

# I talk, self-focused attention and implicit achievement motive

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**Abstract:** The use of pronouns is linked to unconscious processes. Especially self-referred pronouns deliver much about the writer of a story. I tested two theories, the achievement motive theory and the theory of self-focused attention on a data set of 2942 PSE/TAT-protocols. Here I analyzed how the implicit (unconscious) achievement motive and its two components hope of success (HS) and fear of failure (FF) can be found in the use of self-referred pronouns. The results show that the achievement motive is related to self-referred but not to we-referred pronouns. Further results show that FF is more related to self-referred pronouns than HS. Furthermore, FF is more related to self-referred personal than self-referred possessive pronouns. This speaks for both the theory of implicit achievement motive and self-focused attention theory.

**Keywords:** TAT; PSE; achievement motive; self-focused attention.

## Introduction

Language is a central mean of all social communication. Therefore, unconscious processes should reflect in the language<sup>1</sup>. In the following it should be assessed how the unconscious (implicit) achievement motive is linked to the use of I-orientated formulations. This is done to test two theoretical assumptions. First, it has been noted that I-orientated formulations are more likely found in people with neuroticism<sup>2</sup>, anxiety disorder<sup>3</sup>, and depression<sup>4</sup>.

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<sup>1</sup> See Nicole Gruber, "The Implicit Achievement Motive in the Writing Style." *Journal of Psycholinguistic Research* (2022):1-22; Oliver C. Schultheiss, "Are implicit motives revealed in mere words? Testing the marker-word hypothesis with computer-based text analysis." *Frontiers in psychology* 4 (2013):748.

<sup>2</sup>Lin Qiu et al., "You are what you tweet: Personality expression and perception on Twitter." *Journal of research in personality*, 46, no 6 (2012):710-718.

<sup>3</sup> Timo Brockmeyer et al., "Me, myself, and I: self-referent word use as an indicator of self-focused attention in relation to depression and anxiety." *Frontiers in psychology* 6 (2015): 1564

<sup>4</sup> See Johannes Zimmermann et al., "First person pronoun use in spoken language as a predictor of future depressive symptoms: Preliminary evidence from a clinical sample of depressed patients." *Clinical psychology & psychotherapy*, 24.2 (2017), 384-391; Johannes Zimmermann et al., "Validierung einer deutschsprachigen 16-

This is based on the model of self-focused attention (SFA)<sup>5</sup>. The reason of the phenomenon is discussed, e. g. that people focus more on themselves because of self-protection or to regulate negative affect<sup>6</sup>. Tackman et al.<sup>7</sup> found that SFA is only related to depression via negative affect and so found in personal than in possessive pronouns.

The second model is based on the achievement motive, as competing with a standard of excellence<sup>8</sup>. It is assumed that implicitly (unconscious) motivated individuals have a self-referential standard of excellence, whereas explicitly (conscious) motivated individuals orient themselves to social reference norms<sup>9</sup>. Later, Heckhausen<sup>10</sup> divided the achievement motive into an approach component hope of success (HS) and an avoidance component fear of failure (FF). Implicit motives are assessed by the projective measure Thematic Apperception Test a picture story exercise (TAT/PSE,<sup>11</sup>), where people invent stories based on six pictures. The idea is that the person identifies with the person in the picture and thus projects their own unconscious desires onto the picture. These unconscious motives and wishes manifest in the following story and can be extracted from it using a certain coding system. The relationship of implicit achievement motive and SFA in text is interesting as first one has a close relationship to emotions and implicit achievement motivated people have a self-referential standard of excellence<sup>12</sup>. As HS and FF are two independent factors that can interact with each other, the multiplication of HSxFF seems to be a better indicator for the overall achievement motive than just its sum (see<sup>13</sup>).

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item-Version des Inventars der Persönlichkeitsorganisation (IPO-16)." *Diagnostica* 59.1 (2013): 3-16; Timo Brockmeyer et al., "Me, myself, and I: self-referent word use as an indicator of self-focused attention in relation to depression and anxiety." *Frontiers in psychology* 6 (2015):

1564; Allison M. Tackman et al., "Depression, negative emotionality, and self-referential language: multi-lab, multi-measure, and multi-language-task research synthesis." *Journal of personality and social psychology* 116.5 (2019): 817.

<sup>5</sup> Nilly Mor, & Jennifer Winkler. "Self-focused attention and negative affect: a meta-analysis," *Psychological bulletin* 128.4 (2002): 638.

<sup>6</sup> Timo Brockmeyer et al., "Me, myself, and I: self-referent word use as an indicator of self-focused attention in relation to depression and anxiety." *Frontiers in psychology* 6 (2015): 1564

<sup>7</sup> Allison M. Tackman et al., "Depression, negative emotionality, and self-referential language: A multi-lab, multi-measure, and multi-language-task research synthesis." *Journal of personality and social psychology* 116.5 (2019): 817.

<sup>8</sup> David C. McClelland, *Human motivation* (New York, NY: Cambridge University Press, 1987).

<sup>9</sup> Joachim C. Brunstein, "Implicit and explicit motives" In *Motivation und Action*, (edited by Jutta Heckhausen & Heinz Heckhausen (Springer, 2018), 269–295.

<sup>10</sup> Heinz Heckhausen, *Hoffnung und Furcht in der Leistungsmotivation [Hope and Fear components of Achievement* (Weinheim: Anton Hain, 1963).

<sup>11</sup> *Ibidem*.

<sup>12</sup> Joachim C. Brunstein, "Implicit and explicit motives", In *Motivation und Action*. Edited by Jutta Heckhausen & Heinz Heckhausen, 3rd ed., (Springer, 2018) 369–405.

<sup>13</sup> Martin V. Covington, and Brent W. Roberts, "Self-worth and college achievement: Motivational and personality correlates." In *Student motivation, cognition, and learning* eds. Eds. R. Pintrich, D. R. Brown, & C. Weinstein (Routledge, 2012), 173-204.

Furthermore, FF is related to depression and self-protection behavior (e.g.<sup>14</sup>), so if SFA and implicit achievement motive are both related in the I-talk, especially FF should be related to I-talk. Also Schultheiss<sup>15</sup> assessed how implicit motives are related to language, he found none (-.02) to low (-.22) correlations of the words I and we to the implicit achievement motive, which was not divided into the two components hope of success and fear of failure.

In this paper it should be tested if SFA affects the implicit achievement motive in the text. It is assumed:

1. As the implicit achievement (HSx FF) motive is referred to an internal standard of excellence it should be related more to self-orientated than to we-orientated pronouns
2. If SFA influences this effect, FF should be more related to self-orientated pronouns than HS
3. If SFA influences this effect in the way Tackmann<sup>16</sup> assumed, FF should be more related to personal than possessive self-orientated pronouns

So, if SFA is related to negative affect it should be related more to FF than to HS, especially more in personal than in possessive pronouns.

## Method

Sample: I used 2942 German TAT/PSEs from a larger data set. Demographical information is independent from the use of I-formulations in negative affect<sup>17</sup>. The TAT/PSE coding neglects if an achievement task is done alone or together, so this could not influence the research question. Furthermore, there is no information about gender and age, but this should not have influence on speech<sup>18</sup>

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<sup>14</sup>See Helmut Lukesch et al., "Entwicklung und Validierung des Regensburger Leistungs-Motiv-Inventars Für Erwachsene (RLMI-E)." (2008), <https://epub.uni-regensburg.de/3679/1/lukesch43.pdf> . See, also, Martin V.Covington, & Brent W. Roberts, *op. cit.*, and Nicole Gruber, *Ist eine Computerversion bei der Messung impliziter Motive der Papier-Bleistift-Version überlegen? Eine Untersuchung am Beispiel des TAT nach Heckhausen* (Regensburg: Roderer Verlag, 2014).

<sup>15</sup>Oliver C. Schultheiss, "Are implicit motives revealed in mere words? Testing the marker-word hypothesis with computer-based text analysis." *Frontiers in psychology* 4 (2013): 748.

<sup>16</sup>Allison M.Tackman et al., "Depression, negative emotionality, and self-referential language: A multi-lab, multi-measure, and multi-language-task research synthesis." *Journal of personality and social psychology* 116.5 (2019): 817.

<sup>17</sup>Nicholas S. Holtzman, "A meta-analysis of correlations between depression and first person singular pronoun use." *Journal of Research in Personality* 68 (2017): 63-68.

<sup>18</sup>See Nicole Gruber, and Alfred Jockisch, "Are GRU cells more specific and LSTM cells more sensitive in Motive classification of text?." *Frontiers in artificial intelligence* 3 (2020): 40, <https://doi.org/10.3389/frai.2020.00040> ; Nicole Gruber, "The Implicit Achievement Motive in the Writing Style." *Journal of Psycholinguistic Research* (2022):1-22. <https://doi.org/10.1007/s10936-022-09891-7>.

Materials: After everything was set to lower letters, a counter function with a spacer before it counted all self-referred grammatical functions for self-orientation as well as we-referred for we-orientation see appendix). To exclude different grammatical meanings from the counting I implemented the stanford neuronal network dependency parser <sup>19</sup>with the natural language toolkit in Python and omitted the detected forms.

Statistical analysis: The inter-rater-agreement of 7 students (N=60), using the ICC<sup>20</sup> was (HS=.73  $p < .001$ ; FF=.70,  $p < .001$ ) in a good range <sup>21</sup>. Also the ad coefficient <sup>22</sup> was acceptable (HS =.989, FF =.993,  $ps < .05$ ). The interaction of HS and FF was calculated as their multiplication. Besides correlations, the 95% CI-interval to compare the correlations and correlation comparisons were calculated <sup>23</sup>.

## Results

First, the results show that the achievement motive as the interaction of HSx FF is related to self-orientation ( $r = .06$ ,  $p = .0001$ ), but not to we-orientation ( $r = -.03$ ,  $p = .09$ ). In similar way Schultheiss <sup>24</sup> found that I orientation ( $r = -.02$ ) is more related to the achievement motive than we orientation ( $r = -.07$ ). In this study this difference is also statistically significant ( $z = 4.88$ ,  $p < .001$ )

Next, it was shown if the SFA has an influence on this effect. There is no relationship between HS, self-orientation ( $r = -.027$ ,  $p = .140$ ; 95%CI [-.045;.010]) and we-orientation ( $r = -.025$ ,  $p = .180$ ; 95%CI [-.043;.001]). There is also no statistically significant correlation between FF and we-orientation ( $r = -.031$ ,  $p = .088$ ; 95%CI [-.050; .009]), but a correlation between FF and self-orientation ( $r = .104$ ,  $p < .001$ , 95%CI [.086; .122]). So the results here show, that only FF is related to self-orientated pronouns.

Next it is shown that FF has a stronger correlation to personal self-orientated pronouns ( $r = .108$ ,  $p < .001$ , 95%CI [.090; .126]) than to possessive self-orientated pronouns ( $r = .05$ ,  $p < .001$ , 95% CI [.033; .068]). HS had none to slow

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<sup>19</sup> M. C. De Marneffe, and C. D. Manning, *Stanford typed dependencies manual. Technical report* (Stanford: Stanford University, 2008).

<sup>20</sup> Patrick E. Shrout, and Joseph L. Fleiss. "Intraclass correlations: uses in assessing rater reliability." *Psychological bulletin* 86, 2 (1979): 420.

<sup>21</sup> Gregory J. Meyer et al., "An examination of interrater reliability for scoring the Rorschach Comprehensive System in eight data sets." *Journal of personality assessment* 78, 2 (2002): 219-274

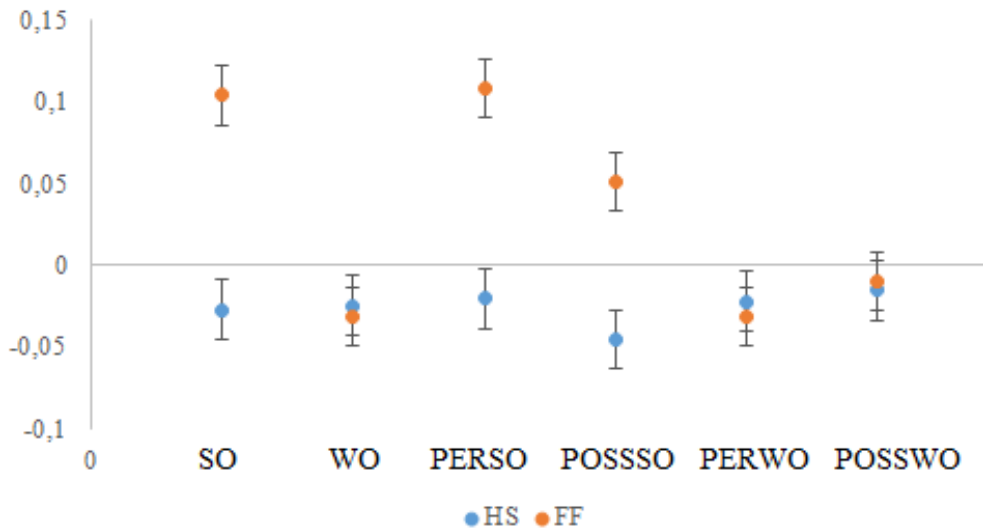
<sup>22</sup> Kreuzpointner, Ludwig, Patricia Simon, and Fabian J. Theis. "The ad coefficient as a descriptive measure of the within-group agreement of ratings." *British Journal of Mathematical and Statistical Psychology* 63, 2 (2010): 341-360.

<sup>23</sup> James H. Steiger, "Tests for comparing elements of a correlation matrix." *Psychological bulletin* 87, 2 (1980): 245.

<sup>24</sup> Oliver C. Schultheiss, "Are implicit motives revealed in mere words? Testing the marker-word hypothesis with computer-based text analysis." *Frontiers in psychology* 4 (2013): 748.

negative relations to both self-orientated pronouns ( $r = -.021, p = .262, 95\% \text{ CI } [-.039; .000]$ ) and we-orientated pronouns ( $r = -.045, p = .014, 95\% \text{ CI } [-.063; -.027]$ ). Same is visible for the correlations to we-orientated personal and possessive pronouns they were for both, HS and FF in a nonsignificant negative range from  $-.031$  to  $-.001$ . This clearly shows that especially FF is related to self-orientated personal pronouns (see figure 1).

Finally, it shows that HS and FF did not differ in their correlation to we-orientated pronouns (general, personal, and possessive), but they strongly differ in their correlation to self-orientated pronouns ( $Z = 5.425$  to  $7.124, ps < .0001$ ).



**Figure 1.** Correlations (95% CI) between HS, FF and self-orientation (SO), self-orientated personal pronouns (Perso), possessive pronouns (Possso), we-orientation (WO), we-orientated personal pronouns (Perwo), possessive pronouns (Posswo) on  $N = 2942$ .

## Discussion

Summary, the result speaks for both the implicit achievement motive theory and the SFA by demonstrating its relationship to only FF, which has clear connections to depression and self-protecting behavior<sup>252627</sup> This shows that

<sup>25</sup>Helmut Lukesch et al., "Entwicklung und Validierung des Regensburger Leistungs-Motiv-Inventars für Erwachsene (RLMI-E)." (2008).

<sup>26</sup>Martin V. Covington, and Brent W. Roberts. "Self-worth and college achievement: Motivational and personality correlates." *Student motivation, cognition, and learning* (Routledge, 2012) 173-204.

<sup>27</sup> Nicole Gruber, Ist eine Computerversion bei der Messung impliziter Motive der Papier-Bleistift-Version überlegen? Eine Untersuchung am Beispiel des TAT nach Heckhausen (Regensburg: Roderer Verlag, 2014).

SFA is related to negative affect even before depressions are detected <sup>28</sup>. Similarly, Smirnova <sup>29</sup> reported depressed having more self-realization and existential than altruistic goals. Also, here again SFA is more related to personal than possessive pronouns <sup>30</sup>. The results also explain why both self-referred personal pronouns and FF are related to higher blood pressure, because both are related to negative affect <sup>31 32</sup>. Clearly as a limitation it has been noted that the data set contains only German protocols. For example, Schultheiss <sup>33</sup> found that in English data the correlations between I and we orientation and achievement motive were higher (-.22 resp. -.23) so further research with other language systems should be done. Another limitation is clearly the fact that Heckhausens coding scheme was used, so comparisons across the coding schemes could be done.

## Conclusions

The goal of this short study was to assess if *self*- and *we*-orientation can be found in the stories someone is writing during the Thematic Apperception Test a picture story exercise (TAT/PSE; <sup>34</sup>). The paper tested two theoretical concepts. Following the assumptions of the achievement motivation, the achievement motive should be stimulated by a self-referential state, since achievement-oriented persons have an inner standard of excellence and set themselves self-referential goals. Thus, this focus on own achievement goals should also be found in a self-referential mode of expression. Second, according to a self-attention model of negative affects the component fear of failure should be more related to I-orientation than hope of success. However, the results show that only fear of failure and not hope of success is positively related to self-orientation. So it is also found here that I-talk is related to the fearful part of the achievement motive. This is in a similar way to the clinical psychology, where negative affect is related to ego-orientation. Finally, the result speaks

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<sup>28</sup> Johannes Zimmermann et al., "First person pronoun use in spoken language as a predictor of future depressive symptoms: Preliminary evidence from a clinical sample of depressed patients." *Clinical psychology & psychotherapy*, 24, 2 (2017), 384-391.

<sup>29</sup> Daria Smirnova et al., "Language patterns discriminate mild depression from normal sadness and euthymic state." *Frontiers in psychiatry* 9 (2018): 105.

<sup>30</sup> Allison M. Tackman et al. "Depression, negative emotionality, and self-referential language: A multi-lab, multi-measure, and multi-language-task research synthesis." *Journal of personality and social psychology* 116.5 (2019): 817.

<sup>31</sup> Heinz Heckhausen, *Hoffnung und Furcht in der Leistungsmotivation [Hope and Fear components of Achievement]* (Weinheim: Anton Hain, 1963).

<sup>32</sup> Cindy Chung, and James W. Pennebaker, "The Psychological Functions of Function Words." In *Social Communication*, ed. Klaus Fiedler (New York: Psychology Press, 2007) 343-359.

<sup>33</sup> Oliver C. Schultheiss, "Are implicit motives revealed in mere words? Testing the marker-word hypothesis with computer-based text analysis." *Frontiers in psychology* 4 (2013): 748.

<sup>34</sup> Heinz Heckhausen, *Hoffnung und Furcht in der Leistungsmotivation [Hope and Fear components of Achievement]* (Weinheim: Anton Hain, 1963).

against the cliché of the ego-related achievement motivated person and are in favor of the self-attention model of negative emotions.

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**Appendix:** Calculation of Self- and We-orientation:

Self-orientation = count (ich, mir, mich, mein, meine, meinem, meinen, meiner, meines, meus)  
– count (verb meine, meinen, mein)

We-orientation = Count (wir, uns, unser, unsere, unseren, unserem, unseres, unserer, unsers)

**BIONOTE:**

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**Article history**

Received:	Reviewed:	Accepted:	Available online:
20.07.2022	20.08.2022	21.08.2022	30.09.2022