends a party where she is ignored and socially isolated. She feels awkward
Negative	Steve does not study for his ethics class for an entire week. During class, the professor puts him on the spot and asks him a very difficult question
Negative	Leah studies hard with the hopes of representing her school during an academic quiz competition, but she narrowly misses the cut
Negative	Isaac goes to a karaoke bar despite being a terrible singer. While he is singing, the crowd boos and insults him
Positive	Mark organizes a roll-a-thon for charity. Fortunately, the weather is excellent and the event is a big success
Positive	Brad switches schools and joins a new soccer team. He is treated very warmly by his new teammates and is invited to a party
Positive	Sahid gives a talk about applying to college to a group of under-privileged kids. The speech is very well received
Positive	Rachel enters a city-wide photography contest. She finds her picture is displayed with the first-place ribbon

scenarios describing situations that were either positive or negative and were then asked to imagine and write down what the person experiencing the event was privately saying to himself or herself as the event unfolded.

Method

Participants and Procedure

Forty-eight psychology students (35 female) participated in the study in exchange for course credit. Participants completed a questionnaire titled "self-talk scenarios." At the outset of the questionnaire, participants were given the following introduction: "In many situations and to varying degrees, people engage in a form of internal dialogue. Rather than just vague, unidentified thoughts, people actually respond to events or stimuli with short comments or sometimes even engage in full fledge conversations with themselves. This study is interested in the content of that inner speech or self-talk." The following pages contained a set of hypothetical scenarios representing common daily life situations experienced by a few different characters. Participants were asked to read the scenarios carefully and—based on their own personal knowledge of similar situations—imagine what the character might say to himself or herself as the situation unfolded. Space was provided for participants to write the imagined statements as they emerged, just as they would have appeared in the person's internal dialogue. Participants were asked to record these statements verbatim, as if they had a tape recorder inside their heads.

Participants then read eight hypothetical scenarios, four about positive situations and four about negative situations (see Table 1). The eight scenarios were presented in a random order. In a pilot study, students rated the positivity of the scenarios on 1 (*very negative*) to 7 (*very positive*) scales. As anticipated, positive events ($\alpha = .68$, $M = 6.53$, $SD = 0.48$) were perceived

as substantially more positive than negative events ($\alpha = .70$, $M = 3.06$, $SD = 0.72$), $t(31) = 21.49$, $p < .001$. After reading each of these scenarios, participants were asked to imagine what was going through the person's mind at the time of the event and to record this self-talk on several lines. Participants were told that they could use all or none of these lines depending on how much self-talk they would generate in each situation. They were also told that informal speech (single words, fragments, swear words, etc.) is common during internal dialogue, and therefore acceptable to use in the provided spaces.

Coding

An undergraduate research assistant divided participant's self-talk into self-statements that reflected a single expression (see Cloonan, 1971). Participant's self-talk generated in response to the scenarios was then coded along several dimensions. First, each self-statement was coded for type of *pronominal person*. Statements that included self-references in the form of *You* were coded as second person (e.g., *C'mon, you got this*), whereas self-references in the form of *I* or *Me* were coded as first person (e.g., *I need to do something impressive*). Additionally, self-talk *type* was coded based upon whether statements were in the imperative (command/request), interrogative (question), declarative (declaration), or exclamatory (powerful emotion) form. Finally, the *valence* of each statement was coded as positive or negative. That is, statements were coded based on whether they conveyed expressions of positive emotions (e.g., *This is awesome*) or negative emotions (e.g., *I'm so disappointed*). In preparation for data analysis, we first counted the total number of statements generated in response to positive and negative events and then obtained proportions of pronominal person, type, and valence over the total number of thoughts for that class of events. This allowed us to ensure that any differences in self-talk could not simply be attributed to a greater amount of self-talk generated in response to positive or negative events.

Coder Reliability

A trained undergraduate research assistant who was unaware of the scenario content or research hypotheses coded each variable. An expert coder also coded 20% of the data set along the same categories. Interrater agreement was strong across all variables (ks > .73). For this reason, only the coding provided by the undergraduate research assistant was analyzed in the results that follow.

Results and Discussion

Self-Fragmentation

We first examined whether a negative scenario valence produced more frequent use of the second person and the imperative than positive valence. As anticipated, the proportion of statements that explicitly referenced the self as *You* was significantly greater in response to negative scenarios ($M_{proportion} = .04$,

$SD = 0.09$) than positive scenarios ($M_{proportion} = .01$, $SD = 0.09$), $t(47) = 3.98$, $p < .001$. Also consistent with predictions, the proportion of statements in the imperative form was significantly greater in response to negative scenarios ($M_{proportion} = .07$, $SD = 0.09$) than positive scenarios ($M_{proportion} = .01$, $SD = 0.04$), $t(47) = 5.19$, $p < .001$. Finally, proportions indexing the use of *You* and the imperative were significantly correlated in response to negative scenarios ($r = .28$, $p = .05$) but not positive scenarios ($r = -.05$, $p = .72$). This finding suggests that use of the second person and the imperative co-occur in response to negative events but remain independent in response to positive events.

Valence

Not surprisingly, self-talk that referred to positive emotions was more frequent in response to positive scenarios ($M_{proportion} = .97$, $SD = .08$) than negative scenarios ($M_{proportion} = .17$, $SD = 0.19$), $t(47) = 27.65$, $p < .001$. This influence of scenario type on the valence of the self-talk suggests a successful manipulation of event valence.[2]

Study 2: Effects of Autonomy on Fragmented Self-Talk

Our second study examined whether self-talk varies as a function of whether people are making internally guided, autonomous decisions or decisions that are externally constrained by others. We anticipated that internally guided choices and behavior would be accompanied by self-fragmentation to a greater extent than externally guided choices.

Method

Participants and Procedure

Forty-six students (27 female) participated in the study in exchange for course credit. Participants completed a questionnaire titled ''self-talk scenarios'' which had the same instructions and introduction as the ones in Study 1. Participants read eight randomly arranged scenarios and listed self-talk that might be going on in the actor's head during the described experience. Half of the scenarios characterized a situation in which someone had to make a decision or engage in a behavior as a result of strong external demands (see Table 2). The other half of the scenarios comprised a situation in which someone had to make a decision or engage in a behavior as a result of their own internal motivation. Participants were given several lines to record what might be going through their minds as they imagined each of these scenarios. In a pilot study, students rated how autonomous the actors were on 1 (*not at all*) to 7 (*very much*) scales. As anticipated, actors making internal choices ($\alpha = .68$, $M = 4.34$, $SD = 0.99$) were perceived as more autonomous than actors making external choices ($\alpha = .71$, $M = 2.66$, $SD = 0.85$), $t(32) = 7.89$, $p < .001$.

Table 2. Summary of Scenarios in Study 2

Choice	Summary
External	Alice attends a Christmas party with her parents. She is bored and wants to leave, but her parents insist on staying
External	Greg has been saving money for weeks to buy a new video game. However, today a representative for a breast cancer charity asks him for a donation
External	Ian must keep his grades high, as his parents cannot afford his tuition if he loses his scholarship. He turns down an invitation to go out with friends so that he can keep studying
External	Ariel's best friend's aunt just passed away and asks Ariel to come to the funeral with her as she could not handle it alone. Ariel dislikes funerals but decides to attend to support her friend
Internal	Stacey is a first year college student who is looking to make a fresh start. She attends a residence party and makes a conscious effort to smile, relax, and look confident
Internal	Kyle loves kayaking and has been training hard for an upcoming race. He practices early in the morning before school. One morning, his alarm clock rings and he must decide whether to get up or go back to sleep
Internal	Liam has been working hard for a professor all semester, and is frustrated with being treated like a slave. He is meeting with the professor now and is biting his tongue in effort to suppress his complaints
Internal	Diana feels a lot better when she eats healthy. However, she is tempted to lower her standards. Diana goes to the grocery store and must make her choices

Coding and Organization

Participant's self-talk generated in response to the scenarios was coded along the same dimensions utilized in Study 1 by an undergraduate research assistant blind to the scenario content and research hypotheses. Again, based on expert coding obtained for 20% of the responses, the interrater agreement was strong (ks > .75). For this reason, only coding from the undergraduate research assistant was analyzed in the results that follow. As in Study 1, self-talk mean proportions were calculated for the pronominal person, type, and valence variables.

Results and Discussion

Self-Fragmentation

The proportion of statements that explicitly referenced the self as *You* was significantly greater in response to internal choices ($M_{proportion} = .09$, $SD = 0.12$) than external choices ($M_{proportion} = .05$, $SD = 0.07$), $t(45) = 2.18$, $p = .04$. In addition, the proportion of statements in the imperative form was significantly greater in response to internal choices ($M_{proportion} = .18$, $SD = 0.15$) than external choices ($M_{proportion} = .14$, $SD = 0.13$), $t(45) = 2.19$, $p = .03$. Finally, proportions indexing the use of *You* and the imperative were significantly correlated in response to internal choices

($r = .45$, $p = .002$) but not external choices ($r = .26$, $p = .08$). This finding suggests that use of the second person and the imperative co-occur in response to internal choices but remain more independent in response to external choices. In sum, these results demonstrated that personal control or automony, which normally increase efforts at self-regulation (Ryan & Deci, 2006), increased fragmented self-talk.

Valence

The frequency of positive self-talk did not differ across internal choices ($M_{proportion} = .28$, $SD = 0.30$) and external choices ($M_{proportion} = .25$, $SD = 0.27$), $t(45) = 0.56$, $p = .58$. This demonstrates that the effect of internal versus external choices on fragmented self-talk was not the result of differences in scenario valence.[3]

Study 3: Fragmented Self-Talk as a Result of Action

The final study examined how self-talk varies across the three critical action phases of behavior preparation, action, and evaluation. We predicted that fragmented self-talk would be more frequent during the action phase than the preparation or evaluation phases, indicative of an attempt to regulate or control an ongoing stream of behavior.

Method

Participants and Procedure

Seventy-three students (48 female) participated in the study in exchange for course credit. The procedure largely followed that of the previous studies. Participants read three randomly arranged scenarios about a behavior sequence that included action, preparation, and evaluation phases (see Table 3). Participants were given several lines to record what might be going through their minds as they imagined each of the three scenarios. In a pilot study ($n = 33$), students read the scenarios and indicated whether they reflected preparation, action, or evaluation. Scenarios depicting preparation were correctly identified 76% of the time. Scenarios depicting action were correctly identified 73% of the time. Finally, scenarios depicting evaluation were correctly identified 67% of the time. Thus, the scenarios were generally perceived as reflecting preparation, action, or evaluation, as intended.

Coding

As in the previous studies, coding was done by an undergraduate research assistant, and an expert coder rated 20% of the responses. Interrater agreement was strong (ks > .71), which validated the use of the undergraduate's coding in the statistical analyses. Also consistent with the previous studies, we calculated mean proportions for the pronominal person, type, and valence of self-talk.

Table 3. Summary of Scenarios in Study 3

Stage	Summary
Preparation	Tyler is thinking about whether he should try out for a soccer team
Action	Tyler is chasing a ball during tryouts
Evaluation	Tyler just learns that he did not make the team
Preparation	Valerie must decide between studying for an exam and going out with her friends
Action	Valerie decided to study and is trying to concentrate
Evaluation	Valerie receives her exam grade and it is a C−
Preparation	Wanda was invited to a party and is thinking about going
Action	Wanda arrives at the party and begins socializing with a friend
Evaluation	Wanda is now reflecting on her experience

Results and Discussion

Self-Fragmentation

The proportion of statements that explicitly referenced the self as *You* significantly varied across the three phases, $F(2, 144) = 4.01$, $p = .02$. Second-person references were more frequent in the action phase ($M_{proportion} = .07$, $SD = 0.17$) than in either the preparation phase ($M_{proportion} = .04$, $SD = 0.13$), $t(72) = 2.16$, $p = .03$, or the evaluation phase ($M_{proportion} = .04$, $SD = 0.13$), $t(72) = 2.35$, $p = .02$. However, the preparation and evaluation phase did not significantly differ in terms of second-person references, $t(72) = 0.42$, $p = .67$.

Similarly, the use of the imperative significantly varied across conditions, $F(2, 144) = 48.79$, $p < .001$. As predicted, the imperative form was substantially more frequent in the action phase ($M_{proportion} = .10$, $SD = 0.11$) than in the preparation ($M_{proportion} = .02$, $SD = 0.05$), $t(72) = 7.54$, $p < .001$, and evaluation phase ($M_{proportion} = .01$, $SD = 0.03$), $t(72) = 7.33$, $p < .001$. Less importantly, the imperative was somewhat more frequent in the preparation phase than in the evaluation phase, $t(72) = 2.45$, $p = .02$.

Finally, proportions indexing the use of *You* and the imperative were significantly correlated in response to action ($r = .57$, $p < .001$) but not preparation ($r = .12$, $p = .30$) or evaluation ($r = .14$, $p = .23$). This finding suggests that use of the second person and the imperative co-occur in response to action, yet remain independent during preparation and evaluation. In conclusion, Study 3 demonstrated that fragmented self-talk in the form of second-person statements and direct commands using the imperative were most frequent during the action phase. These findings are consistent with the hypothesis that fragmented self-talk accompanies behavior regulation.

Valence

Self-talk valence significantly varied across the three conditions, $F(2, 144) = 15.29$, $p < .001$. Self-talk was more positive in the preparation ($M_{proportion} = .34$, $SD = 0.28$) than action phase ($M_{proportion} = .18$, $SD = 0.16$), $t(72) = 4.67$, $p < .001$.

Self-talk was also more positive in the preparation than evaluation phase ($M_{proportion} = .21$, $SD = 0.19$), $t(72) = 3.85$, $p < .001$. Action and evaluation phases did not significantly differ, $t(72) = 1.34$, $p = .18$. The pattern of results for self-talk valence is clearly different than that observed in fragmented self-talk. Therefore, differences across conditions in fragmented self-talk cannot be attributed to differences in scenario valence.[4]

General Discussion

Self-talk has fascinated scholars for decades (Hardy, 2006; Vygotsky, 1934/1987), yet few studies have examined the triggers and functions of self-talk (Fields, 2002; Vicente & Manrique, 2011). In three studies, we explored whether people engage in a *splitting of the mind* by referring to themselves as *You* and commanding themselves as if they were commanding another person, in contexts that require explicit self-guidance. Study 1 demonstrated that fragmented self-talk is more prevalent in response to negative events than positive events. Study 2 showed that self-fragmentation is heightened when people make autonomous rather than externally constrained choices. Study 3 showed that fragmented self-talk is more frequent during activity than behavior planning and evaluation. Finally, in each of the studies, use of *You* and the imperative co-occurred in situations requiring self-control, yet remained more independent in other contexts. Altogether, the current research shows that fragmented self-talk arises when self-control is required, and therefore serves a behavior regulation function.

Moreover, these studies indicate that people assume multiple identities when speaking with themselves. That is, the self can be fragmented into an *I* and a *You*, and this tendency may be especially prevalent in contexts requiring self-regulation. Such findings are consistent with recent work showing that self-talk can activate brain regions associated with both self and other-oriented cognition (Longe et al., 2010), as well as regions associated with both speaking and listening (McGuire et al., 1996). Thus, the human capability for language, which allows for the manipulation of others, can also provide a mechanism through which people consciously control themselves. Although previous research has documented that the grammatical structure of self-talk influences behavior change (Hart & Albarracín, 2009; Senay et al., 2010), our work uniquely demonstrates that people spontaneously use fragmented self-talk in situations that call for behavior change. Thus, our findings speak to the self-determined nature of self-talk, its situational flexibility, and motivational function.

One limitation of the current research was that we measured projected self-talk rather than actual self-talk. Additional research is needed to examine whether people's intuitions about what they would say to themselves in different settings approximate what they actually say to themselves. Another limitation was the use of third-person scenarios where participants imagined the behavior of another person rather than themselves. Third-person scenarios were selected to prevent participants from being primed with *I* and *You* while reading

the scenarios. However, the downside to this approach is that self-talk may have been influenced by individual differences in perspective taking and empathy, which may not influence self-talk in everyday experience.

To our knowledge, only one previous study examined the influence of contextual factors on self-talk (Oliver, Markland, Hardy, & Petherick, 2008). Explicit second-person (*You*) references were not more frequent in autonomy-supportive than controlled settings. However, manipulations of autonomy-support not only increase autonomy but also increase perceptions of meaning, the sense that one's emotions are being acknowledged, and positive affect (see Deci, Eghrari, Patrick, & Leone, 1994). The current research, therefore, is the first to isolate the independent effects of autonomy, event negativity, and action on fragmented self-talk.

The present research raises several questions worthy of future investigation. For example, research could examine whether self-encouragement in the second-person form (*You can do it*) improves behavior and emotion regulation relative to self-encouragement in the first-person form (*I can do it*). Second-person statements may be more effective given that early in life, commands are provided externally by caregivers, and these commands become internalized and rehearsed as children develop (Vygotsky, 1934/1987). Future studies are also needed to examine whether individual differences in self-talk frequency (Brinthaupt et al., 2009) and self-consciousness (Fenigstein, Scheier, & Buss, 1975) influence the use of fragmented self-talk. Existing evidence shows that depressed and narcissistic people use more self-referencing words during interviews than their nondepressed and nonnarcissistic counterparts (Fast & Funder, 2010). Future work could determine whether depression and narcissism also moderate the use of fragmented self-talk. Finally, future research is needed to examine precisely to whom people are talking when they address themselves in the second person. Are they speaking to internalized representations of parents, significant others, or some other figure? Investigating when people fragment their self-concept into two distinct characters, as they did in the current studies, should complement our understanding of the exciting dynamic of self-talk.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

Notes

1. Students in pilot studies read the scenarios and indicated the degree to which they required self-control (e.g., *Stacey has control over what happens to her at the party*) on 1 (*strongly disagree*) to 7 (*strongly agree*) scales. As anticipated, negative events ($M = 4.98$, $SD = 1.40$) were perceived as requiring more self-control than positive events ($M = 3.18$, $SD = 1.29$), $t(35) = 7.30$, $p < .001$. Autonomous choices ($M = 5.41$, $SD = 0.63$) were perceived as requiring more self-control than externally constrained choices ($M = 4.75$, $SD = 0.70$), $t(21) = 3.92$, $p = .001$. Finally, action ($M = 5.56$, $SD = 0.93$) was perceived as requiring more self-control than preparation ($M = 3.97$, $SD = 1.02$), $t(20) = 5.81$, $p < .001$, and evaluation ($M = 4.89$, $SD = 1.45$), $t(20) = 1.96$, $p = .06$.

2. Participants generated more words in response to negative ($M = 98.7$, $SD = 30.9$) than positive scenarios ($M = 92.1$, $SD = 28.6$), $t(47) = 2.80$, $p = .007$. Similarly, participants generated more self-statements in response to negative ($M = 18.1$, $SD = 5.8$) than positive scenarios ($M = 15.6$, $SD = 5.4$), $t(47) = 5.14$, $p < .001$. The influence on number of words and statements was not predicted but is consistent with greater attention to negative than positive events (Baumeister et al., 2001; Rozin & Royzmen, 2001).

3. Participants generated slightly more words in response to external ($M = 111.2$, $SD = 35.7$) than internal choices ($M = 103.9$, $SD = 37.6$), $t(45) = 2.16$, $p = .04$. However, participants did not generate more self-statements in response to external ($M = 17.7$, $SD = 5.7$) than internal choices ($M = 17.2$, $SD = 7.1$), $t(45) = 1.18$, $p = .24$. These analyses were exploratory and thus received no further consideration.

4. The total number of words used significantly varied across conditions, $F(2, 144) = 56.94$, $p < .001$. The preparation phase ($M = 109.9$, $SD = 45.8$) produced more words than the action phase ($M = 86.8$, $SD = 37.0$), $t(72) = 9.23$, $p < .001$, and the evaluation phase ($M = 86.9$, $SD = 43.5$), $t(72) = 8.56$, $p < .001$. Action and evaluation phases did not differ significantly from each other, $t(72) = 0.42$, $p = .97$. Additionally, the total number of statements used significantly varied across conditions, $F(2, 144) = 56.94$, $p < .001$. The preparation phase ($M = 17.1$, $SD = 7.3$) produced more statements than the action phase ($M = 16.1$, $SD = 7.4$), $t(72) = 3.16$, $p = .002$, and the evaluation phase ($M = 15.0$, $SD = 7.5$), $t(72) = 5.52$, $p < .001$. The action phase produced more statements than the evaluation phase, $t(72) = 3.24$, $p = .002$.

References

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, *5*, 323–370. doi:10.1037//1089-2680.5.4.323

Brinthaupt, T. M., Hein, M. B., & Kramer, T. E. (2009). The self-talk scale: Development, factor analysis, and validation. *Journal of Personality Assessment*, *91*, 82–92. doi:10.1080/00223890802484498

Cloonan, T. F. (1971). Experiential and behavioral aspects of decision-making. In A. Giorgi, W. F. Fisher, & R. Von Eckartsberg (Eds.), *Duquesne studies in phenomenological psychology* (Vol. *1*, pp. 112–131). Pittsburgh, PA: Duquesne University Press.

Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, *62*, 119–142.

Fast, L., & Funder, D. (2010). Gender differences in the correlates of self-referent word use: Authority, entitlement, and depressive symptoms. *Journal of Personality*, *78*, 313–348. doi:10.1111/j.1467-6494.2009.00617.x

Fenigstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, *43*, 522–527. doi:10.1037/h0076760

Fernyhough, C., & Fradley, E. (2005). Private speech on an executive task: Relations with task difficulty and task performance. *Cognitive Development*, *20*, 103–120. doi:10.1016/j.cogdev.2004.11.002

Fields, C. (2002). Why do we talk to ourselves? *Journal of Experimental and Theoretical Artificial Intelligence*, *14*, 255–272. doi:10.1080/09528130110112303

Freud, S. (1927). *The ego and the Id*. London, England: Hogarth Press.

Hardy, J. (2006). Speaking clearly: A critical review of the self-talk literature. *Psychology of Sport & Exercise*, *7*, 81–97. doi:10.1016/j.psychsport.2005.04.002

Hart, W., & Albarracín, D. (2009). What I was doing vs. what I did: Verb aspect influences memory and future actions. *Psychological Science*, *20*, 238–244. doi:10.1111/j.1467-9280.2009.02277.x

Hatzigeorgiadis, A., Zourbanos, N., Galanis, E., & Theodorakis, Y. (2011). Self-talk and sports performance: A meta-analysis. *Perspectives on Psychological Science*, *6*, 348–356. doi:10.1177/1745691611413136

Heavey, C. L., & Hurlburt, R. T. (2008). The phenomena of inner experience. *Consciousness and Cognition*, *17*, 798–810. doi:10.1016/j.concog.2007.12.006

Longe, O., Maratos, F. A., Gilbert, P., Evans, G., Volker, F., Rockliff, H., & Rippon, G. (2010). Having a word with yourself: Neural correlates of self-criticism and self-reassurance. *NeuroImage*, *49*, 1849–1856. doi:10.1016/j.neuroimage.2009.09.019

McGuire, P. K., Silbersweig, D. A., Murray, R. M., David, A. S., Frackowiak, R. S., & Frith, C. D. (1996). Functional anatomy of inner speech and auditory verbal imagery. *Psychological Medicine*, *26*, 29–38.

Meichenbaum, D. (1977). *Cognitive behavior modification: An integrative approach*. New York, NY: Plenum Press.

Oliver, E., Markland, D., Hardy, J., & Petherick, C. (2008). The effects of autonomy-supportive versus controlling environments on self-talk. *Motivation and Emotion*, *32*, 200–212. doi:10.1007/s11031-008-9097-x

Oppenheim, G. M., & Dell, G. S. (2010). Motor movement matters: The flexible abstractness of inner speech. *Memory & Cognition*, *38*, 1147–1160. doi:10.3758/MC.38.8.1147

Rozin, P., & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review*, *5*, 296–320. doi:10.1207/S15327957PSPR0504_2

Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality*, *74*, 1557–1585. doi:10.1111/j.1467-6494.2006.00420.x

Senay, I., Albarracín, D., & Noguchi, K. (2010). Motivating goal-directed behavior through introspective self-talk: The role of the interrogative form of simple future tense. *Psychological Science*, *21*, 499–504. doi:10.1177/0956797610364751

Tullett, A. M., & Inzlicht, M. (2010). The voice of self-control: Blocking the inner voice increases impulsive responding. *Acta Psychologica*, *135*, 252–256. doi:10.1016/j.actpsy.2010.07.008

Vicente, A., & Manrique, F. M. (2011). Inner speech: Nature and functions. *Philosophy Compass*, *6*, 209–219. doi:10.1111/j.1747-9991.2010.00369.x

Vygotsky, L. S. (1987). Thinking and speech. In R. W. Rieber & A. S. Carton (Eds.), *The collected works of L. S. Vygotsky* (*Vol. 1*, pp. 37–285). New York, NY: Plenum (Original work published 1934).

Winsler, A. (2009). Still talking to ourselves after all these years: A review of current research on private speech. In A. Winsler, C. Fernyhough, & I. Montero (Eds.), *Private speech, executive functioning, and the development of verbal self-regulation* (pp. 3–41). New York, NY: Cambridge University Press.

Winsler, A., Feder, A., Way, E. L., & Manfra, L. (2006). Maternal beliefs concerning young children's private speech. *Infant and Child Development*, *15*, 403–420. doi:10.1002/icd.467

Wood, J. W., Perunovic, E. W. Q., & Lee, J. W. (2009). Positive self-statements: Power for some, peril for others. *Psychological Science*, *20*, 860–866. doi:10.1111/j.1467-9280.2009.02370.x

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