ABSTRACT

Title of Thesis: ON THE SOCIAL CONSEQUENCES OF THE DESIRE FOR MOTION

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Three studies investigated the effects of locomotion regulatory mode on individuals' evaluations of social partners who disrupt the smooth forward motion of a social interaction. Locomotion was expected to increase individuals' preference for smooth motion in social interactions. In turn, that preference was expected to lead to less positive evaluations of listeners who disrupted the "flow" of a social interaction. The results generally did not confirm the predictions. Theoretical and practical implications of the studies, as well as future directions for the research, are discussed.

# ON THE SOCIAL CONSEQUENCES OF THE DESIRE FOR MOTION

by

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# Chapter 1: Introduction

*"But meanwhile it is flying, irretrievable time is flying."*

– Virgil

Some individuals are constantly on the go, and treasure motion and progress toward goals. For such people, being in constant motion is the ideal, and any interruption of their motion is frustrating. The construct designed to capture such differences in the tendency toward movement is known as *locomotion* (Kruglanski et al., 2000). Locomotion orientation is defined as "the aspect of self-regulation concerned with movement from state to state, and with committing the psychological resources that will initiate and maintain goal-related movement in a straightforward and direct manner, without undue distractions or delays" (Kruglanski et al., 2000, p. 794). Individuals who are high on locomotion emphasize "doing," "hurrying," and "getting on with it already," since all of these allow them to move forward instead of standing still (Higgins et al., 2003).

Prior research on regulatory mode demonstrates that locomotors tend to engage in swift and straightforward motion at every opportunity (Kruglanski, Pierro, & Higgins, 2015). Individuals who are high on locomotion avoid procrastinating on goals and tasks, preferring instead to start moving as soon as possible. For example, locomotion is negatively correlated with scores on a procrastination scale (which measures the tendency to delay task initiation or completion), and it is negatively associated with insurance workers' actual procrastination as measured over a three-month period (Pierro, Giacomantonio, Pica, Kruglanski, & Higgins, 2011). In addition, high locomotors tend to complete tasks as quickly as possible (even when

such a focus on speed comes at the expense of accuracy; Kruglanski et al., 2000; Mauro et al., 2009). For instance, when engaged in a proofreading task, high (vs. low) locomotors take significantly less time to finish the task (Kruglanski et al., 2000). High locomotors also exhibit a greater ability to stay focused on a task and avoid becoming distracted. In one study, locomotion was positively associated both with perseverance (as measured by a scale tapping the ability to sustain effort in the face of adversity) and resistance to temptation (as measured by participants' reports of how likely they would be to put off studying for an important exam; Pierro et al., 2011). These findings indicate that locomotors prefer to engage in uninterrupted motion whenever they can. Importantly, research on pace synchrony and compatibility shows that increased nonverbal synchrony—i.e., coordinated physical movements—between partners leads to better relationship quality (Ramseyer & Tschacher, 2011). According to this logic, locomotors should get along better with others who "move at their pace"—which is, of course, always brisk and hurried.

Locomotors are also oriented toward making the best possible use of their time, and this, too, leads them to move forward as quickly and efficiently as possible (Kruglanski et al., 2015). Previous research on regulatory mode shows that high locomotors prefer situations that allow them to multitask—in other words, situations in which they can maximize their amount of movement per unit of time. One study demonstrated a positive association between individuals' locomotion scores and scores on a scale of preference for multitasking; another experiment found a positive correlation between high locomotors' opportunity to multitask at work and their satisfaction with their job; and a third study showed that locomotors who were given

the opportunity to multitask in a lab setting exhibited greater positive affect (Pierro, Giacomantonio, Pica, Kruglanski, & Higgins, 2013). Individuals who are high on locomotion are also better at overall time management, having an increased proficiency at setting goals and priorities, a greater preference for organization, and greater perceived control over their time (Amato, Pierro, Chirumbolo, & Pica, 2014). Locomotors even tend to "move on" and devalue past friends who are no longer helping them move quickly toward their goals. In two studies, locomotors significantly preferred a friend who was helping them move toward a current goal, as compared to a friend who had previously helped them move toward a recently-completed goal (Orehek, Fitzsimons, & Kruglanski, 2014). Lastly, high locomotors have been found to exhibit a Type-A behavior pattern, which is typically marked by impatience and the urgency to complete things in a timely manner (Kruglanski et al., 2000). These studies suggest high locomotors are likely to perceive any interruption to their swift forward motion as a waste of valuable time (Kruglanski et al., 2015), and therefore ought to view such interruptions negatively.

Interestingly, very little of the aforementioned research on locomotors' general preference for swift forward motion has addressed their preference for such motion in the realm of social interactions (but see Orehek, Fitzsimons, & Kruglanski, 2014). Much like other situations, social interactions can be characterized as either smooth and fluent or broken and fragmented. Fluent motion or "flow" in a conversation or other social interaction can be exhibited in multiple ways. For instance, a social interaction punctuated by many pauses may be experienced as more sluggish and stagnant than one which involves no pauses; in such case, a locomotor

may perceive that the conversation is not moving forward rapidly enough, and be displeased as a result. An interaction which involves multiple spoken interruptions may be viewed as being unnecessarily bogged down by the interruptions; a locomotor may become frustrated at the slow and fragmented feel of the conversation. Finally, an interaction which involves a listener repeatedly asking clarification questions, hence causing the speaker to stop and repeat himself instead of moving on, may lead a locomotor to feel that the conversation is not advancing forward as swiftly as he or she would wish. In general, therefore, locomotors should prefer social interactions—and interaction partners—that allow for smooth forward motion through a lack of pauses, interruptions, or misunderstandings. If an interaction does not allow for swift and uninterrupted motion, high locomotors should enjoy the interaction less, and feel less positively about their interaction partner.

Of course, it is not only locomotors who may dislike individuals who disrupt a social interaction. Previous research on the effects of pauses and interruptions on social evaluations indicates that when all else is equal, individuals will tend to have more favorable evaluations of others who speak quickly, smoothly, and fluently (i.e., with fewer pauses or interruptions). For instance, speakers who make less frequent pauses and relatively short pauses are rated more positively on both likeability and competence (Baskett & Freedle, 1974; Fox Tree, 2002; Lay & Burron, 1968; Natale, 1978; Scherer, London, & Wolf, 1973). Similarly, relatively fast speech rates (which necessarily include fewer pauses) generally lead to more positive overall evaluations of speakers (Brown, 1980; Smith, Brown, Strong, & Rencher, 1975). In the realm of interruptions, individuals who interrupt during a conversation are liked less, and are

viewed less positively overall, than those who do not interrupt (Farley, 2008; LaFrance, 1992; Robinson & Reis, 1989; Wiley & Woolley, 1988). Unsurprisingly, the type of interruption matters as well—deep interruptions, in which individuals interrupt with a change of topic, are more disruptive than interruptions which are indicative of active listening (such as a listener interrupting to agree with what the speaker said; LaFrance, 1992).

Importantly for the present purposes, although there seems to be a general negative effect of speech disfluencies such as pauses or interruptions on interpersonal evaluations, locomotors should be especially sensitive to this effect because they value smooth forward motion and do not want to disrupt it. Therefore I expect that the general effect of speech disfluencies on negative evaluations should be stronger for individuals who are high on locomotion. Since high locomotors are unwilling to tolerate anything that prevents them from moving forward in a timely fashion, they should also be less tolerant of such obstacles in the social realm. It is even possible that the previously found general displeasure experienced in response to speech interruptions was due to the inadvertently high proportion of locomotors in the samples studied, and that people low on the locomotion dimension would not exhibit negative responses to such disruptions. The three studies described below investigate this possibility.

The foregoing analysis suggests the following hypotheses:

1. Individuals who are high (vs. low) on locomotion should be more likely to prefer social interactions that move smoothly.

2. Individuals who are high (vs. low) on locomotion should evaluate interaction partners more negatively when the latter disrupt their smooth forward motion of a social interaction, whether this motion is disrupted through (a) interruptions during the conversation, (b) long pauses during the conversation, or (c) indications of a lack of understanding during the conversation.
3. Individuals' preference for smooth motion during social interactions should mediate the relationship between locomotion and the negative evaluation of partners who disrupt smooth forward motion in an interaction.

These hypotheses were tested in three studies. In the first study, locomotion was measured, participants completed a scale measuring their preference for smooth social interactions, and listened to an audio conversation in which one participant either interrupted the other during the conversation (or did not). In the second study, locomotion was manipulated, participants completed a scale measuring their preference for smooth social interactions, and took part in an online chat in which their partner asked them to clarify what they were saying several times (or did not). In the third study, locomotion was manipulated, participants completed a scale measuring their preference for smooth social interactions, and took part in an interview in the lab during which their partner paused frequently (or did not). In all three studies, the two main dependent variables were the participants' evaluations of their actual or fictitious conversation partners, and the participants' evaluations of the interaction or conversation as a whole.

The main objective of these studies was to contribute a novel insight into an important but heretofore overlooked predictor of individuals' evaluations of others

during a social interaction: the state or trait tendency to desire movement and change. These studies also attempted to shed light on the underlying mechanism that can lead the desire for movement to influence social evaluations. More broadly, this research endeavored to expand the current research on the personality and situational correlates of social evaluations by suggesting a critical determinant of such evaluations related to interaction flow.

# Chapter 2: Study 1

*Objective*

The main objective of this study was to investigate whether individuals who are high (vs. low) on the locomotion dimension will evaluate interaction partners more negatively when those partners disrupt the forward motion of a social interaction, and whether this relationship is mediated by their preference for smooth social interactions. In this study, motion was operationalized as a lack of interruptions during the interaction.

*Participants*

125 adult participants from the United States (64 females) were recruited through the online survey service Mechanical Turk. The average age of participants was 36.51 years ($SD$ = 11.77). Participants were compensated the small sum of 30 cents for their time. All participants signed an online consent form and were treated according to APA standards.

*Procedure*

**Introduction.** Participants were told that they would be taking part in a "social perception study" which investigates their perceptions of others.

**Locomotion scale.** Participants completed the 12-item locomotion regulatory mode scale (α = .91; Kruglanski et al., 2000), which includes items such as "I am a go-getter", "I enjoy actively doing things, more than just watching and observing", and "When I finish one project, I often wait a while before getting started on a new one" (reverse-coded).

**Type A scale.** Participants completed the 14-item scale of Type A personality (α = .48; Bortner, 1969), which asks individuals to rate where they fall on a continuum between two adjectives: one of the adjectives is anchored at 1, and the other at 9. Example items from the scale include: "I am: (1) Satisfied with my job --- (9) Ambitious"; "I am: (1) Always rushed --- (9) Never rushed, even under pressure"; "I am: (1) Easy going --- (9) Hard driving"; and "I am: (1) Not competitive --- (9) Very competitive." This scale was included to test the possibility that if the hypothesized effects of locomotion were found, they could be explained by locomotors' greater tendency to exhibit Type A personality traits (as observed in previous studies; Kruglanski et al., 2000).

**Big Five Agreeableness.** Participants completed the 9-item Agreeableness scale from the Big Five Inventory (α = .72; John & Srivastava, 1999). Sample items from the scale include: "I see myself as someone who is helpful and unselfish with others"; "I see myself as someone who is generally trusting"; and "I see myself as someone who likes to cooperate with others." All items were answered on a scale ranging from 1 – *disagree strongly* to 5 – *agree strongly.* This scale was included to test the possibility that if the hypothesized effects of locomotion were observed, they could be explained by locomotors' lower tendency to be agreeable (though some past

research has actually shown small-but-positive correlations [.11] between locomotion and agreeableness; Kruglanski et al., 2000).

**Preference for smooth motion in social interactions.** Participants were asked to rate the extent to which they agree with three statements describing their preference for smooth motion during social interactions ($\alpha = .64$): "It is important to me that my social interactions go smoothly", "I enjoy conversations that move at a fast pace", and "I prefer social interactions that are straightforward and direct." All items were answered on a scale from 1 - *completely disagree* to 9 - *completely agree*.

**Interruption manipulation.** After completing the scale of preference for smooth social interactions, participants were randomly assigned to listen to one of two versions of a two-minute-long recorded audio conversation between two individuals. Participants were instructed: "In the conversation you will listen to, the goal of Participant A [the speaker] is to share information about herself with Participant B [the listener]. When you are listening to this conversation, try to imagine that you are in the role of Participant A." In the conversation, the speaker is telling a second person (the listener) about her favorite college class. Both the speaker and the listener were female in the recording. In the high-interruption version, the listener interjected every 20-25 seconds with a deeply interrupting comment (LaFrance, 1992), such as "So that professor's name you mentioned sounds just like a teacher's last name that I had in high school" for a total of four comments throughout the conversation. In the no-interruption version, the listener made the same four comments, but at the end of the conversation rather than during the middle.

**Speaker and conversation evaluations.** Participants were asked to evaluate the speaker and the listener by responding to the following questions: "How good of a conversation partner was the speaker [listener]?" (1 - *very bad* to 9 - *very good*), "What is your overall impression of the speaker [listener]?" (1 - *very negative* to 9 - *very positive*), "How much would you like to have a conversation with the speaker [listener]?" (1 - *not at all* to 9 - *very much*), and "How much do you feel that the speaker's [listener's] personality is a good fit for you?" (1 - *not at all* to 9 - *very much*). They were also asked to evaluate the overall conversation with the following questions: "How pleasant do you feel that this conversation was overall?" (1 - *very unpleasant* to 9 - *very pleasant*) and "How much would you enjoy being part of a conversation such as this?" (1 - *not at all* to 9 - *very much*). The first four items were highly correlated, so they were combined to create a measure of participants' evaluation of the speaker ($\alpha = .94$). The last two items were also highly correlated ($r(123) = .79$, $p < .001$), and were therefore combined to create a measure of participants' evaluation of the overall conversation.

**Expectancy.** Participants were asked to rate the extent to which they agree with the following item: "During the task, how likely did you think it was that Participant A would attain the goal of sharing information about herself with Participant B?" (1 - *not at all likely* to 9 - *very likely*). This item was included to investigate the possibility that any observed effects of the conversation flow manipulation could be attributed to differences between the two interruption conditions on subjective expectancy of goal attainment.

**Goal attainment.** Participants were asked to rate the extent to which they agree with the following item: "Participant A attained the goal of sharing information about herself with Participant B" (1 – *definitely not* to 9 – *definitely yes*). Similar to the previous item, this question was included to investigate the possibility that any observed effects of the conversation flow manipulation could be attributed to differences between the two interruption conditions on perceived goal attainment.

**Manipulation check.** Participants answered two items regarding the extent to which they thought the conversation flow was interrupted: "Overall, do you think the conversation you listened to went smoothly?" (1 - *not at all* to 9 - *very much*), and "Did you feel that this conversation had a good flow?" (1 - *not at all* to 9 - *very much*). These items were highly correlated ($r(123)= .86$, $p < .001$) and were thus combined into one measure of perception of flow during the conversation.

*Results*

The complete correlation table of each of the measures in this study, as well as their means and standard deviations, is available in Table 1.

**Main analyses.** To test the main moderated mediation hypothesis, a moderated mediation analysis was conducted in PROCESS (Model 14; Hayes, 2013), using the evaluation of the speaker as a dependent variable. Locomotion was included as the predictor, preference for smooth motion (PFSM) in social interactions was treated as the mediator, and interruption condition was included as a moderator of the

PFSM to speaker-evaluation path[1] (see Figure 1 for the overall model). The total effect of locomotion on speaker evaluation was not significant ($B$ = 0.35, $SE$ = 0.22, $p$ = .114). Locomotion had a significant and positive effect on PFSM ($B$ = 0.80, $SE$ = 0.12, $p$ < .001). There was a significant interaction between PFSM and interruption condition ($B$ = 0.52, $SE$ = 0.23, $p$ = .023), such that when interruptions were absent, the effect of PFSM on speaker evaluation was not significant ($B$ = 0.08, $SE$ = 0.15, $p$ = .583). However, when interruptions were present, the effect of PFSM on speaker evaluation was positive and significant ($B$ = 0.59, $SE$ = 0.17, $p$ = .001); see Figure 3 for a graph of this interaction. The indirect effect of locomotion on speaker evaluation mediated by PFSM, estimated with 10,000 bootstrapped samples, was significant when interruptions were present ($B$ = 0.40, 95% CI [.09, .80]), but not significant when interruptions were absent ($B$ = -0.01, 95% CI [-0.27, 0.32]). The index of moderated mediation was significant (0.41, 95% CI [0.05, 0.84]). The direct effect of locomotion after controlling for PFSM and interruption condition was not significant ($B$ = 0.28, $SE$ = 0.20, $p$ = .176). The entire model was significant ($F$(4,120) = 20.23, $p$ < .001, $R^2$= .40).

A second moderated mediation analysis was conducted in PROCESS (Model 14; Hayes, 2013), this time using the evaluation of the overall conversation as a dependent variable. Again, locomotion was included as the predictor, PFSM in social

[1] The two moderated mediation analyses described here were also run with the Type A scale, Big Five scale, expectancy of goal attainment, and perceived goal attainment added in as covariates. The main results reported here did not change with the inclusion of those variables. None of the covariates were significant in either analysis, except that—similar to locomotion—the Type A scale was found to have a significant and positive effect on PFSM ($B$ = .41, $SE$ = .15, $p$ = .007). Nonetheless, even when controlling for participants' scores on the Type A scale, locomotion remained a highly significant predictor in both models.

interactions was treated as the mediator, and interruption condition was included as a moderator of the PFSM to evaluation path (see Figure 2). The total effect of locomotion on speaker evaluation was not significant, though it was trending ($B$ = 0.43, $SE$ = 0.24, $p$ = .083). Locomotion had a significant and positive effect on PFSM ($B$ = 0.80, $SE$ = 0.12, $p$ < .001). There was a significant interaction between PFSM and interruption condition ($B$ = 0.70, $SE$ = 0.29, $p$ = .018), such that when interruptions were absent, the effect of PFSM on speaker evaluation was not significant ($B$ = -0.01, $SE$ = 0.19, $p$ = .945). However, when interruptions were present, the effect of PFSM on speaker evaluation was positive and significant ($B$ = 0.67, $SE$ = 0.22, $p$ = .003); see Figure 4 for a graph of this interaction. The indirect effect of locomotion on speaker evaluation mediated by PFSM, estimated with 10,000 bootstrapped samples, was significant when interruptions were present ($B$ = 0.44, 95% CI [0.08, 0.89]), but not significant when interruptions were absent ($B$ = -0.12, 95% CI [-0.46, 0.19]). The index of moderated mediation was significant (0.56, 95% CI [0.11, 1.10]). The direct effect of locomotion after controlling for PFSM and interruption condition was not significant ($B$ = 0.38, $SE$ = 0.26, $p$ = .152). The entire model was significant ($F$(4,120) = 7.40, $p$ < .001, $R^2$= .20).

It was also of interest to examine whether there was an interaction between locomotion and interruption condition, without the mediator included. In order to investigate this possibility, two moderation analyses were conducted in PROCESS (Model 1; Hayes, 2013). In the first moderation analysis, locomotion was entered as the independent variable, interruption condition was entered as the moderator, and evaluation of the speaker was entered as the dependent variable. The second analysis

was identical to the first, except that evaluation of the overall conversation was entered as the dependent variable. However, neither of the analyses was significant (both *p*s > .30).

**Manipulation checks.** A *t*-test was carried out to investigate whether the high (vs. low) interruption manipulation successfully decreased participants' ratings of how smoothly the conversation flowed (which was an index composed of the two items described above). This analysis showed that as predicted, perceptions of flow were in fact significantly lower in the interruption condition ($M = 3.82$, $SD = 2.59$) than in the no-interruption condition ($M = 5.98$, $SD = 2.49$; $t(123) = 4.75$, $p < .001$).

Additional *t*-tests were carried out in order to investigate whether there were differences between the interruption conditions on the expectancy of goal attainment and perceived goal attainment. These analyses showed that both the expectancy of goal attainment and perceived goal attainment were higher in the no-interruption condition (*expectancy*: $M = 7.77$, $SD = 2.25$; *attainment*: $M = 7.55$, $SD = 2.20$) than in the interruption condition (*expectancy*: $M = 5.87$, $SD = 2.27$, $t(123) = 4.69$, $p < .001$; *attainment*: $M = 6.20$, $SD = 2.29$, $t(123) = 3.36$, $p = .001$).

**Discussion.** A higher locomotion score was originally expected to have a positive effect on individuals' preference for smooth motion in social interactions. In turn, the greater preference for smooth forward motion in social interactions was expected to have a negative effect on participants' evaluation of the listener (and the conversation) *only* when the listener interrupted during the conversation. Thus, the indirect effect of locomotion on negative evaluation was expected only when the

listener interrupted. However, the obtained results differed somewhat from those predictions: although locomotion did have a significant and positive effect on PFSM, higher levels of PFSM actually resulted in significantly *higher* evaluations of the speaker (and the conversation) in the interruption condition. This effect was non-significant in the no-interruption condition. Thus, a preference for smooth forward motion in social interactions appears to have led participants to show a *greater* preference for interrupters, rather than leading them to dislike interrupters more. This is especially odd because the manipulation checks showed that participants did not simply fail to notice the interruptions; perception of smooth conversation flow were significantly lower in the condition that had interruptions.

Though these results seem surprising at first, there are several potential explanations for the phenomenon. First, some recent research suggests that high locomotors are more forgiving both of their own past misdeeds (Pierro, Pica, Kruglanski, & Higgins, 2014) and of the transgressions of others (Webb, 2012). It is therefore possible that locomotors' tendency to forgive was driving the observed effect. That is, since high locomotors have a stronger preference for smooth motion during conversations (as we can see in the high correlation between the two constructs), perhaps they *did* become more frustrated when the conversation flow was interrupted. However, at that point, their strong tendency to forgive and "let it go" (Pierro et al., 2014) may have taken over, and they might have counterintuitively reacted by immediately forgiving the interrupter and liking that person even more.

An alternative explanation for the results observed in this study is that since high locomotors are impatient and want to get to the point quickly (Kruglanski et al.,

2000), they themselves may have a greater tendency to interrupt (although no empirical research has yet investigated this effect). If it is the case that locomotors interrupt more, then perhaps they exhibited greater preference for the person who interrupted during the conversation because they recognized that person as more similar to themselves, which led to greater liking (Byrne, 1971; LaPrelle, Hoyle, Insko, & Bernthal, 1990). This explanation is also supported by the fact that the participants in this study simply listened to a conversation, rather than participating in it themselves. Thus, since they were not *themselves* suffering from being interrupted during a task, they may have felt free to identify with the person who was doing the interrupting (and to like that person more).

Lastly, one other possibility—which is compatible with the first explanation discussed above—is that responding to the items that make up the preference for smooth forward motion scale primed participants who were high on PFSM with the concept of making sure that their social interactions are smooth and trouble-free. More specifically, answering the item "It is important to me that my social interactions go smoothly" may have reminded participants of the importance of being agreeable and not stirring up unpleasantness by giving another participant low evaluations (even if that participant was doing something they might normally perceive as unpleasant, such as interrupting a conversation). The fact that PFSM and locomotion were both significantly correlated with agreeableness in this study (*PFSM*: $r(123) = .25$, $p = .005$; *locomotion*: $r(123) = .40$, $p < .001$) and in prior research (Kruglanski et al., 2000) lends some credence to this explanation.

Given the present data, it is difficult to determine which of these explanations best accounts for the observed pattern of results. However, the following studies may shed some additional light on the mechanisms that underlie these effects.

# Chapter 3: Study 2

## *Objective*

This study aimed to build upon its predecessor by (a) including a manipulation rather than a measure of locomotion regulatory mode, (b) having participants engage in an actual interaction rather than listening to an audiotaped conversation, and (c) using a different operationalization of smooth forward motion: a communicated lack of understanding during an interaction.

## *Participants*

Participants were 127 undergraduate students (101 females) from University of Maryland. The average age of participants was 19.36 years (*SD* = 1.54). Participants were provided with informed consent and treated in accordance with APA guidelines. They were compensated with one SONA credit for their participation in the experiment.

## *Procedure*

**Introduction.** Upon arriving in the lab, participants were told that they would be taking part in a "communication task" that investigates how well partners work together on various projects.

**Type A scale.** Participants indicated how much they agreed with fourteen items capturing the extent to which they have a Type A personality ($\alpha = .34$); the items were identical to those used in the first study.

**Big Five Agreeableness.** Participants indicated how much they agreed with nine items measuring their agreeableness ($\alpha = .78$); the items were identical to those described in the first study.

**Locomotion manipulation.** Participants were randomly assigned to receive either a high or low locomotion induction. In the high locomotion condition, participants were asked to write out brief examples of the following three behaviors: "Think back to the times when you acted like a 'doer'", "Think back to the times when you finished one project and did not wait long before you started a new one", and "Think back to the times when you decided to do something and you could not wait to get started." In the low locomotion condition, participants were asked to write out brief examples of the following three behaviors: "Think back to the times when you were a 'low energy person,'" "Think back to the times when you procrastinated rather than moving forward," and "Think back to the times when you rested because you had just completed a goal" (cf. Avnet & Higgins, 2003).

**Preference for smooth motion in social interactions.** Participants indicated how much they agreed with three statements describing their preference for smooth motion during social interactions ($\alpha = .34$); the items were identical to those in the first study.

**Instruction task.** After completing the scale of their preference for smooth motion in social interactions, participants took part in a "communication task" that required them to type instructions in a chat window to another participant. Participants were instructed: "Your goal for the task is to share the instructions to the other person so that they can complete the puzzle task." Participants were given a sheet of instructions on how to complete an origami puzzle task (creating a paper bird) and asked to write out the instructions in their own words by sending chat messages to a second participant (actually a confederate). There were eight steps total in the origami instructions, and the participant had to explain each step in a separate message. After the chat task was described to them, the confederate and the participant were led to different lab rooms for the duration of the chat task, and informed that they should communicate only via online chat. Participants were randomly assigned to either the low-understanding or the high-understanding condition. In the low-understanding condition, the confederate wrote phrases such as "Can you say that in a different way? I didn't understand" or "Can you say that again? I don't understand what I'm supposed to do" in answer to the participant's chat messages. After the participant would repeat the answer, the confederate would write phrases such as "OK that makes sense, I think I got it" and "That one makes sense." In the high-understanding condition, the confederate wrote phrases such as "OK that makes sense, I think I got it" and "That one makes sense" in answer to each of the participant's chat messages. The confederate followed a pre-determined script in both conditions to ensure that the chat interactions would be as similar as possible across participants.

**Partner and conversation evaluations.** Participants were asked to evaluate their partner (the confederate) with the following questions: "How much did you like your partner?" (1 - *not at all* to 9 - *very much*) and "What is your overall impression of your partner?" (1 - *very negative* to 9 - *very positive*), "How much would you like to have another interaction with your partner?" (1 - *not at all* to 9 - *very much*), and "Do you feel that your partner's personality is a good fit for you?" (1 - *not at all* to 9 - *very much*). They were also asked to evaluate the overall conversation with the following questions: "How pleasant do you feel that this conversation was overall?" (1 - *very unpleasant* to 9 - *very pleasant*) and "How much did you enjoy giving instructions to your partner during this conversation?" (1 - *not at all* to 9 - *very much*). The first four items were highly correlated, so they were combined to create a measure of participants' evaluation of their chat partner ($\alpha = .91$). The last two items were also highly correlated ($r(125) = .55$, $p < .001$), and thus were combined to create a measure of participants' evaluation of the overall chat conversation.

**Expectancy.** Participants were asked to rate the extent to which they agree with the following item measuring goal expectancy: "During the task, how likely did you think it was that you would attain the goal of sharing the instructions with the other person?" (1 - *not at all likely* to 9 - *very likely*). This item was included to investigate the possibility that any observed effects of the conversation flow manipulation could be attributed to differences between the two understanding conditions on subjective expectancy of goal attainment.

**Goal attainment.** Participants were asked to rate the extent to which they agree with the following items: "I attained the goal of sharing the instructions with

the other person during the task" (1 – *definitely not* to 9 – *definitely yes*), and "My partner helped me attain this goal during the task" (1 – *definitely not* to 9 – *definitely yes*). These two items were highly correlated ($r(125) = .56$, $p < .001$) and were thus combined into one measure of perceived goal attainment. Similar to the previous item, this measure was included to investigate the possibility that any observed effects of the conversation flow manipulation could be attributed to differences between the two understanding conditions on perceived goal attainment.

**Manipulation checks.** As a manipulation check of the locomotion induction, participants completed the 12-item locomotion regulatory mode scale ($\alpha = .85$; Kruglanski et al., 2000). In addition, as a manipulation check for the understanding manipulation, participants responded to two items regarding the extent to which they thought the conversation flow was interrupted: "Overall, do you think the conversation went smoothly?" (1 - *not at all* to 9 - *very much*) and "Did you feel that this conversation had a good flow?" (1 - *not at all* to 9 - *very much*). These two items were highly correlated ($r(125) = .78$, $p < .001$) and were thus combined into one measure of perception of flow during the conversation.

*Results*

The complete correlation table of each of the measures, as well as their means and standard deviations, is available in Table 2.

**Main analyses.** To test the moderated mediation hypothesis, a moderated mediation analysis was conducted in PROCESS (Model 14; Hayes, 2013), using the

evaluation of the partner as a dependent variable. Locomotion condition was included as the predictor, preference for smooth motion (PFSM) in social interactions was treated as the mediator, and understanding condition was included as a moderator of the PFSM to partner-evaluation path (see Figure 1 for an overview of the model). However, the index of moderated mediation was not significant (0.02, 95% CI [-0.07, 0.28]), and none of the paths in the model were significant.[2]

A second moderated mediation analysis was conducted in PROCESS (Model 14; Hayes, 2013), this time using the evaluation of the overall conversation as a dependent variable. Locomotion condition was again included as the predictor, preference for smooth motion (PFSM) in social interactions was treated as the mediator, and understanding condition was included as a moderator of the PFSM to partner-evaluation path (see Figure 2). In this analysis, the index of moderated mediation was also not significant (0.01, 95% CI [-0.07, 0.21]), and none of the paths in the model were significant.

It was also of interest to examine whether there was an interaction between locomotion condition and understanding condition, without the mediator included. In order to investigate this possibility, two ANOVAs were conducted. The first one included locomotion condition and understanding condition as independent variables, and partner evaluation as the dependent variable. The second ANOVA was identical

[2] The two moderated mediation analyses described here were also run with the Type A scale, Big Five scale, expectancy of goal attainment, and perceived goal attainment added in as covariates. The main results reported here did not change with the inclusion of those variables.

to the first, except that it included overall conversation evaluation as the dependent variable. However, neither interaction analysis was significant (both *p*s > .30).

**Manipulation checks.** A *t*-test was carried out to examine whether the high (vs. low) locomotion manipulation successfully increased participants' scores on the locomotion regulatory mode scale. This analysis revealed that, contrary to predictions, participants' locomotion scores were significantly lower in the *high* locomotion condition ($M = 4.78$, $SD = .84$) than in the *low* locomotion condition ($M = 5.20$, $SD = .76$; $t(125) = 2.98$, $p = .003$).

Another *t*-test was carried out to investigate whether the high (vs. low) understanding manipulation successfully decreased participants' ratings of how smoothly the conversation went (which was an index composed of the two items described above). However, there were no significant differences in perception of conversational smoothness between the two understanding conditions ($p > .40$), suggesting that the understanding manipulation did not work to disrupt the conversation flow.

Lastly, a *t*-test was carried out to determine whether the locomotion induction successfully increased participants' scores on the PFSM scale. There were no significant differences in PFSM between the two locomotion conditions ($p > .65$). However, as in the first study, participants' scores on the locomotion scale were significantly correlated with their scores on the PFSM scale ($r(125) = .25$, $p = .006$). This suggests that high locomotion *is* generally related to the preference for smooth

motion during social interactions, but that the locomotion manipulation did not successfully increase participants' state levels of locomotion in this experiment.

**Exploratory analyses.** Since the manipulation check showed that the locomotion induction was not successful in this study, I tried to re-run the moderated mediation analyses described above, while using the locomotion scale (instead of the manipulation) as the predictor variable. I speculated that although the locomotion induction had not worked to increase participants' locomotion levels in this study, including the locomotion *scale* in the analysis could offer an insight into whether locomotion was indeed related to the variables of interest. However, in the new analysis, the index of moderated mediation was still not significant in the model with partner evaluation as a dependent variable (-0.10, 95% CI [-0.37, 0.04]); neither was it significant in the model with overall conversation evaluation as the dependent variable (-0.03, 95% CI [-0.26, 0.15]).

I also re-examined whether there was an interaction between locomotion and understanding condition (without the mediator included), again using the locomotion *scale* instead of the locomotion manipulation in the analyses. To this aim, I conducted two regression analyses in PROCESS (Model 1; Hayes, 2013). The first analysis included locomotion score as the predictor and understanding condition as the moderator, with partner evaluation as the dependent variable. The second regression was identical to the first, except that it included overall conversation evaluation as the dependent variable. However, neither regression analysis was significant (all *p*s > .20).

**Discussion.** In this study, the high locomotion induction was originally expected to have a significant positive effect on individuals' preference for smooth forward motion in social interactions. In turn, the greater preference for smooth forward motion in social interactions was expected to have a significant negative effect on participants' evaluation of their partner *only* when the partner showed a lack of understanding. Thus, the indirect effect of locomotion on negative evaluation was expected only when the partner shows a lack of understanding during the conversation. However, the results of this experiment do not provide support for this hypothesis.

There could be several reasons that the expected effects were not found in this study. The first and perhaps most important one is that the manipulation check revealed that the attempt to manipulate locomotion was unsuccessful. In fact, it showed that the locomotion manipulation had the opposite of the intended effect: a high locomotion induction actually led participants to score *lower* on the locomotion scale. This unintuitive effect could potentially be due to participants in the high locomotion condition feeling as though they had already attained their goal of locomoting. More specifically, it is possible that simply responding to the locomotion writing prompt—in which participants had to vividly imagine and write about past instances when they acted like a locomotor—may have led individuals to feel that they had already completed their locomotion goal at the current moment. This would then deactivate their goal to locomote in the present—thus giving them lower scores on the locomotion scale than their supposedly "low-locomotion" counterparts. In summary, although this manipulation of locomotion has been used numerous times in

the past literature (e.g., Avent & Higgins, 2003; Pierro et al., 2008; Pierro, Presaghi, Higgins & Kruglanski, 2009), in this instance it did not work as expected, which could explain the null effects observed in the study.

Another problematic point in this experiment was that the manipulation checks did not reveal any significant differences in perceptions of conversational smoothness between the two understanding conditions. This suggests that operationalizing smooth forward motion as a lack of confusion during a conversation may not be ideal, since participants do not necessarily seem to perceive a partner's confusion during a conversation as indicative of interrupted conversation flow.

Lastly, in spite of the fact that the preference for smooth motion scale showed acceptable reliability in the first study ($\alpha = .64$), it had extremely low reliability in this study ($\alpha = .34$). That very low reliability could have made it more difficult to detect any significant effects in the mediation model (Peterson, 1994). Thus, although it is difficult to draw definitive conclusions from this experiment because of the null results, the main issue appears to be the fact that neither the manipulations nor the PFSM scale worked as predicted.

# Chapter 4: Study 3

*Objective*

The main objective of the last study was to extend the generalizability of the first two studies through the use of a different operationalization of smooth forward motion during an interaction: the lack of pauses during a conversation. In addition, this experiment aimed to show that the same processes that were hypothesized to occur in the first two studies would also be present during a face-to-face social interaction, in which participants themselves experienced the lack of swift forward motion during a discussion with another person.

*Participants*

Participants were 128 undergraduate students (84 females) from University of Maryland. The average age of participants was 19.81 years ($SD$ = 2.33). Participants provided informed consent and were treated in accordance with APA guidelines. They were compensated with one SONA credit in exchange for their participation in the experiment.

*Procedure*

**Introduction.** Upon arriving in the lab, participants were told that they would be taking part in an "interview task" which investigates how individuals evaluate others during an interview.

**Type A scale.** Participants indicated how much they agreed with 14 items capturing the extent to which they have a Type A personality ($\alpha = .45$); the items were identical to those in the first and second studies.

**Big Five Agreeableness.** Participants indicated how much they agreed with nine items measuring their agreeableness ($\alpha = .78$); the items were identical to those described in the first and second studies.

**Locomotion manipulation.** Participants were randomly assigned to complete either a high or low locomotion prime. They completed the same written locomotion induction described in the second study.

**Preference for smooth motion in social interactions.** Participants indicated how much they agreed with three statements describing their tendency to prefer smooth motion during social interactions ($\alpha = .54$); the items in this scale were identical to those in the first and second study.

**Partner and interview evaluations.** After completing the scale of their preference for smooth motion in social interactions, participants took part in an interview task in the lab. They were randomly assigned to either the no-pause or the long-pause condition. All participants were told that they had to complete an interview in the lab with another participant (who was actually a confederate). More specifically, they were instructed: "Your goal for the task is to complete an interview with the other person." They were told that they would be randomly chosen to be either the interviewer or the interviewee (though in actuality, all participants were assigned to the interviewer role, and the confederate was always the interviewee).

Each participant had to ask his or her partner a series of ten scripted questions (sample question: "Would you rather vacation in Alaska or Hawaii, and why?"). In the no-pause condition, the partner (i.e., the confederate) answered each question immediately after it was asked (sample answer: "Definitely Hawaii, I'd love to be on a beach all the time"). In the long-pause condition, the confederate gave the same answers to the ten questions, but would pause for five to seven seconds before answering each question. The confederate memorized all ten answers from a script before the study began, and was carefully trained to give the exact same answers in both the pause and the no-pause condition.

**Expectancy.** Participants were asked to rate the extent to which they agreed with the following item measuring the expectancy of goal attainment: "During the task, how likely did you think it was that you would attain the goal of completing the interview with the other person?" (1 - *not at all likely* to 9 - *very likely*). This item was included to investigate the possibility that any observed effects of the conversation flow manipulation could be attributed to differences between the two pause conditions on subjective expectancy of goal attainment.

**Goal attainment.** Participants were asked to rate the extent to which they agree with the following items: "I attained the goal of completing the interview with the other person" (1 – *definitely not* to 9 – *definitely yes*) and "My partner helped me attain this goal during the task" (1 – *definitely not* to 9 – *definitely yes*). These two items were highly correlated ($r(126) = .61$, $p < .001$) and were thus combined into one measure of perceived goal attainment. Similar to the previous item, this measure was included to investigate the possibility that any observed effects of the conversation

flow manipulation could be attributed to differences between the two pause conditions on perceived goal attainment.

**Manipulation checks.** As a manipulation check, participants completed the 12-item locomotion regulatory mode scale ($\alpha = .81$; Kruglanski et al., 2000). In addition, participants responded to two items measuring the extent to which they thought the conversation flow was interrupted during the interview: "Overall, do you think the interview went smoothly?" (1 - *not at all* to 9 - *very much*) and "Did you feel that this interview had a good flow?" (1 - *not at all* to 9 - *very much*). These two items were highly correlated ($r(125)= .84$, $p < .001$) and were thus combined into one measure of perception of flow during the conversation.

*Results*

The complete correlation table of each of the measures in this study, as well as their means and standard deviations, is available in Table 3.

**Main analyses.** To test the main moderated mediation hypothesis, a moderated mediation analysis was conducted in PROCESS (Model 14; Hayes, 2013), using the evaluation of the partner as a dependent variable. Locomotion condition was included as the predictor, preference for smooth motion (PFSM) in social interactions was treated as the mediator, and pause condition was included as a moderator of the PFSM to partner-evaluation path (see Figure 1 for an overview of

the model). However, the index of moderated mediation was not significant (0.09, 95% CI [-0.03, 0.41]), and none of the paths in the model were significant.[3]

A second moderated mediation analysis was conducted in PROCESS (Model 14; Hayes, 2013), this time using the evaluation of the overall interview as a dependent variable. Locomotion condition was again included as the predictor, preference for smooth motion (PFSM) in social interactions was treated as the mediator, and pause condition was included as a moderator of the PFSM to partner-evaluation path (see Figure 2). In this analysis, the index of moderated mediation was also not significant (0.11, 95% CI [-0.03, 0.53]), and none of the paths in the model were significant.

It was also of interest to examine whether there was an interaction between locomotion condition and pause condition, without the mediator included. In order to investigate this possibility, two ANOVAs were conducted. The first one included locomotion condition and pause condition as independent variables, and partner evaluation as the dependent variable. The second ANOVA was identical to the first, except that it included overall interview evaluation as the dependent variable. However, neither analysis was significant (both *p*s > .14).

**Manipulation checks.** A *t*-test was carried out to examine whether the high (vs. low) locomotion manipulation successfully increased participants' scores on the locomotion regulatory mode scale. This analysis revealed that, contrary to

[3] The two moderated mediation analyses described here were also run with the Type A scale, Big Five scale, expectancy of goal attainment, and perceived goal attainment added in as covariates. The main results reported here did not change with the inclusion of those variables.

expectations, there were no significant differences in scores on the locomotion scale between the two locomotion conditions ($p > .70$).

Another *t*-test was carried out to investigate whether the pause (vs. no-pause) manipulation successfully decreased participants' ratings of how smoothly the interview went. This analysis revealed that the pause manipulation did not have a significant effect on the perceived smoothness of the overall interview ($p > .40$).

Lastly, a *t*-test was carried out to determine whether the locomotion induction successfully increased participants' scores on the PFSM scale. There were no significant differences in PFSM between the two locomotion conditions ($p > .10$). However, as in the first and second studies, participants' scores on the locomotion scale were significantly correlated with their scores on the PFSM scale ($r(126) = .31$, $p < .001$). This provides further support for the notion that high locomotion is generally related to the preference for smooth motion during social interactions, even though the locomotion manipulation did not successfully increase participants' state levels of locomotion in this study.

**Exploratory analyses.** Since the manipulation check showed that the locomotion induction was not successful in this study, I tried to re-run the moderated mediation analyses described above, while using the locomotion scale (instead of the manipulation) as the predictor variable. I conjectured that although the locomotion induction had not worked to increase locomotion, including the locomotion *scale* in the analysis could still offer an insight into whether locomotion was related to the variables of interest. However, in this new analysis, the index of moderated mediation

was still not significant in the model with partner evaluation as a dependent variable (0.11, 95% CI [-0.06, 0.38]). In the model with overall interview evaluation as the dependent variable, it was not significant either (0.15, 95% CI [-0.07, 0.51]).

I also re-examined whether there was an interaction between locomotion and pause condition (without the mediator included), again using the locomotion scale instead of the locomotion manipulation in the analyses. To this aim, I conducted two regressions in PROCESS (Model 1; Hayes, 2013). The first regression included locomotion score as the predictor, pause condition as the moderator, and partner evaluation as the criterion. The overall regression was trending ($R^2$ = .05, $F$(3,124) = 2.08, $p$ = .10). There was a significant interaction between locomotion and pause condition ($B$ = 0.69, $SE$ = 0.29, $p$ = .017) such that in the pause condition, high (vs. low) locomotors were more likely to evaluate their partner positively ($B$ = 0.47, $SE$ = 0.22, $p$ = 0.33). However, in the no-pause condition, there were no differences between high and low locomotors ($B$ = -0.23, $SE$ = 0.19, $p$ = .230; see Figure 5).

The second regression included locomotion score as the predictor, pause condition as the moderator, and overall interview evaluation as the criterion. The overall regression was significant ($R^2$ = .07, $F$(3,124) = 3.10, $p$ = .029). There was a significant interaction ($B$ = 0.96, $SE$ = 0.34, $p$ = .005), such that in the pause condition, high (vs. low) locomotors were more likely to evaluate the interview positively ($B$ = 0.72, $SE$ = 0.25, $p$ = .005). However, in the no-pause condition, there were no differences between high and low locomotors ($B$ = -0.24, $SE$ = 0.22, $p$ = .279; see Figure 6).

**Discussion.** The high locomotion induction was originally expected to have a significant positive effect on individuals' preference for smooth forward motion in social interactions. In turn, the preference for smooth forward motion in social interactions was expected to have a significant negative effect on participants' evaluation of their partner *only* when the partner took more pauses. Therefore, the indirect effect of locomotion on negative evaluation was expected only when the partner paused more during the interview. However, the results obtained in this study differed somewhat from those predictions. Although the main moderated mediation analyses were not significant, exploratory analyses showed a pattern that was very similar to that found in Study 1: in this experiment, participants who were high on measured locomotion actually had significantly *higher* evaluations of their partner (and the overall conversation) in the condition with pauses. This effect was non-significant in the no-pause condition.

There are several potential explanations for the mixed results obtained in this experiment. First, the manipulation checks showed that the locomotion induction did not have a significant effect on participants' scores on the locomotion scale, which could explain why the moderated mediation analyses that included manipulated locomotion did not work. In addition, the preference for smooth motion scale had only moderate reliability in this study ($\alpha = .54$), which could have lowered the likelihood of detecting a significant effect in the mediation model (Peterson, 1994). Lastly, the manipulation checks revealed that the pause manipulation did not have a significant effect on the perceived flow of the overall interview. In spite of the latter issue, however, the significant interaction between locomotion and pause condition

implies that the pause condition still had some effects on participants' evaluations—even if the participants were not necessarily conscious of those effects.

The similarity of the interactions observed in Study 1 and Study 3 offer some insight into the plausibility of the various explanations of the results in both studies. For instance, in Study 1, I speculated that locomotors may like individuals who interrupt because they view them as more similar to themselves. However, that mechanism could not account for the results observed in this study, because it is very unlikely that high locomotors (who generally focus on speed and movement) would believe themselves to be similar to a person who pauses frequently. This leaves the other two explanations put forth in Study 1, both of which could plausibly explain the effects of this study. For instance, it is possible that their greater tendency for forgiveness may have led locomotors to react to frustrating pauses by immediately forgiving their partner and subsequently liking him or her even more. It is also possible that in this study, as in the first one, responding to the PFSM items (especially to "It is important to me that my social interactions go smoothly") may have primed the participants—and high locomotors especially—to believe that they should make their current interaction as smooth and agreeable as possible. This in turn could have led to their giving higher ratings to an otherwise unpleasant interview partner (i.e., one who paused frequently during the conversation). This latter possibility is supported by the weak but positive correlation between locomotion and agreeableness ($r(126) = .13$, $p = .159$) observed in this study.

# Chapter 5: General Discussion

The social consequences of a desire for movement and change are an intriguing but relatively unexplored area of research. The main objective of this research was to extend the empirical literature on locomotion regulatory mode by showing that locomotion can influence not only individuals' own actions but also their perceptions of others' actions. With some exceptions, the current work on regulatory mode theory has generally focused on the effects of locomotion on individuals' actions, rather than on its effects on perceptions of others (see Kruglanski et al., 2013 and Kruglanski et al., 2015 for reviews). The studies described here endeavored to fill this gap. To this aim, across three studies, I attempted to show that individuals who are high on the locomotion regulatory mode have a greater preference for smooth forward motion in social interactions, and are therefore more likely to form negative evaluations of those who disrupt their swift motion during a social interaction. The experiments included a variety of methods (ranging from an online chat to an in-person interview) and used several different operationalizations of disrupted motion (ranging from interruptions during an interview to a lack of cohesive understanding in a chat conversation). However, taken as a whole, the experimental results did not provide support for the predictions.

In the first study, I found that as predicted, locomotion did have a positive effect on PFSM. However, increasing levels of PFSM actually resulted in

significantly higher evaluations of the speaker (and the overall conversation) when there were interruptions present during the conversation. In other words, a preference for smooth forward motion in social interactions appears to have led participants to show a greater preference for interrupters, rather than leading them to dislike interrupters more. In the second study, none of the main analyses were significant, though the manipulation checks revealed that the locomotion manipulation had a significant effect in the wrong direction: the low (vs. high) locomotion condition actually led to participants having higher scores on the locomotion scale. In last study, the main analyses were not significant, but exploratory analyses revealed that—similar to the results of Study 1—participants with higher locomotion scores actually had significantly higher evaluations of their partner (and the overall conversation) when the conversation contained pauses (but not when it did not).

Various explanations could account for these effects. Given the relatively consistent effects found in Study 1 and Study 3, the most plausible interpretation of the results appears to stem from the fact that high locomotors are both more agreeable (Kruglanski et al., 2000) and more forgiving (Pierro et al., 2014; Webb, 2012). Thus, although high locomotion is associated with a greater preference for smooth forward motion (as we see in the significant correlations between PFSM and locomotion, which range from .25 to .51 in these studies), that preference for motion may not necessarily lead locomotors to dislike anyone who disrupts their movement. Rather, it is possible that although locomotors do become frustrated by interruptions to their motion, their greater agreeableness and tendency to forgive might cause them to

suppress any such frustration, and to subsequently evince even greater liking for someone who disrupts their smooth forward motion.

One problematic issue in these studies is that high locomotors may not necessarily have perceived the interruptions (particularly the ones in Studies 2 and 3) as actually interrupting their movement or progress toward a goal. For instance, if participants' goal in Studies 2 and 3 was merely to have an idle chat with a fellow participant, or to obtain a shared reality with the other person (Hardin & Higgins, 1996), they may not have felt that their partner was disrupting their motion when he or she asked clarification questions or paused to think carefully about a question. Rather, the participants may have believed that their partner was actually helping them move toward their goal (i.e., by pausing to think deeply about the question they asked in order to give the best possible answer). This perception could subsequently have influenced participants' ratings of both their partner and the overall conversation.

*Future Directions*

There are many potential future directions for this line of research. First, it would be of interest to investigate whether the measurement of the mediator (i.e., having participants respond to the PFSM scale) influenced the effects found in the three studies. Thus, future studies could attempt to replicate the current research while only including only locomotion scale (or manipulation) and the flow disruption manipulation, to see whether high locomotion participants respond to interruptions differently when they have not been recently reminded of their preference for interpersonal smoothness and harmony.

Furthermore, the locomotion manipulation used in Studies 2 and 3 had effects on the locomotion scale that were either significant in the opposite direction (Study 2) or entirely non-significant (Study 3). Thus, future studies that investigate these phenomena would do well to either utilize the locomotion scale or create an entirely different manipulation of locomotion. For instance, some preliminary pilot testing in our lab indicates that participants who watched an energetic, fast-moving video of parkour dancers jumping on rooftops subsequently scored higher on the locomotion scale than participants who watched a sweet video of a kitten meeting a hedgehog (although the two videos were equated for positivity and interest). This type of manipulation could potentially be used in future studies that investigate the social effects of locomotion; it would have the added benefit that participants should be less likely to guess the hypothesis, because they would presumably have trouble drawing the connection between watching an energetic video and their subsequent ratings of an interaction partner.

The manipulations of smooth forward motion included in Studies 2 and 3 also may not have been ideal, since the manipulation checks indicated that participants did not necessarily perceive the high-disruption conditions (confusion in Study 2, and pauses in Study 3) as more disruptive of the conversation flow. However, participants *did* perceive the high-disruption condition in Study 1 (more interruptions during the conversation) as more disruptive of the conversation flow. This suggests that additional research should investigate the best way to operationalize disrupted conversation flow. Interruptions during a conversation seemed to work well as a manipulation of disruption in this set of studies, but other options to examine could

include slower speech rates (Brown, Giles, & Thakerar, 1985; Stewart & Ryan, 1982), stuttering (Gabel, 2006), or even heavy foreign accents (Brown et al., 1985; Bresnahan, Ohashi, Nebashi, Liu, & Shearman, 2002).

Lastly, if high locomotors are more agreeable and more forgiving, it does not necessarily mean that they feel less frustration if their motion is disrupted; they may just be more reluctant to disclose their annoyance, to the extent that they actually veer in the opposite direction and give higher ratings to someone who might have frustrated them. Future research could investigate this possibility by using implicit measures of affect and liking (e.g., the Implicit Association Test; Greenwald, Poehlman, Uhlmann, & Banaji, 2009; Nosek, Greenwald, & Banaji, 2007). For example, it is possible that although locomotors give higher explicit ratings to partners who interrupt the conversation flow, they actually feel more implicit negative affect after such a conversation and would evince greater implicit dislike of their partner.

In conclusion, the three studies described here do not offer support for the hypotheses advanced in the introduction. Nonetheless, future research could fruitfully examine whether the results obtained here were due to some idiosyncratic aspects of the methodology, or—perhaps more interestingly—whether high locomotors are in fact more prone to like those who disrupt their forward movement.

# Appendices

## Tables

| | Type A | Agree | PFSM | Speak. | Conv. | Exp. | Attain. | Flow | Loc. |
|---|---|---|---|---|---|---|---|---|---|
| Type A | - | | | | | | | | |
| Agreeableness | -.16 | - | | | | | | | |
| PFSM | .30** | .25** | - | | | | | | |
| Speaker Eval. | -.12 | .18* | .18* | - | | | | | |
| Conv. Eval. | -.11 | .17 | .15 | .74*** | - | | | | |
| Expectancy | -.11 | .10 | .16 | .41*** | .45*** | - | | | |
| Goal Attain. | -.13 | .10 | .15 | .32*** | .40*** | .81*** | - | | |
| Perceived Flow | -.16 | .06 | .13 | .66*** | .79*** | .55*** | .47*** | - | |
| Locomotion | .28** | .40*** | .51*** | .14 | .16 | .08 | .07 | .05 | - |
| *Mean* | *4.94* | *3.36* | *6.42* | *4.48* | *4.63* | *6.84* | *6.89* | *4.92* | *4.47* |
| *SD* | *0.78* | *0.47* | *1.40* | *2.21* | *2.47* | *2.44* | *2.34* | *2.75* | *0.90* |

*Table 1*. Inter-correlations and descriptive statistics for all variables in Study 1.
* Correlation is significant at $p <. 05$.
** Correlation is significant at $p < .01$
*** Correlation is significant at $p < .001$

| | Type A | Agree | PFSM | Partner | Conv. | Exp. | Attain. | Flow | Loc. |
|---|---|---|---|---|---|---|---|---|---|
| Type A | - | | | | | | | | |
| Agreeableness | -.24** | - | | | | | | | |
| PFSM | .25** | -.04 | - | | | | | | |
| Partner Eval. | -.27** | .17 | -.02 | - | | | | | |
| Conv. Eval. | -.18* | .11 | .07 | .63*** | - | | | | |
| Expectancy | -.03 | .08 | -.07 | .29** | .57*** | - | | | |
| Goal Attain. | -.31*** | .15 | -.01 | .52*** | .56*** | .42*** | - | | |
| Perceived Flow | .32*** | .19* | .12 | .64*** | .75** | .45*** | .64*** | - | |
| Locomotion | .36*** | .20* | .25** | -.03 | .14 | .19 | -.07 | -.01 | - |
| *Mean* | *5.08* | *3.66* | *6.48* | *6.50* | *5.88* | *5.40* | *7.22* | *6.83* | *4.98* |
| *SD* | *0.65* | *0.48* | *1.07* | *1.53* | *1.72* | *2.33* | *1.78* | *1.83* | *0.82* |

*Table 2*. Inter-correlations and descriptive statistics for all variables in Study 2.
* Correlation is significant at $p <$ .05.
** Correlation is significant at $p < .01$
*** Correlation is significant at $p < .001$

| | Type A | Agree | PFSM | Partner | Conv. | Exp. | Attain. | Flow | Loc. |
|---|---|---|---|---|---|---|---|---|---|
| Type A | - | | | | | | | | |
| Agreeableness | -.26** | - | | | | | | | |
| PFSM | .45*** | -.15 | - | | | | | | |
| Partner Eval. | -.13 | .07 | .07 | - | | | | | |
| Conv. Eval. | -.14 | .10 | .10 | .77*** | - | | | | |
| Expectancy | -.05 | .23* | .13 | .17 | .30** | - | | | |
| Goal Attain. | .05 | -.04 | .17 | .35*** | .29** | .42*** | - | | |
| Perceived Flow | -.03 | .17 | .11 | .57*** | .65*** | .27** | .33*** | - | |
| Locomotion | .45*** | .13 | .31*** | .04 | .09 | -.03 | .12 | .25** | - |
| *Mean* | *5.19* | *3.53* | *6.72* | *6.78* | *7.18* | *8.83* | *8.89* | *7.96* | *4.99* |
| *SD* | *0.74* | *0.56* | *1.15* | *1.30* | *1.53* | *1.88* | *1.13* | *1.75* | *0.80* |

*Table 3*. Inter-correlations and descriptive statistics for all variables in Study 3.
* Correlation is significant at $p <$ .05.
** Correlation is significant at $p <$ .01
*** Correlation is significant at $p <$ .001

## Figures

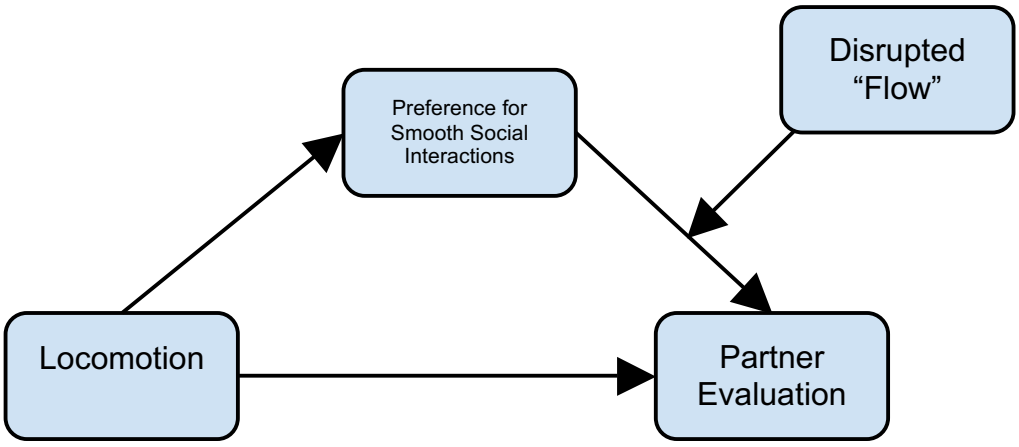


*Figure 1.* Moderated mediation model proposed in Studies 1-3, with speaker (Study 1) or partner (Studies 2 & 3) evaluation as the dependent variable.

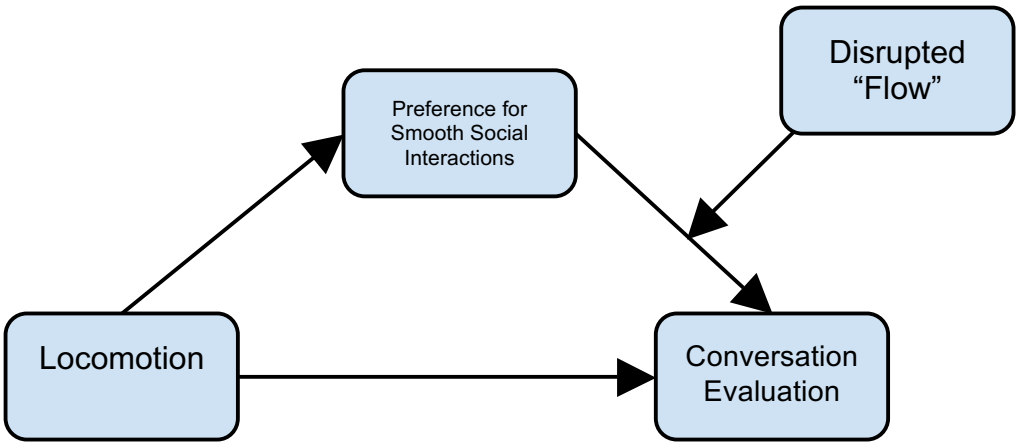


*Figure 2.* Moderated mediation model proposed in Studies 1-3, with overall conversation evaluation as the dependent variable.

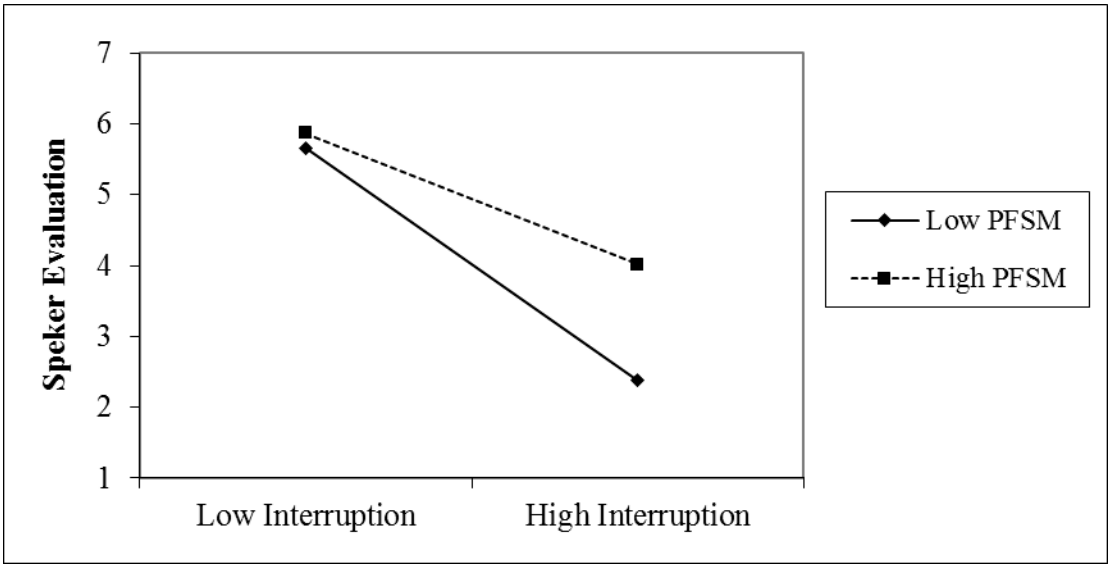


*Figure 3.* Interaction between PFSM and interruption condition, with speaker evaluation as the dependent variable (Study 1).

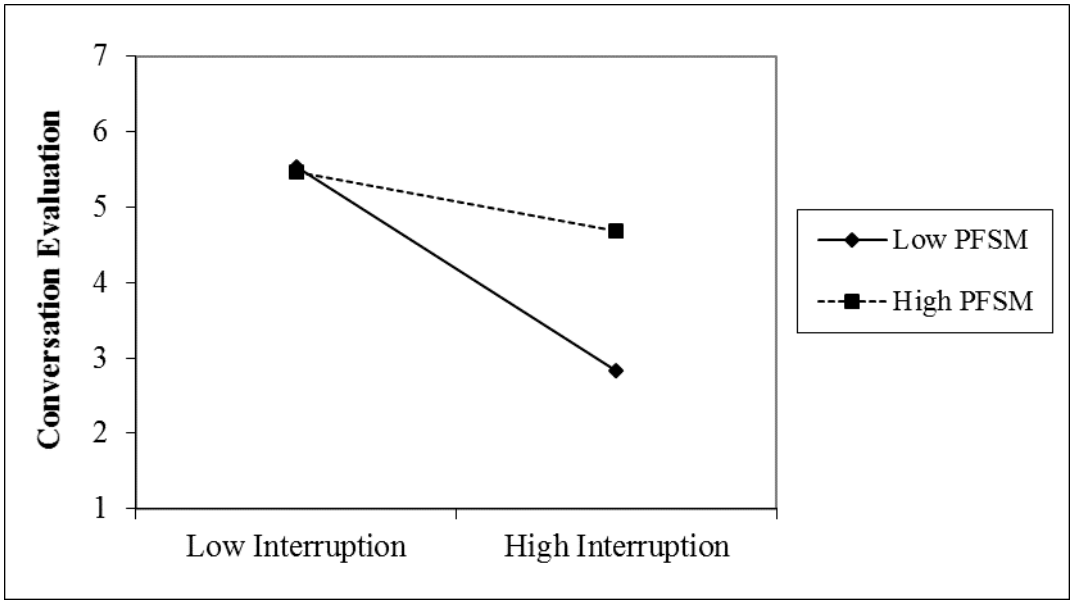


*Figure 4.* Interaction between PFSM and interruption condition, with overall conversation evaluation as the dependent variable (Study 1).

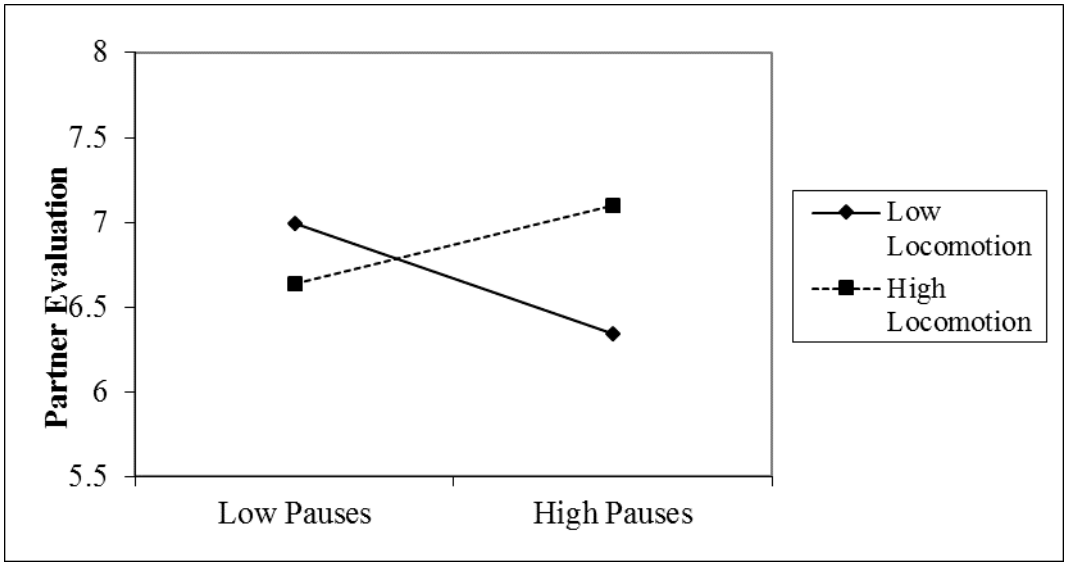


*Figure 5.* Interaction between locomotion score and pause condition, with partner evaluation as the dependent variable (Study 3).

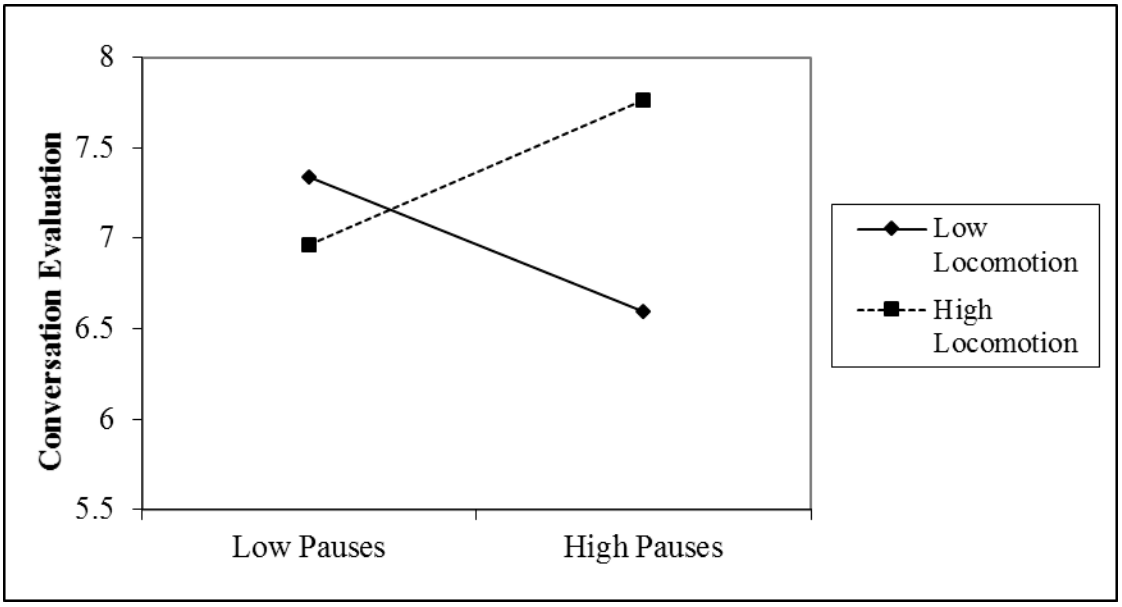


*Figure 6.* Interaction between locomotion score and pause condition, with overall conversation evaluation as the dependent variable (Study 3).

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