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# Employee Pronoun Use In Verbatim Comments As A Predictor Of Job Attitudes And Turnover Intentions

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EMPLOYEE PRONOUN USE IN VERBATIM COMMENTS AS A PREDICTOR OF JOB  
ATTITUDES AND TURNOVER INTENTIONS

by

AMY SUND

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of

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2014

MAJOR: PSYCHOLOGY (Industrial/Organizational)

Approved by:

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## DEDICATION

I dedicate this work to my many families, whose unwavering support and encouragement have allowed my success in this and every endeavor. To my parents, Doug and Peggy Sund, and my sister Laura – thank you for being my strongest and most persistent cheerleaders, a valued source of wisdom, and an extra set of eyes. You show me daily how important it is to work hard, be kind, and have fun. I am proud to be just like you. Love ya!

To my nieces and nephew(s) – Thank you for bringing so much joy into my life – even if you're too young to know it yet! I hope you grow up loving life and knowing that you can be anything you want to be.

To Collin Hall – thank you for your encouragement, your patience, and your unconditional love and support. Thank you for letting me be me, always and in all my forms, and choosing to see the best parts. I am so excited for a life with you by my side, whatever adventures may come our way.

And to my WP&A family – Thank you for taking me in as one of your own, for laughing at my jokes (horrible and otherwise) and for always being my champions. Your support of me as a student, a colleague, and a friend has made work fun and inspiring. I am so happy to be part of the family, and very much looking forward to my future with the team and at the Company.

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## CHAPTER 1: INTRODUCTION

Satisfaction and other employee attitude surveys are common-place across organizations, although their cadence and purpose may vary. The extent to which survey results are used by organizations, and therefore their value, also varies widely across organizations. In the best case, the results of satisfaction surveys are used to assess employee attitudes as they relate to important organizational outcomes and guide targeted interventions if needed. However, in some cases the data collected from these surveys are either ignored or are considered only in passing and often non-systematically. In the present research, employee attitude survey responses are examined as they relate to turnover intentions.

Many employee surveys include an open-ended response portion, in which respondents have the opportunity to elaborate on their responses to the survey or provide unstructured opinions. Despite being a source of potentially rich, contextualized information, these responses may not be read or analyzed in a systematic or data-based way. Research suggests that leaders favor qualitative over quantitative results (Patton, 2002). However, the interpretation and recall of open ended comments is more subject to biases such as the availability heuristic. Recent improvements in text analysis software provide an opportunity to glean new insights from open-ended text responses and have the potential to increase the utility of this data. The intent of the research presented here is to examine opportunities for using survey data more effectively.

In the present research, the specific focus of text analysis is on employees' use of pronouns (e.g., I, we, and they). The traditional focus of text analysis has been on the subject of the message. However, recent research in the social psychology literature has identified pronouns and other seemingly innocuous words as an important component of written and spoken speech. They are used at a drastically higher rate than content words, and may provide

insight into individual differences among speakers. In the present research, pronoun use is studied as it relates to employee attitude survey responses and turnover intentions.

In the present study, the relationship between traditional survey responses (i.e. closed-ended responses) and comments (i.e., open ended responses) is tested within individuals. Many attitude surveys, including the one used in the present study, are anonymous. As such, organizations rarely tie them directly to performance, turnover, or any other individual behaviorally-based outcomes. The present study examines the relationship between survey response and turnover intentions, which are less dependent on external factors (e.g., job market) and do not require a linkage to an identified employee's behavior.

There is value in the present research for both an applied and academic audience. The business value lies in the targeted use of survey data, which becomes more valuable to the extent that it predicts meaningful outcomes. The high cost of attrition has been demonstrated repeatedly, both in the actual costs associated with hiring activity and the overall impact to the firm's performance (Park & Shaw, 2013). Therefore, the potential link between turnover intentions and survey responses is undoubtedly of interest to an organization. First, there are opportunities to create targeted interventions aimed at reducing attrition related to low morale, particularly among those that are most at risk to leave. As an example, addressing the Employment Value Proposition (EVP) in response to employee attitudes could go a long way in making the organization an ideal workplace for employees.

Second, there is value in being able to predict future attrition rates. The rising interest in strategic workforce planning as part of human resources relies heavily on assumptions about the current workforce (including attrition rates) in planning for future workforce needs. A clearer understanding of anticipated attrition rates will help make predictive models more robust.

An additional benefit to the organization is the ability to interpret text in a systematic way. At present, open-ended responses are often read by leaders in an attempt to identify some prototypical responses, although their interpretation is more subject to bias (Patton, 2002). The messages conveyed in employee comments are also thought to outweigh quantitative data, as they are recalled more readily (Poncheri, Lindberg, Thompson & Surface, 2006). Therefore, it is important to establish whether open ended comments coincide with or contradict closed-ended responses. To the extent that they align, an organization may consider using a systematic approach to comment analysis. This could allow for the possibility that, in some contexts, future surveys include only open ended responses.

The value for an academic audience rests largely in the application of pronoun analysis. Pronoun analysis is one of many types of text analysis conducted by researchers, and has recently begun to garner increased attention. First, the analyses proposed in the present study could lend credibility to pronoun analysis methods, and allow for the testing of some of the hypothesized relationships discussed by researchers. Second, the results will shed light on the importance of pronouns in written and spoken speech. It is argued that these small words, although often overlooked, may be a rich source of data for researchers. A review of text analysis methods overall and pronoun analysis specifically can be found below.

The present study will examine the link between employee pronoun use in open-ended comments and closed-ended responses to an attitude survey, including a measure of turnover intentions. To date, there appears to be no research systematically analyzing text, particularly pronoun use, as it relates to employee attitudes or outcomes. This is of practical value for organizations that are currently conducting these surveys but not maximizing their value. In the

following chapter, literature related to employee attitudes, text analysis, and attrition is reviewed as it relates to the present study.

## CHAPTER 2: LITERATURE REVIEW

### Employee Attitude Surveys

Many organizations conduct some form of employee attitude survey, on either a regular or semi-regular cadence – it is estimated that one-half to three-quarters of organizations with more than 10,000 employees conduct some form of attitude survey (Wiley, 2009; Kraut, 2004). The case could be made that the first employee survey was conducted as part of the Hawthorne studies, beginning in 1924 (Roethlisberger & Dickson, 1939; Hassard, 2012). Formal satisfaction surveys may have become commonplace sometime shortly thereafter. Thurstone introduced a method for attitude assessment in 1929, and employee attitude surveys appeared to be standard practice in organizations by the 1930s (Schneider, Asheworth, Higgs, & Carr, 1996).

The popularity of these surveys has been increasing for decades (Mueller, Voelkle & Hatstrup, 2011) and at present, it is safe to say that organizations of all sizes and industries conduct some form of employee attitude survey (Schneider et al., 1996). It has been shown that small organizations (i.e. fewer than 100 employees) are less likely to conduct surveys. While as many as 75% of organizations with greater than 10,000 employees conduct these surveys, less than 30% of small organizations do. This is likely due to the fact that larger companies have more sophisticated operating structures and can more efficiently manage the administrative burden (Wiley, 2009).

Although these are often labeled “satisfaction” surveys by the organization, they may comprise a number of employee attitude constructs. In part, the confusion may be due to the ambiguous nature of satisfaction, which in many cases serves as an umbrella term. Particularly in applied settings, satisfaction can refer to any number of constructs, including satisfaction as it is defined by academics, but also engagement, commitment, stress and organizational

identification, among other constructs. Satisfaction may also refer to a combination of positive attitudes regarding various aspects of the job: satisfaction with pay, supervisor, work location, amount of autonomy, etc. Overall, the applied sector is generally more likely to take a holistic view of satisfaction than is the academic literature, which tends to consider the construct in a more nuanced fashion.

Regardless of the name given to these large scale surveys, organizations conduct them as a way of gauging the morale within the organization. Of note, some suggest that these surveys are increasingly being used to gauge more than just “happiness.” Instead, companies are using attitude surveys to ask strategic questions about the direction of the company, in addition to measuring opinions of leadership, diversity and working conditions (Wiley, 2009).

Underlying the use of these surveys is an assumption on the part of the organization that employee attitudes are related to employee behaviors, including performance, absenteeism, and turnover. To this point, organizations often use survey results to guide personnel policy, strategic decision making, and interventions if necessary (Kantor, 1991; Schiemann & Morgan, 2006; Mueller, Voelkle & Hatrup, 2011). Below is a review of three employee attitudes often measured by organizations: satisfaction, engagement, and commitment.

### **Employee Attitudes**

**Satisfaction.** As noted, organizations tend to use the term satisfaction broadly, and in so doing, describe a number of different constructs. In this section, satisfaction is discussed as a singular construct, as is typical of the academic domain. There are some disagreements over whether satisfaction is an affect, an attitude, or both (Weiss, 2002). However, it is largely agreed that satisfaction refers to a pleasurable emotion associated with one’s job. Researchers have not strayed far from an early definition, provided by Locke (1976), who defined satisfaction as a

“pleasurable or positive emotional state resulting from an appraisal of one’s job or job experiences” (p. 1300). Complete job satisfaction surveys often contain numerous satisfaction-related items and dimensions, but employees can theoretically answer one very telling question: *considering everything, I am satisfied with my job.*

***Satisfaction and Performance.*** The observed relationship between satisfaction and performance is anything but clear. Indeed, many researchers have dedicated their careers to searching for this “Holy Grail” (Landy, 1989). Intuitively, one would like to believe that satisfied, committed, engaged employees are also better performers. Unfortunately, the relationship appears to be somewhat more complicated. A number of recent studies have examined the relationship. Perhaps the most comprehensive review of the relationship is provided by Judge and colleagues (2001), in which the history of research in the area is reviewed.

Despite seeming like there should be an intuitive link between satisfaction and performance, the earliest research seems to argue that there is not a relationship. As early as the Hawthorne studies, scholars argued that it wasn’t satisfying conditions that led to improved performance, but the presence of researchers at all (Roethlisberger & Dickson, 1939; Hassard, 2012). Later work by Brayfield and Crockett (1955) garnered a lot of attention in the academic world when it concluded that there was “minimal to no relationship” (p. 405) (Judge et al., 2001). This work has since drawn criticism, as it was based on only 9 studies and what appear to be subjective qualitative review techniques.

Despite these criticisms, Brayfield and Crockett’s (1955) work remained the primary finding in the field for many years. A number of reviews followed, each finding varying levels of support for a relationship and none particularly strong. Revisiting the debate in 1985,

Iaffaldano and Muchinsky reported a corrected correlation of .17. Although this is still a modest correlation, it inspired researchers to revisit the question.

As part of their 2001 quantitative and qualitative review, Judge and colleagues concluded that the relationship is in fact significant, presenting a corrected correlation of .30 (uncorrected correlation,  $r = .18$ ). Although they found an overall relationship, their correlational data does not speak to the nature of the relationship.

Inconsistent findings of historical studies led Judge and colleagues to propose seven possible models that could describe the nature of the relationship (or lack thereof). The seven models were presented in an attempt to inspire subsequent research, as some of these models actually contradict one another. The seven models include: 1) satisfaction causes performance, 2) performance causes satisfaction, 3) the relationship is reciprocal, 4) a third variable is related to both (therefore making the correlation spurious), 5) the relationship is moderated by one or more variables, 6) there is no relationship, or 7) there is a relationship, but it would be clearer if the satisfaction and/or performance constructs were reconceptualized.

Since Judge et al's (2001) review, a few researchers have revisited the question. For instance, Bowling (2007) expanded on Judge's fourth model – that the relationship is spurious. Although some researchers examined this possibility before Judge's review (e.g., Brown & Peterson, 1993; Gardner & Pierce, 1998), Bowling appears to be the only one to examine it since. Using meta-analytic data, Bowling found that the relationship between performance and satisfaction is reduced after controlling for work locus of control and certain personality traits (e.g., core self-evaluations, Five Factor model). Further, the relationship nearly disappeared after controlling for organization-based self-esteem (Bowling, 2007). This research implies that perhaps satisfaction is less important than personality traits when considering drivers of



performance. Conversely, it could indicate that satisfaction is closely related to personality traits such as self-efficacy and self-esteem.

More recently, Dalal, Baysinger, Brummel and LeBreton (2012) found a strong and significant relationship between task performance and job satisfaction ( $r = .29, p < .05$ ). They contrast this to the relative importance of other job attitudes as they relate to performance, including positive affect ( $r = .13, n.s.$ ), negative affect ( $r = -.34, p < .05$ ), and perceived organizational support ( $r = .24, p < .05$ ).

Dalal and colleagues' (2012) research supports the notion that satisfaction is important, but also highlights the importance of context (namely perceived organizational support). Further, their findings support those of Bowling and colleagues (2007), in that an individual's personality traits may also be a key driver of performance. The authors also examine the link between performance and employee engagement and organizational commitment, these findings are discussed below.

Given that support has been found for multiple of Judge and colleagues' (2001) proposed models, it is likely that context plays a role in the relationship. For instance, employee satisfaction may be more important in customer-facing roles (for instance, sales), in which an employee's attitude has the potential to impact sales and/or customer satisfaction and loyalty (e.g., Simon, Gomez, McLaughlin & Wittink, 2008). It is also likely that the relationship is at least partly bidirectional. That is, that performance is both an antecedent to and product of employee satisfaction, perhaps causing a "virtuous cycle" (Harter, Schmidt, Asplund, Killham & Argawal, 2010).

***Satisfaction and Attrition.*** Satisfaction has also been linked to attrition, although like performance, the relationship is complicated. One comprehensive meta-analysis found a negative

correlation, reporting an overall a relationship of  $-.22$  that explained 29% of the variance (Griffeth, Hom & Gaetner, 2000). Other research has mirrored this negative relationship across a number of groups, including nurses (De Gieter, Hofmans & Pepermans, 2011), police officers (Brunetto, Teo, Shacklock, & Farr-Wharton, 2012), and direct care workers in assisted living, although the results were mixed (Chou, 2012). Given the temporal nature of the relationship, it can be concluded that dissatisfaction leads to attrition. Clearly, attrition cannot cause employee dissatisfaction if an individual is no longer an employee.

Still other research has reported that the relationship is perhaps contextual. For instance, Russ and McNeilly (1995) found that experience and performance moderate the relationship between satisfaction and turnover intentions. It appears that dissatisfied individuals may stay at an organization because their lack of ability and/or experience prevents them from having any viable alternatives. This relationship is further discussed below, in the context of continuance commitment.

Of course, employee satisfaction is not the only predictor of the intent to turnover or of turnover itself. A number of internal and external factors could affect one's desire and ability to leave the organization. Recently, Hom, Mitchell, Lee and Griffeth (2012) presented a model of turnover that incorporates employee preference (i.e., desire to stay or desire to leave), employer control (i.e. strong push to stay, can stay or leave, strong push to leave), and external factors influencing one's ability to stay or leave (availability of alternatives). These three antecedents result in a variety of turnover states, including enthusiastic or reluctant stayers and enthusiastic or reluctant leavers. The model has implications in the engagement and commitment literatures, discussed below.

**Employee Engagement.** Much like satisfaction, the definition of engagement is murky at best. In the applied domain, “engaged” has become a so-called buzzword, used by leaders to describe the ideal employee. This could refer to someone who is committed to and excited about their work, or someone who is willing to go the extra mile on behalf of the company. Unfortunately, leaders’ conception of the ideal employee may be inconsistent, or this conception may not be easily operationalized by researchers.

Upon reviewing the history of engagement as a construct, it appears that it largely came out of the applied domain, with practitioners leading the call for a unified definition of and research regarding engagement. This is perhaps because business leaders have asked internal and external consultants to identify the most engaged employees, train or motivate employees so they become more engaged, or measure employee engagement as a survey construct (Dalal et al., 2012). All of these exercises, if done with any rigor, require an understanding of what engagement is.

It seems that everyone agrees that engagement is good, despite not being able to agree on what engagement is. As an example, one consulting firm published a white paper titled “Engagement: I want it. What is it?” (Dicke, n.d.). Unfortunately, it is less feasible to ask employees to answer a question such as “considering everything, I am engaged in my work”, because engagement could mean different things to different individuals. Overall, the agreed upon definition between researchers features some component of enthusiasm for and absorption in one’s work (Dalal et al., 2012).

In their comprehensive 2008 review, Macey and Schneider review the current state of engagement research, in the attempt to arrive at a definition. They present a number of definitions put forth by others, including engagement as the opposite of burnout (Maslach,

Schaufeli & Leiter, 2001), or “an amalgamation of commitment, loyalty, productivity and ownership” (Wellins and Concelman, 2005, p. 1, in Macey & Schneider, 2008). The authors put forth 14 propositions that seek to clarify which constructs differ from and overlap with engagement, and in what way. Although Macey and Schneider do not ultimately offer a definition of their own, they do conclude that there are three facets of engagement: state, trait and behavior.

State engagement refers to “feelings of energy and absorption”, and includes constructs such as affective satisfaction, involvement, commitment and empowerment (Macey & Schneider, 2008, p. 6). In other words, state engagement refers to someone’s attitude, perhaps temporary, that leads him or her to have positive feelings towards work. This definition would align closely with Csikszentmihalyi’s concept of flow, in which an individual is temporarily deeply consumed by a task (Pink, 2010). Of note, in their 2008 review, Macey and Schneider title this section “old wine in a new bottle”, indicating that engagement, when considered as a state, may just be a reconceptualization of familiar constructs that have already been defined and researched at length.

Trait engagement refers to “positive views of life and work”, including proactive personality, autotelic personality (that is, a person’s tendency to find value in doing something for the sake of doing it as opposed to for some future goal), trait positive affect and conscientiousness (Macey & Schneider, 2008, p. 6). This definition connotes that engagement is a component of one’s personality, and may describe someone with an enduring positive attitude towards life and perhaps work.

In some cases engagement is conceptualized as extra-role behavior, and may include organizational citizenship behaviors, proactive and personal initiative, role expansion and

adaptive behavior (Macey & Schneider, 2008). When defined this way, engagement may actually be thought of as an outcome of traditional job attitudes or personality traits, including satisfaction, commitment, and conscientiousness. In other words, engaged behavior is a willingness to go above and beyond expectations because of one's feelings toward work, personal disposition, or perhaps as result of the job characteristics or other external factors. This conceptualization also helps distinguish engagement from satisfaction. Whereas satisfaction has an element of satiation and perhaps contentment, engagement as a behavior refers to an "extra" element (Erickson, 2005).

***Engagement and Performance.*** There is a demonstrated link between engagement and performance. Dalal and colleagues (2012) report that the relationship between employee engagement and task performance is significant ( $r = .23, p < .05$ ). Of note, this is higher than the uncorrected correlation between satisfaction and performance, .18, reported by Judge and colleagues (2001).

However, as with satisfaction, the relationship is complex. Similar to the satisfaction literature discussed above, it is likely that the relationship between performance and engagement is bidirectional. There appears to be a relationship between employee engagement and overall firm performance ( $\rho = .25$ ), as demonstrated by meta-analytic research (Harter, Schmidt & Hayes, 2002). In a later longitudinal study of employee perceptions and organizational level performance, Harter and colleagues (2010) found that the relationship is bidirectional, and that employee attitudes drive firm performance to a greater magnitude than firm performance drives employee attitudes. Although the study measured work perceptions overall, the authors note that their scale correlates highly with measures of engagement (Harter et al., 2010).

**Engagement and Attrition.** Research suggests that the relationship between engagement and attrition is negative. In one study, researchers found that a composite of satisfaction, commitment and low turnover intentions was significantly and positively related to engagement ( $r = .63, p < .01$ ) (Fairlie, 2011). Unfortunately, this composite score does not speak to the unique relationship between engagement and turnover. One clear correlational study found that total engagement was significantly and negatively related to turnover intentions ( $r = -.56, p < .01$ ) (Shuck, Reio & Rocco, 2011).

A second recent study found that the correlation was weaker, but still significant ( $r = -.40, p < .001$ ) (Alfes, Shantz, Truss & Soane, 2013). The 2013 study further found that the relationship was moderated by perceived organizational support and leader-member-exchange, suggesting that employee engagement has an impact on turnover intentions when there are human resource management practices in place to foster engagement.

Harter and colleagues (2002) also reported a negative relationship between engagement and turnover ( $\rho = -.30$ ), although it is lower than other reported relationships. This is likely due to the fact that their meta-analysis is based on organization level outcomes (i.e. overall turnover rates). Further, previous studies were based on turnover intentions and not actual turnover. Taken together, this implies that there may be many other variables that contribute to turnover behavior, and that organization-level turnover rates may be impacted by different factors than individual or work-group level turnover decisions.

Still, the trend remains: someone who is enthusiastic about and actively engrossed in his or her work is likely not having thoughts of leaving the organization. Indeed, it could be that he or she is so absorbed in a task or role that the thought of attrition never occurs to him or her. It could also be that he or she realizes that a job with another organization may not provide the

same intrinsic reward associated with work (Shuck, Reio & Rocco, 2011). Shuck and colleagues also make explicit ties between engagement and the final employee attitude to be discussed in this paper, employee commitment.

**Commitment.** Employee commitment refers to a psychological connection that an individual feels with his or her organization, which reduces the intent or desire to voluntarily turnover (Johnson & Chang, 2006). Overall, commitment appears to be related to task performance. The relationship is significant, although modest ( $r = .19$ ,  $p < .05$ ) (Dalal et al., 2012). Commitment is also shown to be significantly related to satisfaction ( $r = .72$ ,  $p < .05$ ) and engagement ( $r = .60$ ,  $p < .05$ ) (Dalal et al., 2012).

Interestingly, one study reported that commitment is only moderately, although significantly, related to turnover intentions. In a study of employees at a steel manufacturer, moderate relationships were found for middle managers and officers ( $r = -.31$ ,  $p < .01$ ) and for line workers ( $r = -.24$ ,  $p < .01$ ) (Cole & Bruch, 2006). These correlations are lower than one might expect, considering that commitment is sometimes defined as a lack of turnover intentions. One explanation could be in the author's conceptualization of commitment. The authors used a scale put forth by Porter and colleagues (1974), of which a sample question reads "I am proud to tell others that I work for [company name]". This question may not speak to commitment as much as it speaks to a construct such as organizational identification. Cole and Bruch also include an identification measure in their research, and commitment and identification appear to be significantly related ( $r = .45$  among officers,  $r = .71$  among middle managers, and  $r = .67$  among workers).

The literature widely recognizes two components of commitment: affective commitment and continuance commitment. Both of these will be discussed as they relate to employee

attitudes and attrition. A third component of commitment (normative) has been suggested, but it appears to be somewhat related to affective commitment. Because its discriminant validity is suspect, normative commitment will not be discussed as part of the present review.

***Affective Commitment.*** Affective commitment refers to one's personal attachment to the organization. There is often an emotional component to this type of commitment, and it characterizes an individual who "identifies with, is involved in, and enjoys membership in, an organization" (Allen & Meyer, 1990). Essentially, it describes a person who remains with the organization because he or she wants to. Not surprisingly, this type of commitment is negatively related to voluntary attrition. Meta-analysis reports the relationship between affective commitment and voluntary turnover to be -0.23 (Meyer, Stanley, Herscovitch & Topolnytsky, 2002).

Affective commitment is also positively related to satisfaction. Carmeli and Freund (2009) reported a significant and positive relationship between satisfaction and commitment ( $r = .48, p < .001$ ). This indicates that someone who is satisfied at work is also more likely to be committed to his or her work. Although this seems intuitive, it may be nuanced. Someone who reports overall satisfaction with his or her job may be dissatisfied with his or her manager, for instance. If dissatisfaction with one facet of work outweighs overall job satisfaction, an employee may express low commitment. This may help explain why the relationship, although significant, only explains 23% of variance in commitment.

Affective commitment may also be related to long term career plans. In a study linking career growth and affective commitment, Weng and colleagues (2010) found that affective commitment was related to four measures of career growth: career goal progress ( $r = .61, p < .01$ ), professional ability development ( $r = .43, p < .01$ ), promotion speed ( $r = .49, p < .01$ ), and



remuneration growth ( $r = .47, p < .01$ ). The authors make the case that career growth opportunities drive commitment, suggesting that people who see a future with the company are more invested in it. However, correlational data impedes the ability to make causal conclusions, and as such one could imagine that individuals who feel connected to the organization are more likely to imagine and seek out a career growth plan.

***Continuance Commitment.*** Continuance commitment refers to one's decision to stay because the costs associated with leaving are too high (Allen & Meyer, 1990). This could be for a number of reasons, including benefits that are too good to lose (salary, autonomy, work location) or a lack of options for other employment (known as side-bets). In other words, an employee experiencing continuance commitment is planning to stay at the organization because he or she has to.

This type of commitment is positively related to some employee attitudes, although to a lesser magnitude than affective commitment. Further, continuance commitment is more strongly related to external factors, such as unemployment rate and economic conditions, as these will greatly impact one's ability to find other options.

It is important to note that affective and continuance commitments are not considered to be on a continuum. Indeed, an employee may simultaneously enjoy his or her workplace and feel that the benefits are too high to walk away from. In addition, one may experience each or both types of commitment in varying degrees throughout the day or over time (Johnson & Cheng, 2006).

The employee attitudes reviewed above are traditionally measured using surveys with five-point Likert scale response options. However, some surveys also allow employees to provide open-ended comments. The following section reviews the history and current state of

text analysis research, ending in a more detailed review of pronoun analysis. Ultimately, there will be a discussion of how pronoun analysis can be used to test hypotheses relating to employee attitudes and attrition.

### **Text Analysis Research**

Despite sounding like a qualitative method, text analysis is actually largely, if not exclusively, a quantitative process. Over time, the use of text analysis has gained credibility in psychology, particularly in the social and clinical domains (Pennebaker, 2011). For some time, social psychologists, social linguists, and even anthropologists have been investigating passages of text as they relate to individual differences and cultural trends throughout history (Pennebaker, 2011). In clinical psychology, the process of diary keeping is thought to have therapeutic benefits, particularly for trauma victims. Diary entries have proven to be a ripe source of data for psychologists, looking to study the effectiveness of treatment and subsequent likelihood of pathology (Pennebaker, 2011).

The study of text analysis has grown a great deal in recent years, both in sophistication and in focus. The growth in sophistication is mostly due to improvements in text analysis software, as researchers are now able to quickly analyze large amounts of complex data. This has allowed for unique research including identifying similarities in speech patterns among group members or tracking markers of lying behavior.

There has been an especially recent growth in the scope of text analysis research. In the past, text analysis was largely based on the *subject* of the text. That is, researchers cared mostly about the substantive words used in speech or written text that indicated the subject matter or affective content of a speaker's words. However, the recent ability to analyze large amounts of data has led researchers to explore previously under-utilized parts of text. Using both classic and

newer, more sophisticated methods of text analysis, researchers have found greater value in pronouns and other function words than originally believed. Essentially, the ability to handle a large quantity of complex data in an efficient manner freed researchers to ask questions about previously disregarded parts of text.

Below is a review of text analysis, specifically that which has been conducted in the domain of Industrial and Organizational Psychology. Further below is a review of pronoun analysis, although very little of this research has occurred in the area of I/O psychology.

**Text Analysis in Organizational Psychology.** Text analysis has been utilized in the Industrial and Organizational Psychology domain, including studies of leadership, motivation, safety climate, and others. One author notes that the sheer amount of words generated in an organization, including memos, official statements, and a leader's speeches, make it an area ripe for research. These words can give insight into an organization's values, identity and culture, and can help one infer a manager's beliefs and motivations. Further, most correspondence within the organization happens over time, allowing for longitudinal research to be conducted with relative ease (Pollach, 2012).

In a classic series of culture and leadership studies, McClelland and Boyatzis (1982) used text analysis to code speeches from influential leaders across cultures. They administered the Thematic Aptitude Test (TAT), a subconscious measure of motivation, to gauge participants' level of power motive. Researchers then counted the number of times participants used the word "not" in the stories they wrote for the TAT and used these counts as a proxy measure for activity inhibition. Of note, this research was one of the first known to conduct a pronoun analysis. This is a notable exception to the trend discussed earlier - that most previous research was focused on the content of text.

McClelland and Boyatzis (1982) concluded that those high in power motivation but low in activity inhibition were likely to exhibit dominant behaviors and strive to win at other's expense. However, those who were high in power motivation and high in activity inhibition were more likely to express power by doing good for others. McClelland and Boyatzis suggested that these individuals would be more moral and humanistic leaders, as well as more effective. Support was found for this effectiveness hypothesis among a sample of managers (McClelland & Boyatzis, 1982).

However, Spangler and House (1991) reached a quite different conclusion. Spangler and House attempted to test McClelland's (1982) proposition using the inaugural addresses from presidents George Washington through Ronald Regan. Speeches varied little in their use of "not", as all presidents used "not" at very low frequency. Instead, the researchers coded activity inhibition based on a number of sources: other letters and speeches written by the presidents (from speech collections and from autobiographies), autobiographies written by the presidents (not speeches), and biographies written by others.

They found that presidents who used "not" more often were more likely to be forceful, impatient and radical. It appears that "not" was related to leadership style rather than the means for which leadership behavior is undertaken (that is, for self-promotion or for the greater good). Overall, they conclude that McClelland and Boyatzis (1982) were wrong to assume that "not" was a proxy for activity-inhibition. Further, later critics expressed concerns over the validity of the TAT (Kanfer & Heggestad, 1997). Still, the studies serve as a novel approach to using text analysis in organizational research.

Colley & Neal (2012) used text analysis to study the way safety schemas differ across members of the organization. They interviewed 25 upper managers, supervisors, and workers at

an Australian freight and rail company in regards to their conceptualization of safety and used an algorithm to analyze responses. They found that the safety schema was comprised of 10 dimensions, and that the most salient dimensions varied by level in the organization. Results showed that upper managers cared most about “people” and “culture” dimensions of safety, supervisors were most concerned with “corporate values”, “management practices” and “safety communication”, and workers were most concerned with “procedures” and “safety training”. This study illustrates the way verbatim comments can be used systematically to understand and improve the organization.

**Pronoun Use.** Some researchers are increasingly interested in a much more discrete part of speech: function words. These words, also known as style words, include pronouns (I, we, they), articles (the, a, an), prepositions (in, for, with), auxiliary verbs (is, do, have), negations (no, never, not), conjunctions (but, and, because), quantifiers (some, most, few) and common adverbs (really, very) (Pennebaker, 2011). These words, although often innocuous in speech, make up the majority of what we say. When all words in the English language are considered, function words make up only .04%. Despite being such a small sample, they account for 55% of the words we use (Pennebaker, 2011). As an example, the literature review chapter of this document includes 7635 total words. 4036, or 53% of those words have been function words.

In addition to being used with greater frequency, function words allow a speaker to vary his or her speaking style. The content words that one uses in speech are largely determined by the topic of conversation or the context in which the conversation is taking place (for instance, the weather, jokes, politics, or sports). However, the use of style words offers a chance for the speaker to communicate in a more stylistic way, thus allowing individual differences to emerge.

Interestingly, and perhaps of most value to researchers, across-subject variation in style words happens almost entirely subconsciously (Pennebaker, 2011).

Consider, for instance, a politician making a speech about recent tax legislation. The content words he or she uses will be related to the legislation at hand: money, rich, poor, or income, for example. The style words, however, could vary systematically. They could be inward facing – “I promised I would not raise taxes” or outward facing – “You should not bear the burdens of their spending.” They could also vary in the degree to which they are positive or negative, future oriented or past oriented, or in the extent to which they use hedge phrases such as “it seems like,” “sort of,” and “I’m not an expert but...”

Because they are used with such frequency, and because they offer the opportunity to observe individual differences across speakers, style words have proven to be a rich source of information. Researchers have recently keyed into this, and have capitalized on the value of style words in a number of domains. For an overview of pronoun research to date, readers are directed to a 2011 book entitled “The Secret Life of Pronouns” by Jeff Pennebaker. Pennebaker explores how speaking style and the use of function words are related to gender, age, relationship status, health, personality, social status and more. These words can also be used to understand and predict behavior and healing after a trauma, truth-telling and lying behavior, depression and suicidal tendencies, cohesiveness among groups, and other meaningful individual and group level outcomes.

**Empirical Pronoun Research.** There has been some empirical support for the importance of pronouns, although not explicitly tested in the organizational literature. Classic research from Cialdini and colleagues (1976) demonstrates the effect known as Basking in Reflected Glory. In a simple but innovative set of three experiments, researchers engaged

students from universities with strong football programs in research. In one study, researchers called the students on Monday to ask about the results of the past weekend's football game. Students were more likely to use "we" when the team had won (e.g., *we led the whole game*) and more likely to use "they" when the team lost (e.g. *they didn't look good for the entire second half*). Cialdini and colleagues reached the conclusion that students prefer to associate themselves with winners and disassociate themselves from losers.

The present research is examining commitment to an organization as opposed to association with a football team. Still, Cialdini and colleagues' (1976) research supports the notion that pronoun analysis can be used to meaningfully predict certain outcomes. Further, it supports the notion that people use "we" to indicate closeness and acceptance of something, while "they" indicates distancing behaviors.

Additional research in the relationship domain suggests the notion that "we" use is a marker of satisfaction, and ultimately the success of a marriage, while non-we use, considered separateness, is negatively related to marital satisfaction and success (Seider, Hirschberger, Nelson & Levenson, 2009).

Unfortunately, little work has been done in the area of pronoun research in an organizational context. Pennebaker (2011) reviews some research that is related to status, power and leadership, as well as cohesiveness in teams and organizations, but little research has been done exclusively in the organizational domain. Further, most of the existent literature appears to be somewhat anecdotal or "dustbowl empiricism."

For example, Pennebaker (2011) speaks anecdotally about the tendency for company culture to vary on an "I" vs. "we" vs. "they" continuum. He recalls a conversation with an organizational consultant, in which the consultant explained a commonly held belief among his

colleagues: organizations are either “I” companies, “we” companies, or “they” companies. This distinction comes from asking employees about their organization. Employees are likely to respond in “I” statements (“I like coming to work because my job is challenging”), “we” statements (“we have the highest market share in North America”) or “they” statements (“they treat employees fairly”).

According to Pennebaker (2011), these consultants anecdotally believe that the subtle difference in pronoun use is telling of the employee’s attitudes and his or her relationship with the organization. Specifically the consultants argue that people who respond in “I” language are reasonably happy and generally committed. Further, they believe that those who respond with “we” statements are thought to be exceedingly committed, as they identify strongly with the organization. Finally, the consultants described by Pennebaker believe that employees who use “they” language are thought to be emotionally disconnected from their work and the organization, and are considered to be non-committed. In theory, it is believed that these are the people most likely to leave the organization when presented with the opportunity. One might notice that all three of the sentiments above are positive in nature. However, it is believed that the use of function words, although subtle, provides insight into individual attitudes (Pennebaker, 2011).

It must be stressed that, although the distinction held by consultants makes intuitive sense, there appears to be no empirical research to support it. One purpose of the present research is to evaluate the validity of this anecdotal belief. Specifically, the relationship between an employee’s use of “we” and “non-we” pronouns and his or her self-reported job attitudes will be investigated. In addition, the relationship between this pronoun usage and turnover intentions will be examined.



The relationship that is believed to exist between pronoun use and turnover intentions is best conceptualized through the commitment construct. If the anecdotal beliefs among consultants are correct, those who use “we” statements identify more strongly with the organization and as such have a higher level of affective commitment. In contrast, those who use “I” statements may have a higher level of continuance commitment, in that they do not have any particularly affective tie to the organization, yet they stay. Finally, those who use “they” statements may be disconnected from the organization and as such, have little to no feelings of commitment. Although commitment is not explicitly measured here, it theoretically serves as the link between employee attitudes and attrition. These relationships will be tested in the present research.

Pronoun analysis will be used in the present study to test the relationship between written comments and closed-ended survey responses. It will also be used to test the relationship between written comments and turnover intentions. The following section contains a brief review of attrition as an individual phenomenon and provides justification for using turnover intentions as opposed to attrition behavior.

### **Attrition Research**

One key outcome variable in the proposed study is employee turnover intentions. Intention is a key distinction here, as the current study will focus on the psychological phenomenon (intentions) and not the behavior (attrition). Still, much of the psychological processing that is involved in the intention to turnover may be a precursor to attrition behavior. Therefore, a review of attrition research is presented below.

**Attrition of Individuals.** Simply defined, attrition is an individual level phenomenon. There may be many people that influence someone’s choice to quit (supervisor, spouse, etc.), yet

it is ultimately an individual behavior. In some senses attrition could be considered a lack of commitment, and it is true that there is considerable overlap between the two variables (Meyer, Stanley, Herscovitch & Topolnytsky, 2002).

Traditional research suggests that turnover is a function of an employee's perceived ease of movement to another organization and his or her desirability to leave (i.e., job attitudes) (March & Simon, 1958). As discussed above, commitment is thought of as a psychological phenomenon, while attrition is a behavior. Therefore, a lack of commitment does not necessarily mean that an employee will leave the organization, nor does a high level of commitment mean that an employee will stay. As one might expect, there is a stronger relationship between commitment and turnover *intentions* than between commitment and turnover behavior (-0.51 and -0.23, respectively) (Meyer, Stanley, Herscovitch & Topolnytsky, 2002).

This distinction is clear in Hom, Mitchell, Lee and Griffeth's (2012) work, in which they classify employees based on one's attitude toward work, the organization's attitude toward the employee, and external factors (e.g., unemployment rates or the presence of available alternatives). Employees fall into one of four categories: enthusiastic stayers, reluctant stayers, enthusiastic leavers, and reluctant leavers. Overall, it is understood that psychological commitment to the organization does not necessarily correlate with behavioral commitment to the organization (Hom, Mitchell, Lee and Griffeth, 2012).

Mitchell and Lee are two researchers leading a growing body of research in support of what is known as the unfolding model of turnover. Originally proposed in 1994, the unfolding model was suggested as an alternative to traditional turnover research, which was only accounting for a minimal amount of variance in turnover behavior or intentions (Lee, Mitchell, Holtom, McDaniel & Hill, 1999).

The primary component of the unfolding model is a shock. A shock is a significant life event, within or external to the individual, that causes an employee to “initiate the psychological analyses involved in quitting a job” (p. 451) (Lee et al., 1999). These events can be positive, negative or neutral and include things like a change in marital status, an organizational merger or unsolicited job offers from another company. It is only after an experienced shock that one begins to engage in the evaluation process, and therefore when satisfaction and presence of alternatives begins to influence one’s decision to stay or go (Lee et al., 1999).

One implication of this theory is that employee attitudes, although perhaps related to turnover intentions, are probably not strongly related to attrition behavior. This theory therefore helps explain why an individual may have a high level of psychological commitment but still decide to quit: something outside the employee’s control, such as a spouse’s relocation, may force him or her to quit. Conversely, it is possible that an employee has mounting feelings of dissatisfaction, but is not so dissatisfied that he or she wants to quit. However, an event in the organization (the employee was passed over for a promotion, or a new a new manager is brought into the group) may be the proverbial straw that breaks the employee’s back.

In the present study, the relationship between employee attitudes and turnover intentions is tested. The first seven hypotheses, below, will test the predicted main effect relationships between open- and closed- ended survey responses within individuals. The next two hypotheses test the more nuanced moderator relationships between open- and closed- ended attitudes and turnover intentions. Namely, how can moderation explain the employees who are dissatisfied yet still identify with the organization? The final hypothesis serves to examine the value of pronoun use overall – does pronoun use in comments predict incremental variance in turnover intentions beyond the typical closed-ended employee attitude measures?

## Present Study

The present study seeks to link employee attitudes and written comments to turnover intentions. The first set of hypotheses is in regards to the main effect relationships between survey response and verbatim comments. Specifically:

H1: Greater use of “we” pronouns is associated with higher employee satisfaction and greater use of “non-we” pronouns is associated with lower employee satisfaction.

H2: The relationship between “we” pronouns and employee satisfaction is stronger when using a global measure of satisfaction than when using individual facets of satisfaction (for instance, satisfaction with the amount of recognition received).

H3: Greater use of “we” pronouns is associated with higher employee likeliness to recommend the company as a place to work and greater use of “non-we” pronouns is associated with lower employee likelihood to recommend the company as a place to work.

H4: Greater use of “we” pronouns is associated with higher reported observation of collaborative behavior and greater use of “non-we” pronouns is associated with lower reported observation of collaborative behavior.

H5: Greater use of “we” pronouns is associated with higher employee commitment and greater use of “non-we” pronouns is associated with lower employee commitment.

H6: Greater use of “we” pronouns is associated with lower employee turnover intentions and greater use of “non-we” pronouns is associated with higher employee turnover intentions.

H7: Pronoun use is related to tenure, such that employees with greater tenure are more likely to use “we” pronouns and less likely to use “non-we” pronouns than employees with less tenure.

The second set of hypotheses is in regards to the nuanced relationships between employee attitudes and turnover intentions. One could imagine a scenario in which someone feels loyal and committed to the company despite being dissatisfied. As an analogy, imagine a sports fan that is loyal to his team despite their dismal record. It is believed that this scenario can be explained through moderation. However, it is unclear how this moderated relationship looks. Therefore, two relationships are tested. In the first, it is hypothesized that over time, employees develop a sense of “we” that remains despite feelings of dissatisfaction. In the second, it is hypothesized that some employees identify with the organization (i.e. high “we”), and that for those employees, dissatisfaction does not necessarily lead to turnover intentions. Although these are not inherently competing hypotheses, they explain the presence of the “loyal fan” in two different ways.

H8: Employee tenure moderates the relationship between pronoun use and satisfaction such that the relationship is stronger for those who have less tenure.

H9: Employee pronoun use moderates the relationship between satisfaction and turnover intentions, such that the negative relationship between satisfaction and turnover intentions is stronger for those who use “they” than those who use “we”.

The final hypothesis is meant to examine the unique value of pronoun analysis in employee attitude research. It is believed that when closed-ended measures of job attitudes and pronoun ratios (“we” ratio and “non-we” ratio) are entered into a regression analysis, the pronoun ratios will contribute to incremental variance in predicting turnover intentions.

H10: Pronoun use predicts turnover intentions such that it accounts for variance beyond that accounted for by job attitudes measured using closed-ended measures.

## CHAPTER 3: METHODS

### Participants

Participants were employees at a large, global manufacturing organization headquartered in the United States. Although the survey was administered globally, only US employee data was considered. This is because only US employees were given the opportunity to provide comments. Still, a large sample of survey responses was available: out of approximately 25,000 US employees, 10796 (43%) responded to the survey in 2012. Of those, 2167 (20%) provided comments. All survey responses with comments were considered when examining the link between verbatim text and employee attitudes, (hypotheses 1 through 7), the moderated relationships between survey response, pronoun use, turnover intentions and tenure (hypotheses 8 and 9) and the unique contribution pronoun analysis makes in predicting turnover intentions (hypothesis 10).

### Materials

The survey, administered by the organization, consisted of 35 items falling under seven dimensions. The dimensions included:

- Employment Satisfaction Index (*e.g., I feel valued as an employee of the company*);
- Future Dimension (*e.g., I believe we have the right products to move the Company forward*);
- Bold Leadership Dimension (*e.g., My work environment supports taking initiative*);
- Performance Management (*e.g., I am satisfied with the quality of discussion that I had with my supervisor regarding my [prior year] performance*);
- Global Brand Promise (*e.g., Most people in my work group are aware of [the company's global brand promise]*);

- Global Skilled and Motivated Team Index (e.g., *I am given a real opportunity to improve my skills in the Company*);
- No Dimension Assigned (e.g., *At work, I am treated fairly regardless of my background (e.g., ethnic group, race, age, gender, sexual orientation, religion, thinking style)*)

Example items from the first six dimensions listed are based on a five-point Likert scale, ranging from Strongly Agree to Strongly Disagree. The final question on the survey allowed respondents to provide open ended comments. It read *Please provide any additional comments below*. All dimensions and items can be found in Appendix B.

Not all items were relevant in the present analyses. Hypothesis 1, related to employee satisfaction, was tested using total scores on the Employee Satisfaction Index (ESI). Hypothesis 2 was tested using the ESI and facet measures of satisfaction (*How satisfied are you with the recognition you receive for doing a good job?*; *How satisfied are you with the information you receive from management on what's going on in the Company?*; *How satisfied are you with your opportunity to grow and develop in the Company?*). Hypothesis 3, related to one's likelihood of recommending the company to family and friends as a place to work, was measured by one item, the Net Promoter item. This question reads *how likely are you to recommend [the Company] to a family member, friend or colleague as a place to work?* and is measured on an 11-point scale ranging from Not at all Likely (0) to Extremely Likely (10). For the purpose of the present study, and consistent with industry standard, the net promoter score was converted to a 5 point scale.

To test hypothesis 4, one item related to the company cultural value of "working together" was used (*To what extent do members of your work group demonstrate the [XUnited] behavior "Own Working Together"?*). Hypothesis 5 tested commitment using an item related to one's future as a company employee (*I am looking forward to the future as a Company*

*employee*). The outcome measure in hypotheses 6, 8, and 10, measuring turnover intentions, was one item: *I am actively looking for a job outside the company*. Of note, this item was already reverse coded. Therefore, higher scores on this scale indicate that someone is not actively looking, while low scores indicate a turnover intention. From this point forward, analyses will refer to “intent to stay”, and a positive relationship represents a positive attitude. Hypotheses 7 and 8 utilized one demographic item referencing employee tenure. Tenure was measured as a categorical variable: less than one year, one to five years, six to 10 years, 11 to 20 years or 20+ years. Items that are used in analyses are in bold in Appendix B.

### **Procedure**

The data are from one administration of a yearly survey in which the entire organization is invited to participate. The survey is entirely voluntary, entirely online, and employees have two work weeks to participate.

### **Analyses**

The pronoun analysis was a word count exercise using QDAMiner software. Two dictionaries were built, one each for “we” pronouns and “non-we” pronouns. The “we” dictionary included “we,” “us,” “our” and so on. The “non-we” dictionary included all other personal pronouns, including “I” (I, me, my) pronouns, “you” pronouns (you, your, you’re), “he/she words” (he, his, him) and “they” pronouns such as “they,” “the company,” “them,” “they’re,” “their” and “[the Company]”. It should be noted that there are many non-personal pronouns in the English language – for instance, wherever, is, few, etc. The focus of the present research was personal pronouns. Therefore, when the term “pronouns” is used, it refers to personal pronouns. A complete list of pronouns included in each dictionary can be found in Appendix C.



For each employee's comments, a total number of "we," and "non-we" pronouns was tallied and represented as a percentage of total words. This type of analysis (i.e. "we" vs. "non-we") is common in relationship literature (Simmons, Gordon & Chambless, 2008; Seider, Hirschberger, Nelson & Levenson, 2009). In the relationship domain, "we" is thought to represent a sense of union and togetherness, while "non-we" is thought to represent separateness. This paradigm can be thought of as similar to the work domain. In each case, pronoun use is thought to represent one's sense of identification with another entity and it is believed that those feelings are related to attitudes about the relationship.

The first step in the present analysis, as a means for examining the relationships among all variables, was to create a correlation matrix (Table 2). As a means of better understanding the data post hoc, certain other analyses, including analyses of commenters vs. non-commenters, and nuanced analyses of "we" pronouns were also conducted at this time.

The main effect hypotheses – hypotheses 1-6 - were tested by calculating the correlations between satisfaction and the use of "we" and "non-we" pronouns, ultimately answering the question *is the use of "we" pronouns or "non-we" pronouns significantly related to endorsement of key satisfaction, engagement and commitment items?* It was also hypothesized that "we" ratios increase as tenure increases. This hypothesis – number 7 – was tested using a one-way ANOVA.

For the second set of hypotheses, hypotheses 8 and 9, moderation analyses were conducted. As discussed, the hypotheses are not competing so much as they describe a phenomenon in two different ways. Both were tested as a means for understanding how to best explain "loyal fans." Finally, hypothesis 10 was tested using multiple regression. All employee

attitude measures and pronoun ratios were entered into a regression equation to determine whether pronoun use predicts turnover intentions above and beyond closed-ended attitudes.

## CHAPTER 4: RESULTS

As discussed, a correlation matrix was created describing the relationship between all relevant variables. This matrix can be found in Table 2. Means and standard deviations of relevant variables can be found in Table 1. Out of 2167 comments, 465 contained no personal pronouns. 188 comments contained at least one “we” pronoun and no “non-we” pronouns; 909 comments contained at least one “non-we” pronoun and no “we” pronouns. 605 comments contained both “we” and “non-we” pronouns. On average, “we” pronouns were used .86 times per comment, representing on average 1.5% of the words in a comment. “Non-we” pronouns were used an average of 2.6 times per comment, representing on average 5.3% of the pronouns in a comment.

Overall, results were mixed. Hypotheses 1 and 3-6 speak to the relationships between “we” pronoun usage and employee attitudes and “non-we” pronoun usage and employee attitudes. In partial support of these hypotheses, “non-we” pronoun usage was negatively related to employee attitudes. The correlations between “non-we” pronoun usage and satisfaction ( $r = -.16$ ), likelihood to recommend ( $r = -.20$ ), observation of collaborative behavior ( $r = -.09$ ), commitment ( $r = -.14$ ), and intent to stay ( $r = -.09$ ) are in the expected direction and significant ( $p < .01$ ). Recall that the turnover intention item has already been recoded and is being referred to here as intent to stay. Therefore, the negative relationship indicates that “non-we” pronoun usage is related to higher turnover intentions.

The results for “we” pronoun usage were in the opposite direction as hypothesized. The relationships between “we” pronoun usage and satisfaction ( $r = -.05$ ), observation of collaborative behavior ( $r = -.06$ ), and commitment ( $r = -.05$ ) were all significant but negative ( $p < .05$ ,  $p < .01$ , and  $p < .05$ , respectively). The relationships between “we” pronoun usage and

likelihood to recommend and intent to stay were also negative, but non-significant ( $r = .01$ ,  $p = .54$  and  $r = .02$ ,  $p = .37$ , respectively). These correlations are also very small, suggesting little practical significance. Interestingly, the *count* of “we” or “non-we” pronouns, as opposed to their usage as a percentage of total words, were both positively related to employee attitudes. Possible reasons for this finding are identified in the Discussion section. Overall, hypotheses 1 and 3 – 6 were partially supported.

Hypothesis 2 explains the relationship between satisfaction and “we” pronoun use at both the global and facet levels of satisfaction. ESI score was negatively related to “we” pronoun use ( $r = -.053$ ,  $p < .05$ ). Individual facets of satisfaction were also negatively related to “we” usage: satisfaction with job ( $r = -.046$ ,  $p < .05$ ), satisfaction with the company ( $r = -.03$ , n.s.), satisfaction with recognition received for doing a good job ( $r = -.047$ ,  $p < .05$ ), satisfaction with information received from management ( $r = -.025$ , n.s.), and satisfaction with the opportunity to grow and develop ( $r = -.069$ ,  $p < .01$ ). Although findings are consistent with the hypothesis that the relationship between “we” usage and ESI would be higher in magnitude than “we” usage and facet measures, the relationship is opposite the hypothesized direction. Therefore, there is no support for hypothesis 2.

Hypothesis 7 is meant to test the relationship between tenure and “we” pronoun usage. As predicted, “we” pronoun usage increases as employee tenure increases, for every grouping of tenure with the exception of 1-5 years. Those with less than one year of tenure use “we” pronouns at the lowest rate, with an average of .82 times per comment. This was significantly lower usage than any other group ( $p < .05$ ). On average, employees with 1-5 years of tenure used “we” pronouns at a rate of 1.43 times per comment, employees with 6-10 years of tenure at a rate of 1.27 times per comment, employees with 11-20 years of tenure at 1.53 times per

comment, and employees with 20+ years of tenure used “we” pronouns 1.76 times per comment. With the exception of employees with 1-5 years of tenure, the differences between any other two groups are significant at  $p < .05$ . Therefore, hypothesis 7 is supported.

Hypotheses 8 and 9 describe the moderated relationships between satisfaction, pronoun use, tenure, and intent to stay, such that both are meant to explain the “loyal fan”. Again, the “loyal fan” refers to employees who identify with the company (i.e., use “we”), despite feeling dissatisfied. To test hypothesis 8, tenure and “we” pronoun usage as a percentage of words were entered into a regression predicting ESI score. Results of the regression were significant:  $F(2,2070) = 10.4$  ( $p < .001$ ). When the moderation term (tenure \* “we” usage) was entered, it did not result in a significant change in  $R^2$  ( $R^2$  change = .001,  $p = .159$ ). Significant results were found for “non-we” pronouns:  $F(2,2070) = 30.8$  ( $p < .001$ ). When the moderation term (tenure \* “non-we” usage) was entered, it did result in a significant change in  $R^2$  ( $R^2$  change = .003,  $p < .05$ ). Therefore, hypothesis 8 is partially supported.

Hypothesis 9 was tested similarly. ESI and “we” pronoun usage as a percentage of words were entered into a regression predicting intent to stay. Results of the regression were significant:  $F(2,2110) = 377$ ,  $p < .001$ . When the moderation term (ESI \* “we” usage) was entered, it did not result in a significant change in  $R^2$  ( $R^2$  change = .000,  $p = .805$ ). Similar results were found for “non-we” pronouns.  $F(2,2110) = 377$ ,  $p < .001$ . When the moderation term (ESI \* “non-we” usage) was entered, it did not result in a significant change in  $R^2$  ( $R^2$  change = .000,  $p = .311$ ). Therefore, hypothesis 9 is not supported.

A third moderator analysis was conducted based on ad-hoc interpretation of the data. Tenure and we-pronoun usage were entered into a regression predicting intent to stay. Results of the regression were not significant  $F(2023) = 2.783$ ,  $p = .068$ ). When the interaction term

(tenure\*we pronoun usage) was entered, it did not result in a significant change in  $R^2$  ( $R^2 = .000$ ,  $p = .473$ ).

Finally, hypothesis 10 tested the notion that pronoun usage would add incremental variance in predicting intent to stay, above that predicted by measures of employee attitudes on the survey. First, regression was used to calculate the variance in intent to stay predicted by ESI, likelihood to recommend, observation of collaborative behavior, and commitment. These variables predicted 34% of the variance in intent to stay ( $R = .58$ ,  $p < .01$ ). Adding “we” pronoun usage resulted in an  $R^2$  change of 0.0 ( $p = .79$ ). Adding “non-we” pronoun usage also resulted in an  $R^2$  change of 0.0 ( $p = .44$ ). Therefore, hypothesis 10 was not supported. Although not hypothesized, a further analysis was conducted in which “we” pronoun use and “non-we” pronoun use were entered into the regression simultaneously. Consistent with the previous finding, the result was 0.0 change in  $R^2$  change ( $p = .689$ ).

A number of analyses were conducted based on post-hoc interpretation of the data. First, although it was not hypothesized, an interesting relationship was found between satisfaction and comment behavior. Global satisfaction scores of those who wrote comments (mean ESI = 20.4) were significantly higher than the attitudes of non-commenters (mean ESI = 17.3) ( $F = 386.5$ ,  $p = 0.0$ ). This finding is contrary to previous research, which found that those who were relatively less satisfied were more likely to comment (Poncheri, Lindberg, Thompson & Surface, 2006). In light of this finding, an extension of the regression in hypothesis 10 was conducted. In this analysis, employee attitudes were entered first, followed by commenter status (commenter or non-commenter). Results show that commenter status provided no incremental variance ( $R^2$  change = 0.0). Additional analysis shows that total number of words per comment

is related to satisfaction ( $r = 0.25, p < .01$ ), such that longer comments come from people who are more satisfied.

Further analysis was conducted on the nature of comments. Two coders were asked to code comments as negative or positive in nature. The two raters agreed on 97% of comments coded. The remaining 3% were discussed and agreed upon. Of the 2167 comments, 14% were coded as positive, 81% were coded as negative, and 5% were coded as neutral. More on this finding can be found in the Discussion section below.

Finally, post-hoc interpretation of the data revealed the need to further investigate “we” pronoun usage. It is possible that the in-group to which “we” is referring could be either the company or one’s more immediate workgroup. The 793 comments containing at least one “we” pronoun were coded as referring to 1) the company; 2) any level below; 3) both, in the cases where there was more than one “we” pronoun; or 4) unknown, in cases where the context was ambiguous. Two raters agreed on 80% of comments when coding for company vs. any level below. The other 20% of comments were discussed and agreed upon together. Of the 793 comments, while 241 (30%) referred to “we” meaning the company, 439 (55%) referred to “we” at a lower level. Of the remaining comments, 40 (5%) used we in both contexts and 73 (9%) were unknown.

The findings in hypotheses 1 and 3-6, above do not change based on the in-group referred to in the “we” comment. Relationships remain negative and in some cases are larger in magnitude. Using only “we” pronouns referring to the company, the relationships with satisfaction ( $r = -0.16, p < .05$ ), likelihood to recommend ( $r = -0.19, p < .01$ ), observation of collaborative behavior ( $r = -0.09, ns$ ), commitment ( $r = -0.19, p < .01$ ), and intent to stay ( $r = -0.06, ns$ ) are still negative. Similarly, using only “we” pronouns relating to any level below

the company, the relationships with satisfaction ( $r = -0.22, p < .01$ ), likelihood to recommend ( $r = -0.14, p < .01$ ), observation of collaborative behavior ( $r = -0.12, p < .05$ ), commitment ( $r = -0.18, p < .01$ ), and intent to stay ( $r = -0.11, p < .01$ ) are still negative. Overall satisfaction of commenters who used “we” referring to the company (mean = 18.5) was significantly lower than overall satisfaction of commenters who used “we” referring to any other level below (mean = 22.4) ( $p < .01$ ).



## CHAPTER 5: DISCUSSION

It was hypothesized that individuals who refer to the company and their job using “we” pronouns are more likely to have positive job attitudes and lower turnover intentions and that employees who use “non-we” are more likely to have negative attitudes and higher turnover intentions. It was also predicted that pronoun use changes over time, such that people with more tenure are more likely to use “we” terms. Further, it was hypothesized that the presence of individuals who use “we” despite having negative attitudes can be explained through moderation. Finally, it was hypothesized that pronoun use is a unique predictor, such that it accounts for variance in turnover intentions above and beyond the variance predicted by typical employee attitude measures.

Support was found for very few of the hypothesized relationships. First, as hypothesized, employee use of “non-we” in comments was significantly and negatively related to employee attitudes. However, it was also found that “we” pronoun usage was significantly and negatively related to employee attitudes. This applies to both global and faceted measures of satisfaction. Taken together, this indicates that employee pronoun usage, of any kind, is negatively related to employee attitudes. Said another way, employees who write comments that are free of personal pronouns (perhaps more detached or abstract) are actually more satisfied.

Further investigation into the literature reveals two possible reasons for the lack of a main effect relationship with “we” pronoun usage. First, there are actually a few different types of “we” (Pennebaker, 2011). There is the “royal we”, which is of little concern here. However, “we” could also be “all of us” as in the total company *or* “we” meaning “us” as opposed to “you” or “them”. In this context, “we” could refer to a workgroup or team in contrast to the rest of the organization or, more likely, management. Imagine a comment such as “we work hard for the

company, and see little in return”. In this case, “we” is used to describe a smaller group that is not “the company”. In this case, one would not expect “we” to be related to satisfaction because “we” is not being used to describe identification with the organization. In the present dataset, 605 comments contained both “we” and “non-we” pronouns. It is possible that in these comments, employees are referring to a “we” in-group that is different from the company, or perhaps senior leadership.

However, post-hoc analyses did not support this theory. Employee attitudes of people who used “we” referring to the company were actually less favorable than those who used “we” referring to a lower level workgroup. Further, the relationship between “we” referring to the company and the other employee attitudes remained negative. It appears as though “we” is not an appropriate proxy for organizational identification, or that organizational identification is negatively related to other job attitudes.

The second possible explanation for the lack of relationship between “we” and employee attitudes is that the survey audience is upper management. Within relationship literature, “we” is a predictor of satisfaction and longevity of a relationship when one member of the couple is talking to a third party. However, when “we” usage is tracked among couples when they are talking to each other, “we” does not predict happiness (Simmons, Gordon & Chambless, 2008). It seems as though “we” means something when you’re presenting a united front to someone else, but that “we” use among the in-group means something different. In this respect, the present analyses have identified an important boundary condition. Future studies may consider investigating pronoun use in internal surveys as opposed to pronoun use when employees are asked to tell non-employees about their workplace. Alternatively, future studies may consider how a comment question is worded. In the present study, the question was written in such a way

that it did not prime respondents in any way. However, a question such as “tell us what it’s like to work here” may direct the audience of comments, and may affect what it means to use certain personal pronouns.

Interestingly, employees who wrote comments at all – regardless of pronoun use – were significantly more satisfied than those who did not write comments. Further, the sheer number of words used was positively related to satisfaction. This is contrary to previous findings in the area, which have found that the least satisfied employees are the most likely to comment (Poncheri, Lindberg, Thompson & Surface, 2006). It is also contrary to conventional wisdom that people who comment are unhappy enough to voice their opinion. On the surface, reading the comments would confirm that conventional wisdom: a brief review of comments in this sample indicates that most (81%) are negative in nature. One possible explanation is that certain employees are engaged enough to provide feedback to the organization but are dissatisfied with a particular aspect of work or the work environment. Taken another way, less satisfied employees are too indifferent toward the organization to provide any further comments, while more engaged employees are motivated enough to provide feedback about what they would like to see change. Support for this theory would speak to the trait vs. state conceptualizations of engagement – employees who are engaged over all (high trait-level engagement) are still prone to areas of disengagement or dissatisfaction (Macey & Schneider, 2008). Of course, this is all conjecture, and stands to be tested empirically.

The moderation analyses also provide no support for hypotheses 8 and 9. It appears that tenure does not moderate the relationship between pronoun use and satisfaction, nor does pronoun use moderate the relationship between satisfaction and turnover intentions. These analyses were meant to explain the occurrence of “loyal fans” – those who are dissatisfied but

continue to identify with the organization. The interpretation of a “loyal fan” changes in light of the finding that employees who leave comments, even negative ones, are more likely to be satisfied. It seems that the negative sentiments expressed in comments are indicative of specific aspects of the job or company, and are not necessarily tied to overall satisfaction. That is, they intend to remain a loyal employee, despite their temporary satisfaction or disappointment. Again, this speaks to the trait vs. state conceptualization of engagement (Macey & Schneider, 2008).

The lack of support for hypothesis 10 indicates that pronoun use accounts for no variance above and beyond that accounted for by traditional measures of employee attitudes. Presumably, the reason for the lack of support for hypotheses 8, 9 and 10 is the lack of main effect relationship between “we” usage and employee attitudes. This finding does not do much to support the importance or value of pronoun research within employee comments, at least not within this organization and not in the ways it was tested here. However, pronoun use could lead to interesting findings when it is not in the context of an internal employee attitude survey. Future researchers may want to consider the most meaningful ways to study pronouns in the future, including asking about the company as a third-party as opposed to company leadership.

### **Implications**

The hypothesized relationships did not hold. However, that does not mean organizations should not reconsider how and to what extent they use open-ended comment data. A person’s commenting behavior overall is related to satisfaction, at least within this sample. It seems that the organization may be well served to heed the comments. If the most engaged employees care enough to give specific feedback about their experience, it may be worthwhile to investigate and address those comments where possible.

The reader is cautioned against believing that comment analysis overall is not worthwhile. Despite the lack of findings related to personal pronouns, qualitative data is often a rich source of information about the attitudes and beliefs of survey respondents. Where applicable, it may be of benefit to an organization to develop a systematic scoring system for written comments. Such a system may be faster and more efficient than typical theme analysis, and to the extent that scores relate to survey data, could be useful for measuring employee attitudes. Further, it may help to eliminate some of the biases that are common when leaders engage in non-standardized interpretation of qualitative data (Patton, 2002). Although pronoun analysis was a dead end in this case, it may be worth studying in the future if pronoun use is reconsidered. Overall, it appears that it is not as simple as “we” vs. “non-we”. In the present case, some boundaries conditions have been established. Namely, it may be that one’s words, including pronouns matter a great deal, as long as they are talking to an outside party.

### **Limitations**

There were a few limitations to the present study, found in hindsight, relating both to the theory and the methodology. Regarding the theory, the occurrence of multiple forms of “we” was not taken into account. “We” meaning “my group” is meaningfully different than “we” meaning “our company”, something that should have been considered a priori. The difference is especially important given that others within the company are the audience to which the comments are addressed.

There were also a number of methodological limitations in the present study. First, the large sample size ( $N = 2167$ ) results in a large amount of power. Where there were statistically significant results, the meaningfulness of effect sizes is questionable. Results should be

interpreted with caution – readers are suggested to perhaps adopt a cutoff for practical significance.

A second methodological limitation is one that is common in field samples. The fact that an existing questionnaire was used limited the questions that could be asked and the way the hypotheses could be tested. For instance, it is possible that “looking forward to the future as a company employee” is an insufficient proxy for commitment, or that more or varied measures of engagement and satisfaction could have led to more insights. It would have also been interesting to link survey responses – both closed and open-ended – to employee attrition behavior as opposed to turnover intentions. However, the anonymous nature of the survey prevented a direct link between data and individual employee behavior. Although attrition behavior has methodological concerns all its own, results related to turnover intentions and actual attrition behavior could have been triangulated.

A final limitation stemming from the use of a pre-built organizational study is that comments were only presented to US employees. Non-US comments would likely have yielded interesting differences across cultures, particularly in regards to the use of “we” among collectivistic nations. Still, the quantity and richness of data available outweighs these concerns. In scientific endeavors, where nothing is known about a theory, imperfect measures are better than no measures.

Finally, an inherent concern in many survey-based studies is the use of a single sample at a single point in time. There may be qualities unique to the organization that leads to non-generalizable findings. This concern seems particularly relevant here, given that the commenter vs. non-commenter behavior contrasted prior findings. Although researchers may consider

replicating the current study with another sample, the lack of findings would suggest it may be more fruitful to approach the topic from a different theoretical lens.

### **Conclusions**

The present study did not result in support for the hypothesized relationships between pronoun use and job attitudes. Still, it led to interesting insights into commenting behavior overall, and highlighted the potential nuances in pronoun research – particularly among the types of “we”. Rather than discouraging future research in the area, the findings should inspire future researchers to more closely examine commenting behavior and the use of “we” in various contexts. These findings should also be taken into consideration by leaders, or at least those in the sample organization. The comments of the satisfied workforce should be read in earnest and acted upon where possible, in order to ensure the continued satisfaction and commitment of these employees.

## APPENDIX A: TABLES AND FIGURES

**Table 1: Means and Standard Deviations**

	Mean	N	Std. Deviation
"We" pronouns as a percent of words in comment	1.5	2167	2.7
Count of "we" pronouns per comment	.86	2167	1.6
"Non-we" pronouns as a percent of words in comment	5.3	2167	5.6
Count of "non-we" pronouns per comment	2.6	2167	3.1
Count of words per comment	48.6	2167	38.6
Satisfaction	20.4	2166	8.2
Likelihood to recommend	2.9	2165	1.3
Observation of Collaborative Behavior	2.4	2156	1.2
Commitment	2.1	2160	1.0
Intent to Stay	2.1	2114	1.1



**Table 2: Correlation Matrix**

	We Pronoun Use	Non-We Pronoun Use	<i>I</i> Pronoun Use	<i>They</i> Pronoun Use	<i>You</i> Pronoun Use	Total Words	Emp Sat	Likeli- hood to Rcmnd	Obs of Collab Behavior	Comm	Intent to Stay
Non-We Pronoun Use	-.150**										
<i>I</i> Pronoun Use	.062	.790**									
<i>They</i> Pronoun Use	.180**	.647**	.302**								
<i>You</i> Pronoun Use	.167	.174*	.124	.744**							
Total Words	-.383**	-.026	-.397**	-.423**	-.490**						
Employee Satisfaction	-.053*	-.158**	-.187**	-.167**	-.062	.249**					
Likelihood To Recommend	-.013	-.200**	-.229**	-.152**	-.087	.186**	.667**				
Obs of Collaborative Behavior	-.061**	-.086**	-.125**	-.092**	-.040	.137**	.661**	.463**			
Commitment	-.045*	-.137**	-.167**	-.132**	-.064	.205**	.704**	.641**	.493**		
Intent to Stay	-.020	-.093**	-.119**	-.041	-.032	.121**	.513**	.492**	.323**	.529**	
Tenure	.051	-.174**	-.137**	-.120**	-.122	.010	.081**	.150**	-.016	.092**	.046*

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 3: Regression Results**

Hypothesis	Variable(s)		R <sup>2</sup> Change	Significance
8	Tenure + We Pronoun Use	F = 10.4		p < .001
8	Tenure*We Pronoun Use		.001	p = .159
8	Tenure + Non- We Pronoun Use	F = 30.8		p < .001
8	Tenure*Non-We Pronoun Use		.003	p < .05
9	ESI + We Pronoun Use	F = 377		p < .001
9	ESI*We Pronoun Use		.000	p = .805
9	ESI + Non-We Pronoun Use	F = 377		p < .001
9	ESI*Non-We Pronoun Use		.000	p = .311
10	ESI + Recommend + Collaborative Behavior + Commitment	R = .58		p < .01
10	+ We Pronoun Use		.000	p = .79
10	+ Non-We Pronoun Use		.000	p = .44

Figure 1: We Pronoun Distribution

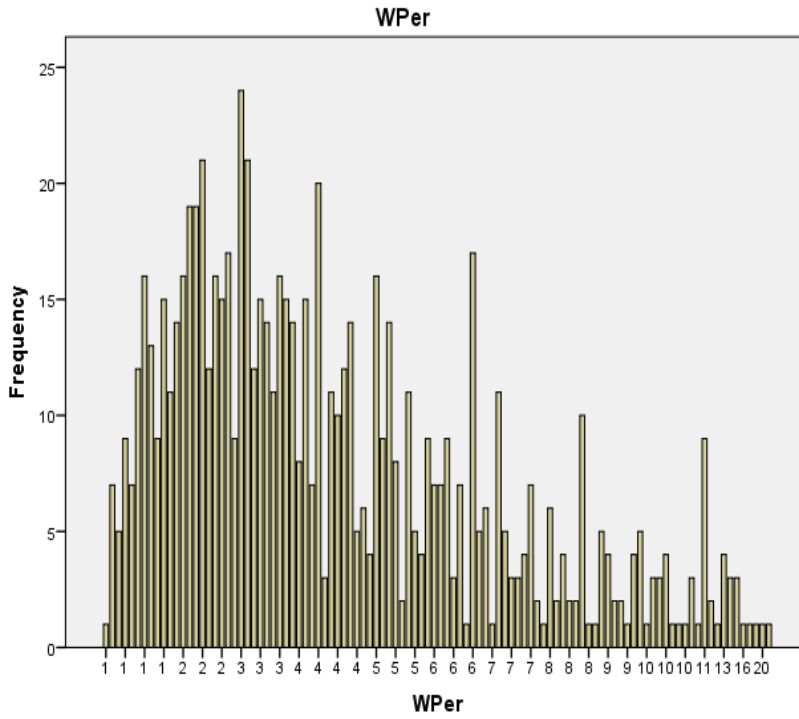
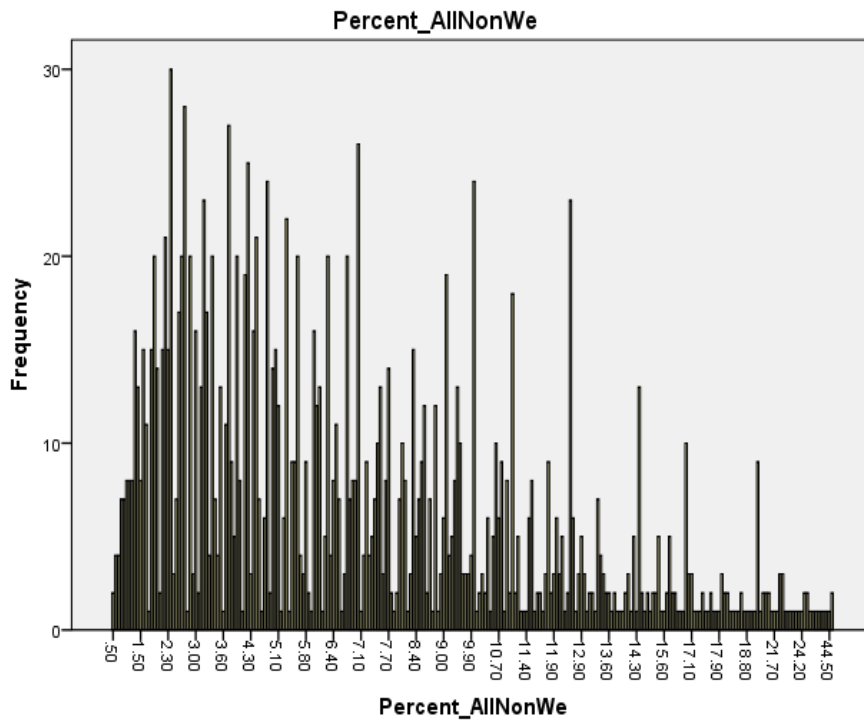


Figure 2: Non-We Pronoun Distribution



## APPENDIX B: SURVEY ITEMS

### EMPLOYEE SATISFACTION INDEX

- **I am given a real opportunity to improve my skills in the Company.**
- **I feel valued as an employee of the Company.**
- **How satisfied are you with the recognition you receive for doing a good job?**
- **Considering everything, how would you rate your overall satisfaction with the Company at the present time?**
- **How satisfied are you with the information you receive from management on what's going on in the Company?**
- **In this organization, people are rewarded according to their job performance.**
- **My job makes good use of my skills and abilities.**
- **Considering everything, how satisfied are you with your job?**

### FUTURE DIMENSION

- Overall, I have confidence in the Company's long-term success.
- Senior Company Management gives employees a clear picture of the direction in which the Company is headed.
- Senior Company Management is making the changes necessary to compete effectively.
- I believe we have the right products to move the Company forward.
- **I am looking forward to the future as a Company employee.**

### BOLD LEADERSHIP DIMENSION

- I observe collaborative behavior across departments.
- I observe collaborative behavior across the Company.
- My work environment supports taking initiative.
- Employees are held accountable for outcomes without blame.
- The working environment in the Company allows employees to be candid.

### GLOBAL SKILLED AND MOTIVATED TEAM INDEX

- I am given a real opportunity to improve my skills in the Company.
- I observe collaborative behavior across departments.
- Conditions in my job allow me to be about as productive as I could be.
- **How satisfied are you with your opportunity to grow and develop in the Company?**
- My supervisor gives me feedback that helps me improve my performance.
- My supervisor respects the need to have a balance between my work and personal life.
- Overall, how good a job do you feel is being done by your immediate supervisor?
- **To what extent do members of your work group demonstrate the [XUnited] behavior "Own Working Together"?**

### No Dimension Assigned

- At work, I am treated fairly regardless of my background (e.g., ethnic group, race, age, gender, sexual orientation, religion, thinking style).
- Senior Company Management is both aligned and works together as a Team.

- **How likely are you to recommend the Company to a family member, friend or colleague as a place to work? (NPS Score = %Fav - % Unfav)**
- Senior Company management is doing a good job of listening to employees.
- **I am actively looking for a job outside the company**

#### Performance Management Questions

- I have received a written, year-end performance appraisal for 2011.
- I am satisfied with the quality of discussion that I had with my supervisor regarding my 2011 performance.
- I have written 2012 objectives, agreed with my supervisor.
- I am satisfied with the quality of discussion that I had with my supervisor regarding my 2012 objectives.
- To what extent is your daily work aligned with one or more of the Company's four business priorities?

#### Global Brand Promise Questions

- Most people in my work group are aware of [Global Brand Promise]
- Most people in my work group can explain [Global Brand Promise]

**Please provide any additional comments below:**

**APPENDIX C: PRONOUN DICTIONARIES**

I  
I'd  
I'll  
I'm  
Me  
Mine  
My  
Myself

Our  
Our's  
Ourselves  
Us  
We  
We'll  
We're  
We'd

[Company Name]  
Their's  
Them  
Themselves  
They  
Their  
They'd  
They'll  
They're  
The Company

He  
He'd  
He'll  
Her  
Hers  
Him  
His  
She  
She'd  
She'll  
You  
You'd  
You'll  
You're  
Yours  
Your

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**ABSTRACT****EMPLOYEE PRONOUN USE IN VERBATIM COMMENTS AS A PREDICTOR OF  
JOB ATTITUDES AND TURNOVER INTENTIONS**

by

**AMY SUND****May 2014****Advisor:** Dr. Marcus Dickson**Major:** Psychology (IO)**Degree:** Doctor of Philosophy

It is common in employee attitude surveys to collect open ended comments from employees, yet this data remains largely under-utilized. In the present study, it is hypothesized that employee pronoun use is related to job attitudes and turnover intentions, such that the use of “we” type pronouns is higher among more satisfied employees; and that the use of “non-we” type pronouns is higher among less satisfied employees. Results largely did not support hypotheses – although “non-we” use was negative related to job attitudes, “we” use was also negative related. It is believed that the reason for the lack of findings lies in the nuanced use of personal pronouns when communicating to a third party vs. organizational leadership.

## AUTOBIOGRAPHICAL STATEMENT

I graduated from Central Michigan University in 2008 with my B.S. in psychology and a minor in Spanish. I discovered I/O psychology as a junior and knew it was the right fit. As a senior I discovered Pilates, rock climbing, gymnastics, basic auto maintenance, and kickboxing and I knew my hard work early on had paid off. I had a great four years in Mt. Pleasant and I am proud to forever be a Chippewa. I have greatly enjoyed my time at Wayne State University, working on my PhD. I am honored and humbled to work with smart, engaging, passionate people who work as hard as they play. I credit my colleagues, both faculty and students, for introducing me to the opportunities that have gotten me where I am today.

When I'm not studying or working, I enjoy being active. I like to do anything outside, but I especially like to run. I enjoy spending time with family and friends, telling lame jokes, and eating as much ice cream as I can get my hands on. I love Jesus, sports, all things Detroit, and being happy all of the time.

“Your life is an occasion, rise to it”