THE RELATIONSHIP BETWEEN THE FREQUENCY OF SELF-TALK AND

DISSOCIATIVE EXPERIENCES

by

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ABSTRACT

Defining self-talk as any instance wherein people are speaking to themselves, either out loud or mentally, and defining dissociation as any cognitively-disrupting phenomenon wherein people feel that they are disconnected from the world around them, I hypothesized that people who engaged in more self-talk had more dissociative experiences. The relationship between self-talk and dissociative experiences is one we measured on two different scales- first a scale on self-talk frequency, along with a scale on the frequency of dissociative experiences- followed up by statistical testing to measure the correlation between the two scales. Participants were 54 student volunteers who first participated in a self-talk study over a period of several days, and several weeks later, performed follow-up tests to measure their dissociative tendencies. The results supported my primary hypothesis that frequent self-talkers reported more dissociative experiences than infrequent self-talkers, but other exploratory hypotheses about the individual scales of self-talk and dissociation were not supported as strongly. The data were surprising, but ultimately supportive. Further research could explore other tendencies that belie self-talk and similar behaviors, as well as how cognitive disruption plays a role in self-talk, whether it be dissociation or otherwise.

TABLE OF CONTENTS

Tables

CHAPTER I: REVIEW OF THE LITERATURE

A phenomenon that people have observed in others and see themselves, self-talk is what it sounds like: when we talk to ourselves. Not necessarily out loud, or even in a direct context, self-talk refers to all the times where people think of or assess a situation in reference to themselves. The mere act of people thinking about themselves and the things they have done can be classified as self-talk. We talk to ourselves in much the same way we talk to other people, as a means of social interaction that we turn inwards (Guerts, 2017). Self-talk has been a known phenomenon for a long time, and even Plato has addressed it: "the conversation which the soul holds with herself in considering of anything. [. . .] The soul when thinking appears to me to be just talking — asking questions of herself and answering them, affirming and denying" (*Theaetetus* 190a, translation by Jowett 1871).

In summary, self-talk is a common phenomenon that carries many implications, sometimes positive, sometimes negative, but is not an unusual tendency. If you are reading this paper, at some point or another in your life, you have engaged in self-talk, and further reading will explain how you did it and why. Its prevalence begs the question of why people participate in self-talk at all, and what benefits they gain from doing it. Moreover, I also want to see what relationship self-talk has on our other behaviors. I will discuss how self-talk affects our everyday routines, and how our daily behaviors affect our self-talk.

Why we talk to ourselves

When we engage in self-talk, more than anything else, we use it as a tool to reflect on ourselves and our actions. Often observed in sports and athletic settings, self-talk has been used as a means of self-improvement and self-assessment; athletes gauge how well or how poorly they handled a situation during a game, leading them to engage in instruction-oriented self-talk later (van Raalte & Vincent, 2017).

Self-talk with an added sense of positive or negative valence also has a strong effect on us, though it depends on the circumstances. For example, people with anxiety or depression are more prone to negative self-talk, with more vocal "inner critics" brought about by their conditions (Strong, 2009). In a study conducted on troubled youths with a history of comorbid anxiety and depression, Ronan and Kendall (1997) found that the participants had overwhelmingly negative self-statements to make about themselves. Anxious thinking was characterized by uncertainty and concern about the future, while depression was oriented to the past, heavily focusing on past mistakes and shortcomings.

At the same time, however, in an athletic setting, negative self-talk can improve performance in athletes when they reflect on past mistakes and remind themselves to act differently next time (van Raalte & Vincent, 2017; Weinberg, 2018). According to Morin (2005), self-talk can serve a metacognitive function, wherein we monitor ourselves, our actions, and our feelings in different situations. By engaging in self-talk, we create a psychological "distance" between our thoughts and our experiences, such that we are able to observe our past objectively, and gauge whether something we have done is harmful or beneficial, either to ourselves or to the people around us (Kross et al., 2014).

Another major function of self-talk is motivational. It can either damage or improve a person's dedication to something, and thereby affect the way he or she performs, usually for the better (Neck & Manz, 1992). In the literature reviewed by van Raalte and Vincent (2017), positive self-talk in athletes often has a statistically positive effect on their performance, and they have extrapolated those findings into increased performance on other motor tasks when backed up by self-talk. In instances of instructional self-talk (wherein people instruct themselves on how to perform a task), athletes could tell themselves to do or not do something which could positively or negatively affect the game in a technical sense, while motivational self-talk (people telling themselves that they can or cannot do something) affects athletes' personal performances and how they perceive those performances.

When tested on the nature of their self-talk and asked how exactly a group of water polo players engaged in self talk, some athletes reported thoughts like "I don't think I'm throwing the ball correctly," with the study ultimately finding that adjusting performance based on self-talk, motivational or otherwise, has a strong positive effect on performance. The more self-talk there was, the better the athletes performed (Hatzigeorgiadis, Theodorakis, & Zourbanos, 2004).

In a high-stress situation, viewed in the context of public speaking, motivational and self-reinforcing self-talk has been shown to alleviate anxiety prior to the public speaking event. Meanwhile, self-critical self-talking had a pronounced effect on communication anxiety in general. This included people who were hard on themselves regarding their ability to speak and perform in social situations, as well as public speaking venues (Shi, Brinthaupt, & McCree, 2015). Meanwhile, self-reinforcing self-talk facilitates social communication (Shi, Brinthaupt, & McCree, 2017). From this research, it can be inferred that people who experience more stress

based on the situation are more likely to engage in self-talk, but the situation and levels of stress appear to be more oriented towards the type of self-talk that they engage in, as opposed to the general frequency of self-talk.

There is overlap, however, between the types of self-talk that people engage in and the frequency of their self-talk- the aforementioned studies note that individuals who have a generally more negative view of themselves are thereby prone to more negative self-talk, cyclically putting them in a situation where they engage in negative self-talk due to anxiety, and then feel anxious due to the nature of their self-talk (Shi et al., 2015). This tendency to engage in more self-talk when anxious has been observed in other studies as well, and observed that when people are worried about their abilities, they engage in more self-talk as a way to gauge and improve upon their social skills in the future: "When these situations are possible, [socially anxious people] worry excessively about the likelihood of performing poorly, which interferes with their performance," and thereby engage in self-talk to calm their worries and improve their performance (Kross et al., 2014, p. 305).

Self-talk is also self-regulatory, and the ways we use self-talk often reflect on our behaviors and self-perceptions in our everyday lives. According to Brinthaupt, Hein, and Kramer (2009), it can be parsed into four distinct categories: self-criticism (where people critique their actions or some facet of themselves), self-reinforcement (where people praise themselves), self-management (where people consider and regulate their actions), and social assessment (where people take their social actions and current status into account).

In summary, self-talk serves many functions in our everyday lives, from reinforcing our abilities, assessing our social situations, and reflecting on how we have interacted with the world

around us. Across the research presented thus far, self-talk seems to occur most often when people distance themselves from their current situations and reflect upon themselves, so any situation where there is a gap between thoughts and reality is likely to precipitate self-talk. For the people engaging in self-talk, such situations tend to be stressful, directly related to how they are performing on a certain task or making a generalized statement about themselves. As discussed by studies that assess social anxiety and social situations, it can be inferred that talking to oneself is beneficial to the ways people talk to each other (Kross et al., 2014).

However, the studies thus far have only scratched the surface on the phenomenon of self-talk. They have discussed how self-talk fits into simple, everyday experiences, and I am more curious about the function of self-talk in less conventional situations. By this, I mean situations where the typical functioning of people and their everyday experiences are distorted or disrupted in one way or another. One such area that meets these criteria are situations involving dissociative tendencies and phenomena relate to self-talk.

Defining dissociative tendencies

Dissociation and dissociative tendencies cover a broad range of occurrences and can be summarized as any situation where people feel like they, their feelings, or the world around them is not real. In other words, people with dissociative disorders or tendencies "disconnect" from the world, described as "an umbrella word for both [depersonalization and derealization] and a wide range of other symptoms and disorders to do with disconnection of bodily perception, thoughts, emotions, memories, and identity" (Stone, 2006, p. 309). Whereas intense dissociative tendencies and experiences are usually associated with traumatic experiences and PTSD (Van der Kolk, 1987), dissociative experiences in a non-clinical capacity can be commonplace (Şar,

2014). In his study, Stone (2006) noted that "The lifetime prevalence of depersonalization/derealization has been estimated at anywhere between 26–74%" (p. 310).

Although the majority of studies that cover the topic of dissociation observe the phenomenon in a clinical capacity, referencing major dissociative disorders and other conditions where dissociation is a primary symptom (e.g,. Van der Kolk, 1987; Prasko et al., 2016; Wang, 2018), for the purpose of my study, dissociation is being observed in a non-clinical capacity. Still, major dissociative disorders can shed light on how and why dissociation and dissociative tendencies manifest, as well as any patterns that might exist between occurrences of dissociation.

Dissociative tendencies manifest in numerous ways— Carlson and Putnam (1993) designed a measure of dissociative tendencies, the Dissociative Experiences Scale 2 (DES-II). This scale identifies three major categories of experience: absorption (where people are wrapped up in their own minds and do not engage with the world around them), depersonalization (where people feel like they or the things around them do not exist), and amnesia (where people do not remember the things that have happened to them).

Other research identifies analogous dissociative disorders, including Dissociative Identity Disorder (DID), dissociative amnesia, and depersonalization/derealization disorder (Wang, 2018). DID is one of the most severe disorders, where people— usually in response to intense trauma— will develop one or more personalities that are separate from their own personality. This can be likened to absorption and amnesia, because people are actively disengaging with the world around them, and it is also common for people with DID not to remember what their other personalities have done while they were active. Dissociative amnesia, meanwhile, is where people are unable to recall significant events or spans of time in their lives, a condition that is

sometimes as drastic as forgetting their own life histories (e.g., Carlson & Putnam, 1993; Stone, 2006; Wang, 2018). This is a clear parallel to the amnesia dimension on the DES-II, albeit much more affective. Derealization/depersonalization disorder is characterized by similar experiences to the depersonalization facet of the DES-II, except in a much more intense and chronic capacity (Wang, 2018).

Research therefore shows that dissociation is not an unusual clinical or non-clinical phenomenon. The ways in which it manifests itself shed light on how it affects people, largely causing them to disengage from the world and ignore the things around them. Between both the regular occurrences outlined in the DES-II and the major dissociative disorders, patterns in which people dissociate begin to emerge, like feelings of derealization, amnesia, and absorption (Carlson & Putnam, 1993). Its prevalence should point to signs of how and why it is so common, and what function it serves, not unlike self-talk.

As noted earlier, in most documented cases, people develop dissociative tendencies in response to traumatic or extremely stressful events, and the more intense the trauma, the more intense the dissociation (Schäfer et al., 2006). While they are helpless to stop something from happening to them, people may altogether disengage with reality to alleviate their pain (Merkelback & Muris, 2001). A study of soldiers going through a regimented training course, designed to push their limits, reported higher levels of dissociative tendencies after going through the course than their pre-course tendencies, dissociating as a result of their experiences (Morgan et al., 2001). There is generally a positive correlation between past abuse and dissociative tendencies as well (Johnson, Edman, & Danko, 1995).

However, not all kinds of dissociation are trauma-related, and it is commonplace for people to daydream, get distracted, or "zone out." To people who have active dissociative tendencies in their life, it has been described as a near-tangible separation from the world:

> Most of the time, it happens before I even notice. Sometimes, I can tell I've been in that state for a long time before I realize it's happening. Days, weeks, sometimes more than a month. You wouldn't know by looking at me. I walk, talk and function. I get things done. I work and hang out. I play with my children. I even laugh. I don't look any different than anyone else. Yet, a shell has formed between me and you. Between me and the world. (…) My fears grow. I worry more. I feel panicked. Indecisive. I begin to see the physical shell. It looks like a hazy blur. Like the permanent haze on a clear plastic glass that has been washed too many times. It stands between *us*. I can no longer feel the ground. I am standing in a hallway, but I can't really feel myself there. Everything I touch feels foreign to me (Sara, 2016).

Some people may be more willing to dissociate than others and might fall into habits similar to dissociation as an escape from the world around them (Krippner & Powers, 2015). In fact, mindful dissociation and purposeful distancing from painful situations may be beneficial for people who struggle with anxiety and depression (Prasko et al., 2016). Testing performed by this research, using several different dissociation scales, found that dissociation (in addition to medication, cognitive-behavioral therapy, and guidance in a hospital setting) had a significant effect on reducing anxiety and depression symptoms. Over 35% of patients claimed to find remission after the dissociative experiences (Prasko et al., 2016).

In summary, dissociation is a very disruptive sensation, leaving people like Sara (2016) near-physically cut off from the world and people from high-stress and high-trauma environments cut off from the world as a way of keeping themselves safe from any other harm that might befall them. In some cases—particularly clinical cases—it can be harmful and damaging, but in other cases like the Krippner and Powers (2015) or the Prasko et al. (2016) studies, dissociation can be beneficial to a person, acting as a buffer zone between uncontrollable pain and mental wellness.

Having researched both dissociative tendencies and self-talk tendencies, and finding that both phenomena are common occurrences, I wanted to see what kind of overlap exists between the two. Regular occurrences of both are likely to have something in common. In the next section, I explore research that implies that both self-talk tendencies and dissociative tendencies share some common elements.

The possible connection between self-talk and dissociation

The connection between these seemingly disparate elements can be explored by considering their basic facets: self-talk is how we assess our experiences (Kross et al., 2014; van Raalte & Vincent, 2015; Weinberg, 2018), and dissociation is an absence or distortion of our experiences (Şar, 2014; Stone, 2006). Dissociation seems like a natural precedent to self-talk, as it is a consistent yet often unpredictable distortion of experiences that people would feel motivated to assess or compensate for.

Previous research by Kross et al. (2014) claims that by engaging in self-talk in the first place, we exhibit a sort of dissociation by mentally distancing ourselves from our experiences

and the world around us. Doing so has been shown to have common ground in stressful experiences— people are more likely to dissociate or engage in self-talk in such situations (Morgan et al., 2001; Shi et al., 2015).

Moreover, the question of self-talk frequency in relation to dissociation has been observed before. The more a person partakes in dissociative tendencies, the more likely they are to engage in self-talk. Alderson-Day, Mitrenga, Wilkinson, McCarthy-Jones, and Fernyhough (2018) found that dissociative tendencies were common in people with frequent self-talk tendencies, especially when observing themselves in a social context—speaking to themselves as if they were talking to another person. It stands to reason that people would assess their experiences more if they were distorted more often, which leads to my primary hypothesis:

Hypothesis 1: Frequent self-talkers will report more dissociative experiences than infrequent self-talkers.

With less control over oneself when having dissociative experiences, it stands to reason that a person would engage in more social assessing and self-regulating behavior to counteract and cope with anomalous experiences. Dissociation is an experience that interrupts everyday functioning, and the meat of the hypothesis is that dissociative experiences are "cognitive disruptions." The hypothesis is based on the idea that people who talk to themselves more often have more disruptions in their everyday routine (Brinthaupt, 2019). The notion of cognition being interrupted by dissociation has been proposed elsewhere. As Bernstein and Putnam (1986) put it, "Dissociation is the lack of normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory (p. 727)."

Moreover, Şar (2014) claimed that "the central feature of dissociation is disruption to one or more mental functions," (p. 172) and that people experience dissociation as a way of avoiding mental intrusions and disruptions. There are many names for this cognitive disruption hypothesis, and there is plenty of research that explores it and backs it up.

Furthermore, there are examples of different conditions, such as schizotypy, that affect cognitive functioning and speech production, so there is a body of research that relates cognitive disruption to speech, and, by extension, self-talk (e.g., Tsakanikos & Claridge, 2005). This finding implies that disruptions like hallucinations affect how people recall and then utilize different words, and I have no reason to believe that a strong dissociative experience would be considered any less of a cognitive disruption than a schizotypal hallucination.

Past research has implied that engaging in self-talk in the first place is a similar experience to dissociation. When people observe their own states of mind, they tend to disengage with the rest of the world, turning their focus inward so they may observe their thoughts in a more rational, objective way. Creating this cognitive "distance," as it were, is similar to dissociation by virtue of disconnecting experience from cognition (Kross et al., 2014). Consistent with the cognitive disruption hypothesis, creating psychological distance with self-talk might be thought of as creating an intentional disruption, knowingly stopping your train of thought to differently engage with your thoughts.

In summary, the overarching purpose of the study is to measure the relationship between the frequency of dissociative experiences and self-talk, but I also have specific hypotheses for the subgroups of self-talk and the categories of dissociative experience. With a body of research

mostly based in clinical observations about dissociation, the following hypotheses are highly exploratory, and will have a bias towards clinical data.

Hypothesis 2: Self-critical self-talk will be significantly and positively correlated with dissociative tendencies (such as depersonalization/derealization)

As previously observed, self-talk tendencies of a critical nature have a strong presence in sport environments, where athletes evaluate and learn from their past efforts and mistakes. By acknowledging problems in their actions and understanding how to change so they do not make the same mistakes again, self-critical self-talk can be one of the more common types of self-talk (Hatzigeorgiadis et al., 2004; van Raalte & Vincent, 2017).

Additionally, since dissociative tendencies are closely tied to traumatic and otherwise unpleasant experiences (e.g., Johnson et al., 1995; Merkelback & Muris, 2001; Schäfer et al., 2006), people who are prone to feelings of shame as a result of their past may be likely to be more critical of themselves, and that vocal inner critic combined with a greater proclivity towards dissociative tendencies could create a cycle of dissociative tendencies that feed into negative self-critical thinking.

Hypothesis 3: Self-reinforcing self-talk will have the weakest relationship with dissociative tendencies of all the self-talk subscales.

People who are typically anxious and doubt themselves may have a greater tendency to engage in self-talk, as observed in social settings, as well as people who suffer from chronic anxiety and depression (Shi et al., 2015; Prasko et al., 2016). People who are anxious and

depressed are typically not kind to themselves and tend to have a very vocal "inner critic" (Strong, 2009). These people would not engage in frequent self-reinforcing self-talk.

In cases where dissociation is an escape for people who are in bad situations, either trauma related or related to anxiety and depression, these are unpleasant situations for people, and they would not look back on themselves kindly, given their pre-existing conditions, which have a tendency to beget more negative and less self-reinforcing or positive self-talk (e.g., Prasko et al. 2016; Wang, 2018).

Hypothesis 4: Self-managing self-talk frequency will have the strongest positive correlation with all three dissociative tendencies compared to the other subgroups of self-talk.

When individuals realize that they have been dissociating in one form or another, they would naturally reflect on themselves and their past actions to gain a sense of what they have done, what they have missed out on, and what they can do to try and avoid it in the future.

As Sara (2016) discussed in her firsthand account of dissociation, she did not even realize she was dissociating until long after it had started. If people are unaware of their dissociative tendencies, especially in the cases of dissociative amnesia and absorption, I expect they will lean strongly towards self-managing self-talk in order to keep themselves regulated and safe during times of mental awareness.

Furthermore, past research has implied that self-managing self-talk tends to resemble dialogue, so it is possible that frequent self-talkers will engage in a sort of pantomime dialogue to assess their past experiences and gauge how others will respond to them in the future (Alderson-Day et al., 2018). This behavior in of itself could be a kind of intentional absorption.

Having addressed amnesia and absorption, I think depersonalization/derealization will also be positively correlated with self-managing self-talk frequency. Considering how depersonalization is defined, people are aware that the world around them seems distorted or wrong (Carlson & Putnam, 1993). This is further reinforced by the firsthand account of Sara (2016), who claimed to see the world through a plastic shell.

Hypothesis 5: Social assessment self-talk frequency will be weakly associated with dissociative tendencies.

As previously discussed by Sara (2016), people who dissociate are not always aware that it is happening, and to have a high frequency of social assessment self-talk is to have a strong sense of self-awareness in whatever situation a person may be in (Brinthaupt et al., 2009). People who are not always aware of their situations will have difficulty assessing their situations. It would not make sense for a person who frequently dissociates to ruminate on events they may not remember, if affected by absorption or amnesia, and it is unlikely that people who dissociate would be able to predict when they dissociate, so there is no sense in rehearsing for a social interaction that they might not be truly engaged in.

CHAPTER II: METHOD

Participants

Participants ($N = 54$) were undergraduate college students (34 women and 20 men) from the general psychology course who received credit for taking part in the study. I sent out e-mails to recruit volunteers, and obtained IRB approval prior to data collection (see Appendix A). None of the personal data of any of the students were used outside of data collection. We began recruitment with a pre-test using a self-talk scale, and then we used a follow-up test several weeks later to gauge dissociative tendencies.

Grade-wise, the majority of the participants were freshmen ($n = 26$), followed by sophomores ($n = 16$), then juniors ($n = 8$) and seniors ($n = 3$), with only one participant in the "other" category ($n = 1$). With respect to race, most participants were white ($n = 34$), followed by African-American/black participants ($n = 11$), then Hispanic participants ($n = 3$). The remaining participants were of other ethnicities and races ($n = 6$).

Materials

Self-Talk Scale (STS; Brinthaupt et al., 2009). The STS is a measure designed to gauge a person's tendency and frequency to engage in various types of self-talk. It is a 16-item scale with statements that determine how much a person invests in the different types of self-talk. Respondents use a 5-point frequency rating scale (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*, 5 = *frequently*). Items begin with the stem "I talk to myself when…" The STS assesses how often people engage in four kinds of self-talk: self-reinforcement (e.g., "I'm proud of something I've done"), self-criticism (e.g., "I feel discouraged about myself"), social assessment

(e.g., "I want to replay something that I've said to another person"), and self-management (e.g., "I'm giving myself instructions or directions about what I should do or say") (Brinthaupt et al., 2009). Higher scores denote a greater tendency towards self-talk. Specific questions on the STS were designed to measure the subscales, and the sum of the scores for each group subscale denoted the participants' disposition to engage in that specific type of self-talk. Cited by numerous other studies (e.g., Shi et al., 2015), the STS is a well-known and frequently-used measure with acceptable test-retest reliability and validity across its numerous studies.

Dissociative Experience Scale II (DES-II; Carlson & Putnam, 1993) The DES-II is designed to gauge how often people have dissociative experiences, and what kind of dissociative experiences they have. It is a 28-item scale that asks participants how often certain types of dissociative experience happen to them: amnesia, (e.g., "some people find evidence that they have done things they do not remember doing"), depersonalization/ derealization (e.g., "some people have the experience of feeling that other people, objects, and the world around them are not real"), and absorption (e.g., "some people find that they become so involved in a fantasy or daydream that it feels as if it were really happening to them"). There were six questions throughout the scale for each experience, leaving 10 questions unspecific to any subscale, meant to gauge a general tendency to experience dissociative tendencies. Participants rate how often they feel a certain way, from 0 to 100% of the time on an 11-point scale in 10 percent increments. (0% of the time, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%). A higher average score (the scores are measured by reducing the score by one decimal, then finding the mean for that subscale) implies that the participant experiences one or more of the dissociative tendencies more often than the average person. The DES-II is widely-cited and has

well-established test-retest reliability and validity (Carlson & Putnam, 1993). In the current sample, the internal consistency scores for the total and subscale scores were acceptable: $\alpha =$ .810 for amnesia, $\alpha = .863$ for depersonalization/ derealization, and $\alpha = .783$ for absorption. The total internal consistency score for dissociation overall was satisfactory as well $\alpha = .935$. The respective means are shown in Table 2.

Procedure

Participants first came to a series of pre-testing sessions held over the course of two days, where they were given the STS and several other measures, informed consent sheets regarding the nature of the study (see Appendix B), and a signature on a specialized card showing that they earned credit for their participation.

Approximately 1 month after the STS measurement was completed, I sent e-mails to all who fell into the upper and lower quartiles of the STS total scores. I invited them to attend a follow-up study, phase 2, so they could take the DES-II. Smaller groups of two or three participants at most were invited to study rooms over the course of several weeks and received informed consent sheets alongside their tests.

Participants whose total score was above 50 (out of a possible 80) on the STS were classified as frequent self-talkers, and those who scored in the mid-to-upper twenties or lower 30's were classified as infrequent self-talkers. In the final sample, there were more frequent self-talkers ($n = 35$) than there were infrequent self-talkers ($n = 19$). The participants in the second phase of the study were unaware of the linking within pretesting self-talk scores. The researchers who collected the data were also blind to the condition (frequent/infrequent self-talk) during the

second phase. The intervals between testing phases reflected the desire to avoid testing effects, fatigue, and the inherent difficulty in reserving rooms for study purposes.

CHAPTER III: RESULTS

Descriptive statistics

The descriptive statistics for the STS are shown in Table 1. Most of the data, such as the high maximum scores and mean total score above 50, reflect the fact that there were many more frequent than infrequent self-talkers.

Table 1

Descriptive Statistics- STS

Scale	N	Minimum	Maximum	Mean	Std. Deviation
STS_Score	54	27	80	55.91	15.34
self_critical	54	6	20	14.04	4.30
self_reinforce	54	4	20	12.13	3.85
self_manage	54	8	20	15.43	3.95
social_assess	54	4	20	14.31	5.19

The descriptive statistics for the DES-II are shown in Table 2. The low total mean score shows that dissociative experiences were not particularly commonplace. Moreover, the absorption subscale, with the highest maximum score and mean score, implies that absorption was the most commonly reported dissociative experience among the participants in the sample.

Table 2

Descriptive Statistics- DES-II

Scale	N	Minimum	Maximum	Mean	Std. Deviation
DEQ_amnesia	54	.00	6.00	1.69	1.59
DEQ_depersonal	54	.00	7.00	1.64	1.78
DEQ_absorption	54	.00	9.17	4.61	2.06
DEQ_Total	54	.39	6.11	2.91	1.57

Tests of Hypotheses

I used an independent samples t-test to compare the number of dissociative experiences in frequent and infrequent self-talkers. The means and standard deviations for the test are shown in Table 3, as well as the t-values and p-values.

Table 3

Independent Samples T-Test Data

DES-II Score	STS Group	Mean	SD	Std. Error	t	p
DEQ-Amnesia	Infrequent	1.49	1.71	0.39	-.69	.49
	Frequent	1.80	1.54	0.26		
DEQ-Depersonal	Infrequent	.98	1.65	0.38	-2.08	.04*
	Frequent	2.00	1.77	0.30		
DEQ-Absorption	Infrequent	3.73	1.85	0.42	-2.43	.02*
	Frequent	5.10	2.04	0.34		
DEQ-Total	Infrequent	2.34	1.59	0.37	-2.00	.05*
	Frequent	3.21	1.50	0.25		

Infrequent Group, n = 15, Frequent Group, n = 39.

These findings imply that infrequent self-talkers report fewer dissociative experiences than frequent self-talkers, thereby providing support for the primary hypothesis.

The independent samples *t*-test also showed that there were significant differences between infrequent and frequent self-talkers for absorption and depersonalization. Overall, this further analysis still supported the first hypothesis.

Hypothesis 2 stated that self-critical self-talk should be significantly and positively correlated with dissociative tendencies (such as depersonalization/derealization). However, the correlation was not significant across any aspect of the DES-II; the total score, $r(52) = 0.21$, $p = .13$, the amnesia score, $r(52) = 0.09$, $p = .52$, the depersonalization/ derealization score, $r(52) = 0.15$, $p = .18$, and the absorption score, $r(52) = 0.22$, $p = .11$, were all nonsignificant, so the hypothesis was not supported.

According to hypothesis 3, self-reinforcing self-talk was expected to have the weakest relationship with dissociative tendencies of all the self-talk subscales. However, the data were largely opposite the expected outcome. Although not significantly correlated with amnesia, $r(52) = .13$, $p = .37$, self-reinforcing self-talk was significantly and positively correlated with the overall DEQ scores, $r(52) = .30$, $p = .03$, depersonalization/ derealization, $r(52) = .27$, $p = .05$, and absorption, $r(52) = .31$, $p = .02$.

For hypothesis 4, self-managing self-talk frequency was expected to have the strongest positive correlation with all three dissociative tendencies compared to the other subgroups of self-talk. This prediction also lacked support. There was a significant correlation with absorption, $r(52) = .30$, $p = .03$, but no other dimension. The DEQ score, $r(52) = .19$, $p = .17$, the amnesia

scale, $r(52) = .04$, $p = .78$, and the depersonalization/ derealization scale, $r(52) = .09$, $p = .54$ were all nonsignificant correlations.

Finally, hypothesis 5 stated that social assessing self-talk frequency will be weakly associated with dissociative tendencies. In this case, there was good support for this hypothesis. The total DEQ scores, $r(52) = .19$, $p = .17$, the amnesia scale, $r(52) = .04$, $p = .77$, the depersonalization/ derealization scale, $r(52) = .16$, $p = .24$, and the absorption scale, $r(52) = .26$, $p = .06$ were all nonsignificant correlations.

CHAPTER IV: DISCUSSION

The purpose of this study was to examine the relationship between self-talk and dissociative tendencies. I was curious about the phenomena of both dissociation and self-talk, and how they affect the way people behave. My curiosity about the initial relationship was followed up by curiosity about the respective subscales for each phenomenon, and I developed other, exploratory hypotheses to learn more. In summary, the main hypothesis was supported, and there is a significant relationship between dissociation and self-talk. The exploratory hypotheses were not all supported.

One of the main reasons I expected to observe a relationship between self-talk and dissociation was the cognitive disruption hypothesis. As described by Brinthaupt (2019), this hypothesis states that people who experience a cognitive disruption are more likely to engage in self-regulation and self-management-type behaviors. Dissociation seemed like a clear type of cognitive disruption, so I believed that this hypothesis would set a strong precedent for the relationship between dissociation and self-talk. This theory was backed up by literature that describes dissociation as a type of cognitive disruption (Şar, 2014), and other research has also looked at dissociation in relation to self-talk (Alderson-Day et al., 2018), so there was plenty of basis in the literature to follow up on. My findings are consistent with other research that implies dissociation is a type of cognitive disruption (e.g., Bernstein & Putnam, 1986; Brinthaupt 2019; Şar, 2014), and possibly lending credence to the observation that self-talk is an intentional cognitive disruption (Kross et al., 2014).

The results may be unsurprising for the amnesia factor. If a person does not remember an experience, it is likely that person would not remember talking to themselves during that time.

Moreover, amnesia had one of the lowest average scores among the different subscales for dissociation, implying it is one of the least common dissociative experiences. As such, it makes sense that it would have one of the weakest relationships with self-talk frequency. As for depersonalization/ derealization and absorption, these are reasonable conclusions when considering that frequent self-talkers report more dissociative tendencies than infrequent self-talkers.

Hypothesis 2 was based on the notion that people who frequently experience dissociative tendencies would be more critical of themselves and try to adjust their behavior so the dissociation would not happen again. One way that athletes tend to improve their skills while playing is through self-criticism and acknowledging mistakes (Hatzigeorgiadis et al., 2004), and I assumed that people who frequently dissociate would similarly examine their actions and circumstances to prevent dissociation from happening again. However, the data did not support the hypothesis. The likely explanation is that people dissociate to distance themselves from negative situations (e.g., Prasko et al. 2016; Wang, 2018), and since self-critical self-talk can be self-deprecating and harsh, people would not be likely to purposely create negative situations for themselves by engaging in self-critical self-talk. In fact, they may avoid that type of self-talk for that exact reason. This is conjecture, however, since such findings would imply a negative correlation, which was not the case. Self-criticism can occur in many ways, such as a form of self-deprecation or a means of self-improvement by looking at mistakes, and there is no way to tell how the participants experience it from their scores alone. For a more definitive result on this hypothesis, a more specific and in-depth test would be necessary.

With respect to hypothesis 3, it is possible that these results shed a different kind of insight on self-talk and dissociation. The rationale behind this hypothesis was that people who are mostly negative towards themselves would be more likely to experience dissociative tendencies, a theory supported by several pieces of literature (e.g., Ronan & Kendall, 1997; Strong, 2009). Not only is self-critical self-talk not significantly correlated to dissociation, I found that self-reinforcing self-talk was significantly and positively correlated with dissociation. Perhaps, when people find themselves being self-critical, they respond in an opposite way with self-reinforcement. They detach themselves from self-negativity by losing themselves in positive feelings, consistent with the study by Prasko et al. (2016), examining deliberate dissociation-like behaviors to handle anxiety and depression. Their study found significant reduction in depressive and anxiety-related symptoms related to dissociation after patients were interred to psychiatric hospitals for help, including the use of psychiatric drugs and cognitive-behavioral therapy, which is not unlike self-managing self-talk. Since the results of their collected DES scores did not have a significant effect on symptom reduction, it can be inferred that dissociative tendencies are of some benefit to people with depressive or anxiety disorders. Moreover, dissociation is usually a common side effect of trauma, as it is a way for people to disconnect from the painful situations of their past (Johnson et al., 1995). These situations would be consistent with the strong positive correlations in depersonalization and absorption.

As for hypothesis 4, like the previous hypothesis, not only was it unsupported, but the outcome was almost the opposite. Compared to the other subscales of self-talk, self-managing self-talk had some of the weakest correlations. My reasoning was that people would engage in more self-management following a dissociative experience as a way of centering themselves and

addressing the cognitive disruption, which could be consistent with the significant absorption score. People realize that they are absorbed in a thought or experience and take the steps to correct themselves. However, given the nature of dissociation as a cognitive disruption, it is possible that the opposite is true in the other cases. People who engage in self-management find themselves disrupted by amnesia or depersonalization, and the self-management comes to a stop. As Sara (2016) stated, dissociation can occur without a person realizing it, and in such cases, people would be unlikely to engage in self-managing self-talk. They would not feel the need to manage themselves when they do not feel disrupted. Moreover, past research has claimed that talking to oneself in the first place is creating a sort of cognitive distance between their experiences and their thoughts (Kross et al., 2014). If people do this on purpose, then it is likely that they do not view it as a disruption, much less a dissociative experience.

Finally, in hypothesis 5, I theorized that people who are highly aware of their social performance and surroundings would be less likely to experience dissociative tendencies, and the data support this claim. Sara (2016) offered insight into what dissociation felt like, a near-complete detachment from the world, with little cognizance of your dissociation until it comes to an end. The weakest correlation was between social assessment self-talk and amnesia, which makes sense based on how Carlson and Putnam (1993) define dissociative amnesia: having experiences or noticing changes that a participant does not remember being a part of. Amnesia is the absence of awareness, so social assessing self-talk should be absent from cases of amnesia. Moreover, in cases of cognitive disruption (Brinthaupt, 2019), people may feel the need to talk to themselves in order to reconcile and make sense of a strange experience. It is possible that people would engage in self-managing self-talk after experiencing amnesia, attempting to figure

out what happened to them after their amnesiac experience, but not during an amnesiac experience.

Limitations of the study

The first issue noticed in this study is the sample size. Naturally, a larger sample size begets greater statistical power, and there were many instances across the data output where the scores were very close to significance. If there were more scores to analyze, then it is possible that the results might have looked different. Many weak relationships between the subscales would have been stronger if there was a greater data pool to draw from. If this study is replicated or continued, a larger sample size would permit stronger tests of the hypotheses.

Also regarding the sample, it is possible that my focus was too narrow. Instead of focusing entirely on the upper and lower quartiles, I would have had a larger and more in-depth sample size to work with if I was using the entire spectrum of self-talk scores. I wanted to see what the difference between the two extremes, and examine how distinct cases of high and low self-talk frequency were related to dissociative tendencies. Now, having established a significant difference in dissociative experiences based on self-talk frequency, there is an avenue for exploring dissociative tendencies across the spectrum instead of only on the extremes.

Finally, although the amnesia subscale is measured with equal importance alongside absorption and depersonalization, I believed that it was too rare an occurrence to yield significance in a study of everyday experiences, and the data reflect this: amnesia had very weak correlations with every subscale of self-talk. There was a clear restriction of range problem, because the low scores left little room to detect any significant relationships. Reflecting on the

literature, dissociative amnesia was considered by many to be a very extreme example of dissociative tendencies, deeply rooted in clinical studies and research on trauma (e.g., Johnson et al., 1995; Merkelback & Muris, 2001; Schäfer et al., 2006). Although it is an integral part of the DES-II, it was unlikely to yield results, and the literature was a sure indicator of this, with no previous research found on dissociative amnesia in a non-clinical setting. I was limiting myself by focusing on a dimension of dissociation that was not going to get many results. However, I did not know that there would be few results until after the study was conducted, so I can at least claim that the work that went into researching the clinical aspects of dissociation was worthwhile.

Another interesting observation in the dissociation subscales was the unique prevalence of strong absorption scores. It had the most statistical significance of any dimension when comparing frequent and infrequent self-talkers, implying that it is the most common dissociative experience. Moreover, in almost all of the hypotheses, absorption had the strongest p-value, was the closest to significance, or it was the only exception in a set full of nonsignificant data, like in hypothesis 4. It makes sense that absorption is the most common dissociative experiences, for many people have anecdotes of zoning out or daydreaming, and consistent with the study by Kross et al. (2014), self-talk may be a type of dissociation in of itself, and could naturally precipitate absorption depending on how in-depth the self-talk is.

Implications for future research

Regarding the literature review, one drawback I faced was focusing mostly on clinical cases of dissociation, the extremes, instead of the more commonplace experiences that the DES-II aims to measure. I addressed this earlier, and also claimed it as a point of contrast between the

commonplace and the extreme, but other research exists that focuses on the less extreme instances of dissociation that I measured with the DES-II. A greater emphasis on such kinds of research and literature (e.g., Sar, 2014; Stone, 2006) would likely offer other concrete results on the relationship between commonplace dissociation and self-talk.

Moreover, future research could focus strictly on clinical examples of dissociation and self-talk, for there is already a substantial body of research on clinical cases. There are plenty of avenues to explore self-talk and how it relates to the behavior of patients with various disorders, like PTSD, DID, or any other major clinical case. Acknowledging that self-talk does, in fact, tend to influence behavior, mood, and the way people think (van Raalte & Vincent, 2017), there are plenty of opportunities to examine how self-talk manifests in serious cases of dissociation.

My secondary hypotheses, other than my primary hypothesis, found little support within the data, and I admit that they were extremely specific for this type of exploratory study. However, I was hoping to find specific answers because the relationship between self-talk and dissociation is a rarely-explored topic, and I was hoping to find more concrete data for this topic. For future explorations into this subject, other types of broader analyses and hypotheses would likely yield more fruitful results and answer more questions. Such research could explore different situations where people are more or less likely to dissociate or talk to themselves, akin to sport settings, and the effects that those specific types of dissociation or self-talk have on people in those specific situations (e.g., Hatzigeorgiadis et al., 2004). Research on self-talk in sports claims that self-talk in athletes tends to improve their performance through increased awareness of their actions and realizing how they need to change or improve their approach to something.

Another avenue for further research would be a more in-depth study of the cognitive disruption hypothesis and how it relates to self-talk. As Brinthaupt (2019) points out, cognitive disruptions can come in many other forms, like schizotypy or anxiety, and I only focused on dissociation for the purpose of this study. When faced with a cognitive disruption- usually a self-directed intrusion in their thoughts such as schizotypy, anxiety, or obsessive-compulsive disorder- people engage in self-talk to manage their thoughts and collect themselves before moving on. Particularly in reference to anxiety, one of the aforementioned types of cognitive disruption, engaging in self-reinforcing self-talk can be beneficial for alleviating said anxiety and even improving social performance, specifically in a public speaking situation (Shi et al., 2015).

Other research has been done on self-talk, so the results of this study could segue into research on other types of cognitive disruptions and dissociation. Brinthaupt (2019) found support for the cognitive disruption hypothesis in a number of situations, all of which could be compared against the prevalence of dissociative tendencies. There were significant findings for the cognitive disruption hypothesis. That is, people interpreted different experiences as a cognitive disruption and engaged in self-talk to alleviate any unpleasant feelings. Experiences include public speaking anxiety, the disorganized behaviors and thoughts of schizotypy, and the negative feelings that come with obsessive-compulsive disorders and tendencies. Any of these types of cognitive disruptions could be compared to how dissociation is interpreted as a disruption, and how these different experiences influence behavior, self-talk, or any other aspect of a person's psychology.

Conclusion

My goal in this study was to examine the relationship between self-talk tendencies and dissociative tendencies, expecting more dissociation when there is more self-talk. Moreover, my primary hypothesis was supported by the data. The explorations into this largely unexplored comparison between dissociation and self-talk with my other hypotheses were largely unsupported, but they should leave an effective foundation for further exploration into the subject. Little research exists that draws a direct comparison between dissociation and self-talk, and now, this study supports the notion that there is a direct link. Those who engage in more self-talk report more dissociative experiences, and this relationship warrants additional research in the future.

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Appendices

IRB Approval

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129

**MIDDLE
TENNESSEE
STATE UNIVERSITY**

IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Wednesday, November 01, 2017

Principal Investigator	**Thomas Brinthaupt** (Faculty)
Faculty Advisor	NONE
Co-Investigators	Jonathan Elam and Michael Connelly
Investigator Email(s)	*tom.brinthaupt@mtsu.edu; jwe2q@mtmail.mtsu.edu; mjc7c@mtmail.mtsu.edu*
Department	Psychology
Protocol Title	*Daily experiences and self-regulatory behavior*
Protocol ID	18-2080

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the categor(7) *Research on individual or group characteristics or behavior*. A summary of the IRB actions and other particulars in regard to this protocol are tabulated below:

IRB Action	APPROVED for one year from the date of this notification
Date of expiration	11/30/2018
Participant Size	200 (TWO HUNDRED)
Participant Pool	General adult MTSU students (Psychology Department Pretesting data)
Exceptions	Permitted to recruit students using email addresses.
Restrictions	1. Mandatory signed informed consent. 2. Mandatory participant presreening before enrolling.
Comments	NONE

This protocol can be continued for up to THREE years (11/30/2020) by obtaining a continuation approval prior to 11/30/2018. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

Institutional Review Board   Office of Compliance   Middle Tennessee State University

Continuing Review Schedule:

Reporting Period	Requisition Deadline	IRB Comments
First year report	10/31/2018	TO BE COMPLETED
Second year report	10/31/2019	TO BE COMPLETED
Final report	10/31/2020	TO BE COMPLETED

Post-approval Protocol Amendments:

Date	Amendment(s)	IRB Comments
NONE	NONE	NONE

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions imposed with this approval. Refer to the post-approval guidelines posted in the MTSU IRB's website. Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Amendments to this protocol must be approved by the IRB. Inclusion of new researchers must also be approved by the Office of Compliance before they begin to work on the project.

All of the research-related records, which include signed consent forms, investigator information and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:
     Click here for a detailed list of the post-approval responsibilities.
     More information on expedited procedures can be found here.

The STS

Self-Talk Scale and Descriptive Data

Researchers have determined that all people talk to themselves, at least in some situations or under certain circumstances. Each of the following items concerns those times when you might "talk to yourself" or carry on an internal conversation with yourself (either silently or out loud).

Determine how true each item is for you personally by circling the appropriate number next to each item. Assume that each item begins with the statement: "I talk to myself when ... " Be sure to rate each item. Please take your time and think carefully about each item. Use the following scale to rate each item:

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

I TALK TO MYSELF WHEN	M	SD
1. I should have done something differently [self-criticism]	3.64	.99
2. Something good has happened to me [self-reinforcement]	3.20	1.14
3. I need to figure out what I should do or say [self-management]	3.92	1.06
4. I'm imagining how other people respond to things I've said [social assessment]	3.34	1.13
5. I am really happy for myself [self-reinforcement]	3.04	1.07
6. I want to analyze something that someone recently said to me [social assessment]	3.55	1.12
7. I feel ashamed of something I've done [self-criticism]	3.01	1.16
8. I'm proud of something I've done [self-reinforcement]	3.03	1.12
9. I'm mentally exploring a possible course of action [self-management]	3.45	1.09
10. I'm really upset with myself [self-criticism]	3.33	1.10
11. I try to anticipate what someone will say and how I'll respond to him or her [social assessment]	3.42	1.21
12. I'm giving myself instructions or directions about what I should do or say [self-management]	3.42	1.08
13. I want to reinforce myself for doing well [self-reinforcement]	2.99	1.04
14. Something bad has happened to me [self-criticism]	3.08	1.06
15. I want to remind myself of what I need to do [self-management]	3.71	1.00
16. I want to replay something that I've said to another person [social assessment]	3.52	1.13

Note. Relevant facets appear in brackets next to each item. Total Self-Talk Scale score (range = 16–80) is the sum of all items. Individual subscale scores (range = 4–20) are calculated by summing the four items associated with each facet.

Informed Consent Sheet- STS

Middle Tennessee State University Institutional Review Board
Informed Consent Document for Research

MTSU
IRB Approved
Date: 8/30/13

Principal Investigators: Dr. Tom Brinthaupt & Dr. John Pennington
Study Title: Psychology Pretesting
Institution: Middle Tennessee State University

Name of participant: _____ Age: _____

The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to ask any questions you may have about this study and the information given below. You will be given an opportunity to ask questions, and your questions will be answered.

1. **Study Purpose:** Self-report questionnaire information will be obtained to help psychology researchers identify and recruit desired groups into studies being conducted later this semester.

2. **Description of procedures to be followed and approximate duration of the study:** You will complete a brief questionnaire. Based on your responses, you may be contacted via email by a researcher and asked to participate in other studies. Participation in this study requires 30 minutes.

3. **Expected costs:** None
4. **Unforeseeable risks:** None
5. **Compensation in case of study-related injury:** None

6. **Anticipated benefits from this study:** You will earn 1 credit toward the 4 credit research participation requirement in PSY 1410 and will make yourself potentially available for additional study participation.

7. **Alternative treatments available:** Not Applicable
8. **Compensation for participation:** None
9. **Circumstances under which the Principal Investigator may withdraw you from participation:** None

10. **What happens if you choose to withdraw from study participation:** You may withdraw from this project at any time, for any reason, without penalty or repercussion.

11. **Contact Information.** If you should have any questions about this research study or possibly injury, please feel free to contact Dr. Tom Brinthaupt at 898-2317or Dr. John Pennington at 904-8446. For additional information about giving consent or your rights as a participant in this study, please feel free to contact the Office of Compliance at (615) 494-8918.

12. **Confidentiality.** All efforts, within reason, will be made to keep the personal information in your research record private but total privacy cannot be promised. Your information may be shared with the MTSU university IRB or if you or someone else is in danger or if we are required to do so by law.

STATEMENT BY PERSON AGREEING TO PARTICIPATE IN THIS STUDY: I have read this informed consent document and the material contained in it has been explained to me verbally. I understand each part of the document, all my questions have been answered, and I freely and voluntarily choose to participate in this study.

Signature of volunteer: _____ Date: _____

Consent obtained by: _____ Date: _____
Researcher Signature

_____
Printed Name of Researcher

Adapted from Vanderbilt University

1

Informed Consent Sheet- DES-II

Principal Investigator: Thomas M. Brinthaupt
Study Title: Daily Experiences and Self-Regulatory Behavior
Institution: Middle Tennessee State University

Name of participant: _____ Age: _____

The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to ask any questions you may have about this study and the information given below. You will be given an opportunity to ask questions, and your questions will be answered. Also, you will be given a copy of this consent form.

Your participation in this research study is voluntary. You are also free to withdraw from this study at any time. In the event new information becomes available that may affect the risks or benefits associated with this research study or your willingness to participate in it, you will be notified so that you can make an informed decision whether or not to continue your participation in this study.

For additional information about giving consent or your rights as a participant in this study, please feel free to contact the MTSU Office of Compliance at (615) 494-8918.

1. **Purpose of the study:**
   The purpose of this study is to examine how different personality variables might be related to people's frequency of experiencing what are called "dissociative" experiences (i.e., periods of detachment from one's surroundings, experiences, or identity). Very little past research has examined this question.

2. **Description of procedures to be followed and approximate duration of the study:**
   The study should take between 20-25 minutes. The study consists of filling out a survey with standardized measures about dissociative experiences and self-control. You will also be asked to answer some basic demographic questions. The total number of questions/items is 67.

3. **Expected costs:**
   There are no costs associated with participating in this study.

4. **Description of the discomforts, inconveniences, and/or risks that can be reasonably expected as a result of participation in this study:**
   The potential harm or discomfort for participants should not be any greater than those normally encountered in daily life. The measures used are standardized and frequently used in research of this nature. We do not anticipate any problems with the items from the measures as they refer to everyday activities and experiences.

5. **Compensation in case of study-related injury:** N/A

6. **Anticipated benefits from this study:**
   This study is beneficial because the relationship between the variables we are studying has not been researched in depth and this could lead to a better understanding of dissociative experiences.

7. **Alternative treatments available:**
   N/A

8. **Compensation for participation:**
   There is no monetary compensation for your participation in this study. You will receive credit for your undergraduate general psychology class.

9. **Circumstances under which the Principal Investigator may withdraw you from study participation:**
   There should not be any circumstances where we will need to withdraw you from study participation.

Middle Tennessee State University Institutional Review Board
Informed Consent Document for Research

10. **What happens if you choose to withdraw from study participation:**
    If you choose to withdraw, your information will be discarded as well as the survey and any results will not be added into the study. There will be no negative consequences to you should you decide to withdraw.

11. **Contact Information.** If you should have any questions about this research study or possible injury, please feel free to contact Dr. Tom Brinthaupt at Tom.Brinthaupt@mtsu.edu

12. **Confidentiality.** All efforts, within reason, will be made to keep the personal information in your research record private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, if you or someone else is in danger or if we are required to do so by law.

13. **STATEMENT BY PERSON AGREEING TO PARTICIPATE IN THIS STUDY**
    I have read this informed consent document and the material contained in it has been explained to me verbally. I understand each part of the document, all my questions have been answered, and I freely and voluntarily choose to participate in this study.

_____   _____
Date   Signature of patient/volunteer

Consent obtained by:

_____   _____
Date   Signature

                                     _____
                                     Printed Name and Title

1