

**Unraveling the minds of survey participants: A respondent-centered approach to
understanding response behavior in employee attitude surveys**

Dissertation

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List of Appended Papers

This dissertation is based on the work described in the following papers:

Paper 1: Schumacher, S. K., Hofschroer, P., Hund, P. M., Schoenemann, F., & Mueller, K. (under review). Let's make it an experience! Introducing survey experience as a respondent-centered criterion for successful survey design. *Educational and Psychological Measurement*.

Paper 2: Hofschroer*, P., Schumacher*, S. K., & Mueller, K. (under review). Does “very” make a difference? Effects of intensifiers in item stems of employee attitude surveys on response behavior. *Survey Research Methods*.

Paper 3: Schumacher, S. K., Hofschroer, P., Bauhaus, T., & Mueller, K. (under review). “I am extremely committed” versus “I am committed”- Do intensifiers make a difference in employee attitude surveys: A field experiment. *European Journal of Work and Organizational Psychology*.

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Abstract

In the context of organizational development, surveys are important tools for learning about employees' experiences in the organization. Organizational practice is faced with two main challenges to the successful implementation of surveys. First, the increasing use of surveys may lead to survey fatigue potentially negatively impacting employees' motivation to engage in surveys. Second, survey results serve as a basis for strategic decision-making in organizations and thus need to be adequate for linkage research or benchmarking practices. The presented research aims to address these two challenges by taking a respondent-centered approach focusing on motivational and cognitive aspects of employees' experiences while taking surveys. First, it introduces the new construct of survey experience as a respondent-centered criterion of successful survey design (Paper 1). A short-scale is theoretically developed based on user experience theory (Hassenzahl, Platz, Burmester, & Lehner, 2000) and empirically tested and validated in two studies. It, therefore, contributes to the understanding of survey design influences on participant's motivational processes of survey response. Additionally, the short-scale equips practitioners with a reliable and economic lever to counter possible effects of survey fatigue by creating enjoyable and usable surveys tailored to specific target groups. Second, the presented research addresses cognitive and motivational aspects of survey processing and potential implications for the comparability of results. It, specifically, examines item-wording effects on response behavior on the example of intensifiers in Likert-type item stems of employee attitude surveys (Papers 2 and 3). It, further, considers the role of the organizational setting in determining employees' response behavior (Krosnick, 1991) in the response process (Tourangeau & Rasinski, 1988) of employee attitude surveys (Paper 3). It, thereby, contributes to the understanding of employees' response processes in this particular setting and provides practical advice for item-wording practices in organizations. Overall, the three papers bridge the previous literature by considering the survey itself, participants' motivational and cognitive processes of survey response, and the survey setting in the context of employee attitude surveys together. The results of the presented research highlight the need for a contextual approach to researching and designing surveys that considers interactions between the survey, the participants, and the setting. It, thereby, contributes starting points to enable a more sophisticated approach to understanding survey response in employee attitude surveys.

Keywords: employee attitude surveys, survey response process, survey experience, intensifiers, survey setting

Thesis supervisor: Prof. Dr. Karsten Mueller

Zusammenfassung

Im Kontext der Organisationsentwicklung sind Befragungen wichtige Werkzeuge um etwas über die Erfahrungen der Mitarbeitenden in der Organisation zu lernen. In der erfolgreichen Implementierung von Befragungen stellen sich zwei Hauptherausforderungen. Erstens kann die steigende Nutzung von Befragungen zu Befragungsmüdigkeit führen, die sich potentiell negativ auf die Teilnahmemotivation von Mitarbeitenden auswirkt. Zweitens werden Befragungsergebnisse für die strategische Entscheidungsfindung in Organisationen genutzt und müssen deshalb adäquat für Linkage Research und die Benchmarkingpraxis sein. Um diese Herausforderungen zu adressieren, wählt die vorgestellte Forschung einen teilnehmenden-zentrierten Ansatz, der motivationale und kognitive Aspekte der Erfahrung von Mitarbeitenden in Befragungen fokussiert. Zunächst wird das neue Konstrukt der *Survey Experience* als teilnehmenden-zentriertes Kriterium erfolgreicher Befragungsgestaltung vorgestellt. Basierend auf der theoretischen Grundlagen der User Experience (Hassenzahl, Platz, Burmester, & Lehner, 2000) wird eine Kurzsкала entwickelt, in zwei Studien empirisch getestet und validiert. Dies trägt zum Verständnis des Einflusses der Befragungsgestaltung auf motivationale Prozesse in der Teilnahme an Befragungen bei. Zusätzlich bietet die Kurzsкала Praktiker_innen einen reliablen und ökonomischen Stellhebel zur Gestaltung angenehmer, benutzerfreundlicher, und auf spezifische Zielgruppen zugeschnittener Befragungen, um möglichen Effekten von Befragungsmüdigkeit zu begegnen. Weiterhin werden kognitive und motivationale Aspekte der Befragungsverarbeitung und potentielle Implikationen für die Vergleichbarkeit von Ergebnissen adressiert. Insbesondere werden Effekte der Fragenformulierung auf das Antwortverhalten am Beispiel von *Intensifiern* in Likert-Items von Mitarbeitendenbefragungen (Paper 2 und 3) untersucht. Zusätzlich wird die Rolle des organisationalen Settings für das Antwortverhalten (Krosnick, 1991) von Mitarbeitenden im Antwortprozess (Tourangeau & Rasinski, 1988) von Mitarbeitendenbefragungen betrachtet (Paper 3). Dadurch wird ein Beitrag zum Verständnis der Antwortprozesse von Mitarbeitenden in diesem spezifischen Setting geleistet. Es werden weiterhin praktische Empfehlungen für die Praxis der Fragenformulierung in Organisationen abgeleitet. Insgesamt schlägt das Dissertationsprojekt eine Brücke bezüglich der bisherigen Literatur, indem es die Befragung selbst, die motivationalen und kognitiven Prozesse des Antwortverhaltens der Teilnehmenden und das Befragungssetting im Kontext von Mitarbeitendenbefragungen gemeinsam betrachtet. Die Ergebnisse der vorgestellten Forschung unterstreichen den Bedarf für einen kontextuellen Ansatz in der Erforschung und Gestaltung von Befragungen, die Interaktion zwischen der Befragung, den Teilnehmenden und dem Setting betrachtet. Dadurch

liefert sie Ansatzpunkte für eine differenziertere Betrachtung des Antwortverhaltens in Mitarbeitendenbefragungen.

Schlüsselwörter: Mitarbeitendenbefragung, Antwortprozess in Befragungen, Survey Experience, Intensifier, Befragungssetting

Betreuer: Prof. Dr. Karsten Mueller

1. Introduction

Surveys are efficient tools to gather information on a large group of people (Church & Waclawski, 2017). It is thus not surprising that organizations frequently use surveys to learn more about employees' attitudes and opinions regarding their experiences within the organization (Church & Waclawski, 2017; Rogelberg, Luong, Sederburg, & Cristol, 2000). First, such information may provide insights into "critical aspects of organizational functioning" (Saari & Scherbaum, 2011, p. 435). Second, organizational surveys also give employees the opportunity to be heard and initiate change in the organization (Burke, 2006; Wiley, 2012). In fact, the majority of larger, but also 50% of medium-sized organizations in the United States of America utilize surveys (Kraut, 2006; Wiley, 2010). There further seems to be a trend to implement surveys in organizations in many other countries as well (Sanchez, 2007). Over time, organizational surveys have accordingly become a popular tool in organizational development (Burke, 2006; Cummings & Worley, 2015; Smither, Houston, & McIntire, 2016) to collect vital information for steering change and decision-making (Falletta & Combs, 2002; Schiemann & Morgan, 2006; Wiley, 2012).

In the context of the successful implementation of employee attitude surveys, organizations are frequently faced with two major challenges. First, employees receive an increasing number of survey requests (Saari & Scherbaum, 2011), which may entail the danger of over-surveying or survey fatigue (Groves, Fowler, et al., 2004; Porter, Whitcomb, & Weitzer, 2004). This may potentially lead to motivational issues of taking part in the survey (Adams & Umbach, 2012; Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008). Especially in the context of online surveys, which are increasingly popular due to their efficient nature (Evans & Mathur, 2018; Fan & Yan, 2010), research has shown that response rates have dropped compared to other types of survey modes (Manfreda et al., 2008; Sebo, Maisonneuve, Cerutti, Fournier, Senn, & Haller, 2017). Therefore, the first challenge is a need to design surveys in a way that motivates participation. To that end, it is essential to look at survey design from a respondent-centered perspective that focuses on motivational aspects of survey design. When evaluating a survey's success, previous research has mostly considered *participation-* (e.g., response rate, nonresponse) or *quality-centered* (e.g., validity, reliability, equivalence, sample bias) criteria of survey design (Rogelberg, Fisher, Maynard, Hakel, & Horvath, 2001). Here, especially response rates represent a key indicator of success in survey design research (Deutskens, De Ruyter, Wetzels, & Oosterveld, 2004). This is also true for organizational practice. Kenexa interviewed HR professionals on what indicators are used to assess the success of employee attitude surveys (Wiley, 2012). The most popular

indicator here was the response rate, followed by score improvement. The only success metric that more strongly focused on an employee perspective, was whether they had perceived changes in the organization since the last survey cycle. While this is a start with regard to determining whether employees generally perceive the survey as a meaningful tool with impact in the organization, all of these metrics refer to participation- or quality-centered measures as indicators of survey success. To date, hardly any consideration has been given to employees' perception or experience of the survey itself. Consequently, organizational survey practitioners need to extend their focus on aspects of how the survey itself can be improved for the next survey cycle concerning employees' experience. Information on this experience would yield helpful insights for survey research and survey design practice to better understand participants' motivation and response processes. Second, in the context of employee attitude surveys, it is especially important to be able to work with the results to derive insights for change and decision-making (Falletta & Combs, 2002; Schiemann & Morgan, 2006; Wiley, 2012). For instance, organizations generally use their results for benchmarking within and between organizations to learn about organizational performance (Mason, Chang, & Griffin, 2005). Within the organization, results are compared between different survey topics or between different organizational units to compare strengths and weaknesses. Another aspect is historic benchmarking, which examines changes in scores between different survey cycles (Wiley, 2012). Also, the employee attitude survey results are contrasted with those of other organizations to gain insights into where one stands in comparison to market competitors (Stapenhurst, 2009). Another aspect of analyzing the survey data is linkage research. In linkage research, the survey results are examined in relation to business outcomes (Mason et al., 2005; Vance, 2006). For all these analyses, it is essential that employee attitude survey results are, in fact, comparable. Research has shown that even small changes in item wording may result in a change in response behavior (e.g., Krosnick & Schuman, 1988; Schuman & Presser, 1977; Tourangeau & Rasinski, 1988). When employees take employee attitude surveys, they are expected to diligently process each item and provide responses under careful deliberation (Krosnick, 1991; Tourangeau & Rasinski, 1988). Such thorough processing on behalf of participants should then potentially lead to different survey results for different item wording. In organizational survey practice, employee attitude items often need to be revised between survey cycles or include slight variations in item wording strategies between or even within survey topics. For instance, in the Likert-type item format predominantly used in employee attitude surveys (Borg & Mastrangelo, 2008), the item stem may contain a qualifier in some cases. A qualifier is an

adjective or adverb that qualifies “the meaning [of its word of reference] (...) or makes it less general” (Cambridge Dictionary, 2019). There are qualifiers of time or frequency (*quantifiers*; e.g., sometimes, never, always) and those of intensity (*intensifiers*; e.g., very, extremely, really). Such qualifiers are used to varying degrees in measures of work attitudes (e.g., in the Utrecht Work Engagement Scale by Schaufeli & Bakker, 2004; in the Organizational Commitment Questionnaire by Porter, Steers, Mowday, & Boulian, 1974) and employee attitude survey item stems. If this varying use indeed affects the response behavior of participants as suggested by previous research on variations in item-wording (e.g., Krosnick & Schuman, 1988; Schuman & Presser, 1977; Tourangeau & Rasinski, 1988), then the comparability of survey results might not be entirely ensured. In turn, this would potentially compromise the ability to meaningfully learn from the employee attitude survey results. Subsequently, the second challenge to the successful implementation of employee attitude surveys refers to the design of employee attitude surveys and particularly item wording practices that potentially affect employees’ response behavior. The response process of employees is of particular interest here. Taking a respondent-centered perspective may help to better understand how results came to be. In turn, this would also indicate whether they are comparable for further analyses in the context of employee attitude surveys, thus creating a sound basis for organizational decision-making.

Therefore, the present research project aims to address the need for a respondent-centered approach to understanding response behavior to employee attitude surveys. Based on the existing literature on survey design and established models of survey response, the presented research addresses the two challenges described above by considering participants' points of view regarding motivational and processing aspects of survey participation. First, it focuses on employees’ motivation and experience when taking a survey. Hence, it contributes to survey research by introducing a new construct: *survey experience*. In particular, it theoretically develops and empirically tests a short measure of survey experience. On a theoretical level, such a measure closes a gap in previously used criteria of successful survey implementation and provides valuable insights into the individual perception of survey design from a user experience perspective. On a practical level, it may be used to evaluate existing surveys in terms of design criteria increasing respondents' motivation to complete a survey. Second, this dissertation project examines employees' response processes in employee attitude surveys in relation to item-wording differences and potential effects on response behavior. More specifically, it examines whether changes in item stem wording affect response behavior on the example of qualifiers in the item stem of Likert-type items. Regarding theory,

this research contributes to the understanding of participants' response processes in employee attitude surveys as a specific setting of survey implementation. It also addresses practical questions of item design and potential implications for the comparability of results in the context of analyses and follow-up in employee attitude surveys. Overall, through focusing on motivational and cognitive aspects of survey participation, this dissertation project contributes to the field of survey design research by providing valuable insights into employees' experiences and response processing.

The following sections will outline the survey design process and theoretical models of survey response and their application to the context of employee attitude surveys. The synthesis of these models provides the theoretical foundation for the presented research in this dissertation project. Furthermore, the conceptual framework will be elaborated with regards to a respondent-centered focus of employee attitude survey design as well as implications of survey processing on behalf of participants regarding motivational and cognitive processing issues. Next, research questions derived from this conceptual integration are presented and the contribution and goals of the appended studies are described. After a detailed account of the appended studies, the general discussion reviews overall research findings and discusses limitations as well as theoretical and practical implications of the presented research. Finally, ideas for future research are presented.

1.1. The Design and Experience of Employee Attitude Surveys

As noted above, surveys are very popular tools for organizational development practice (e.g., Burke, 2006; Church & Waclawski, 2017; Smither et al., 2016). In this context, they are often implemented to gain insights into employees' opinions and attitudes toward work-related aspects of organizational functioning (Rogelberg et al., 2000; Sanchez, 2007). To that end, they frequently measure work attitudes. Currently, the most popular attitudes assessed in employee attitude surveys are work engagement, commitment, and job satisfaction (Mueller, Voelkle, & Hatrup, 2011; Schaufeli & Bakker, 2010; Vance, 2006). Covered topics refer to aspects like satisfaction with pay, coworkers, supervision, and working conditions (Mueller, Liebig, & Hatrup, 2007), how much they identify with and are loyal to the organization (Shepherd & Mathews, 2000), or whether they are prepared to go the extra mile at work (Sanchez, 2007; Vance, 2006). Through regularly assessing work attitudes in employee attitude surveys, organizations can observe them over time and potentially learn from the results to enhance organizational conditions (Burke, 2006; Church & Oliver, 2006; Mueller et al., 2011). Thus, they play an important role in organizational development, as they potentially contribute to important business outcomes (Vance, 2006). For example, for work

engagement, Harter, Schmidt, and Hayes (2002) found a positive relationship with profitability, customer satisfaction, customer loyalty, sales, employee retention, productivity, and safety.

When measuring these constructs in employee attitude surveys, they can be embedded in the survey in many different ways. Previous research has examined a wide array of possible survey design features. Due to the extensive body of literature, scholars have addressed the need for classification of these aspects in reviews and meta-analyses (e.g., Armstrong & Lusk, 1987; Cook, Heath, & Thompson, 2000; Edwards et al., 2002; Edwards et al., 2009; Fan & Yan, 2010; Fox, Crask, & Kim, 1988; Goyder, 1982; Heberlein & Baumgartner, 1978; Keusch, 2015; LaGarce & Kuhn, 1995; Yammarino, Skinner, & Childers, 1991; Yu & Cooper, 1983). Such previous attempts include chronologically ordered frameworks based on the survey design process (e.g., Fan & Yan, 2010), considerations of structural or functional aspects of survey design (e.g., LaGarce & Kuhn, 1995) as well as survey design strategies (e.g., Edwards et al., 2009). In this dissertation project, survey design features are roughly organized along the general process of survey design and implementation. Survey design elements are concerned with survey length (i.e., actual and claimed length, questions per screen, progress indicator; e.g., Couper, Traugott, & Lamias, 2001; Iglesias & Torgerson, 2000; Jepson, Asch, Hershey, & Ubel, 2005), item construction (i.e., instructions, item wording, item number and order, response order, entry format and response scales; e.g., Christian & Dillman, 2004; McCarty & Shrum, 2000; Schuman & Presser, 1977; Sparfeldt, Schilling, Rost, & Thiel, 2006), and appearance (i.e., use of graphics, color and general design; e.g., Brennan & Charbonneau, 2005; Couper, Tourangeau, & Kenyon, 2004; Dillman, Tortora, Conradt, & Bowker, 1998). In addition, elements of survey implementation include premises (i.e., medium, topic, sample, incentives; e.g., Goeritz, 2004; Groves, Presser, & Dipko, 2004; Kwak & Radler, 2002; Toepoel, Das, & Van Soest, 2008) and communication (i.e., delivery, appeal, sponsorship, personalization, anonymity, notifications, and deadlines; e.g., Bachmann, 1984; Birnholtz, Horn, Finholt, & Bae, 2004; Bosnjak, Neubarth, Couper, Bandilla, & Kaczmirek, 2008; Heerwegh, 2005; Heerwegh & Loosveldt, 2002; Roberts, McCrory, & Forthofer, 1978; Walston, Lissitz, & Rudner, 2006).

Having created an employee attitude survey by measuring specific content embedded into specific survey design, organizational practitioners are, of course, interested in how successfully the survey was implemented in terms of different outcome variables (Wiley, 2012). A plethora of research has examined successful survey design, linking various design elements to different criteria determining a survey's success (e.g., Cook et al., 2000; Couper

et al., 2001; Heerwegh, Vanhove, Matthijs, & Loosveldt, 2005; Wiley, 2012; Yammarino et al., 1991). However, to the best of my knowledge, there has not been a systematic attempt to categorize survey criteria to date. In their study on general attitudes towards surveys, Rogelberg et al. (2001) have also described this lack of taxonomy in this regard. Generally, they distinguished between *participation behaviors* that are “related to returning a survey” (p. 20) and *quality/quantity behaviors* that “are associated with providing complete, accurate, and appropriate information” (p. 20). Particularly, participation-centered criteria include indicators such as response rate, dropout, or item nonresponse (e.g., Cook et al., 2000; Funke, 2016; Heerwegh & Loosveldt, 2006). Quality-centered criteria refer to aspects such as validity, reliability, social desirability, insufficient effort responding, completion time, the equivalence of results generated by different survey design features, correct task performance, and sample bias (e.g., Christian & Dillman, 2004; Couper, Blair, & Triplett, 1999; Couper et al., 2001; Heerwegh et al., 2005; Ran, Liu, Marchiondo, & Huang, 2015; Toepoel, Das, & Van Soest, 2009; Tourangeau, Couper, & Conrad, 2004). As noted above, it is further necessary to additionally consider a third category of survey criteria that considers the participants’ experience as being at the heart of the survey. Due to the conditions of survey implementation described above, the experience-centered approach to assessing a survey’s success needs to gain more momentum. Survey design research and practice need an increased focus on this respondent-centered approach to understanding when employees expressly enjoy taking a survey or what could be done to make it more enjoyable. Such a focus could help advance the knowledge of motivational and cognitive processes in survey response and contribute essential information about survey success not covered by the previous literature. Accordingly, this dissertation project proposes a new category of *experience-centered* survey criteria next to *participation-*, *quality-centered* criteria, thereby expanding the body of literature on successful survey design and the differentiation made by Rogelberg et al. (2001).

On a practical level, the question arises how to assess the participants’ experience of a survey. Thus far, previous research has paid little attention to ways of measuring this experience. While the literature has stated that survey design features may impact on the way participants experience a survey (Christian & Dillman, 2004; Couper et al., 2001; Kaczmirek, 2008, 2011; Manfreda, Batagelj, & Vehovar, 2002), only a few studies have made attempts to better understand this respondent-centered approach to evaluating surveys. These attempts can be differentiated by whether they focus on general attitudes towards surveys (e.g., Goyder, 1986; Helgeson & Ursic, 1994; Rogelberg et al., 2001; Schleifer, 1986; Sjoberg,

1954; Stocké & Langfeldt, 2004; Walker & Cook, 2013) or towards the perception of a specific survey (e.g., Couper et al., 2004; Manfreda et al., 2002; Peytchev, Couper, McCrabe, & Crawford, 2006; Walston et al., 2006; Yentes, Toaddy, Thompson, Gissel, & Stoughton, 2012; Zukerberg, Nicholas, & Tedesco, 1999). While general attitudes towards surveys may indeed be important to understand the motivation of taking part in surveys, they focus on personal attributes of the participants, rather than on the survey at hand. However, if the goal is to determine whether a survey was implemented successfully, the experience of the specific survey can potentially provide more useful insights. Previous research in this regard has been somewhat unsystematic, often using ad-hoc measures to evaluate the satisfaction with a specific survey (e.g., Couper et al., 2004; Manfreda et al., 2002; Zukerberg et al., 1999), its quality (e.g., Peytchev et al., 2006), or the enjoyment of taking it (e.g., Yentes et al., 2012). One attempt to develop a more detailed measure of an experience-centered survey criterion was made by Yentes et al. (2012). They developed and tested a measure of *survey enjoyment* and *focus* in the context of the presence or absence of progress bars in online surveys. While it provided a good starting point, this measure was not comprehensively tested and theoretically founded.

When participants evaluate their experience of taking an employee attitude survey, they focus on their perceptions of the survey at hand. In this context, the survey can be compared to a product or service that is used by or provided to the employees. Therefore, this dissertation project draws on user experience as a theoretical basis for the new concept of survey experience. Survey experience is described as the experience participants have while taking a survey. The official ISO definition of user experience pertains to someone's "perceptions and responses that result from the use or anticipated use of a product, system or service" ("Terms and definitions", para. 3.2.3). There is much debate about the specific definition of user experience and no consensus on a final set of factors describing user experience (Hassenzahl, 2008; Law, Roto, Hassenzahl, Vermeeren, & Kort, 2009). Nevertheless, the field seems to agree that it transcends usability concerns and adds an affective component referring to positive experiences (e.g., Forlizzi & Battarbee, 2004; Hassenzahl, 2008; Hassenzahl & Tractinsky, 2006; Jordan, 1998, 2000; Law et al., 2009; McCarthy & Wright, 2004). In this context, Jordan (1998, 2000) proposed a hierarchical model of consumer needs referring to functionality (i.e., purpose), usability (i.e., ease of use), and pleasure (i.e., pleasure of use). This is in line with the conceptualization and framework of user experience suggested by Hassenzahl, Platz, Burmester, and Lehner (2000), who distinguish between pragmatic/ergonomic product qualities (i.e., purpose, ease of use) and

hedonic product qualities (i.e., pleasure, stimulation, well-being; Hassenzahl, 2003). This conceptualization is transferred to the context of survey experience in this dissertation project to conceptualize and theoretically ground the new construct. Particularly, the dissertation project proposes survey experience as a two-dimensional construct consisting of a *usability* and *pleasure* component. Usability refers to the ease of use of survey design, while pleasure relates to the positive affective experience of taking a survey.

Through extending survey criteria by an experience-centered category in this way, this dissertation project contributes to the understanding and examination of motivational aspects of survey response. Another important factor that possibly also determines important outcome variables are cognitive processes that occur when employees participate in a survey.

1.2 The Process of Survey Response in Employee Attitude Surveys

When taking employee attitude surveys, participants go through a certain process to provide a response. The process of answering attitude items in surveys is described by Tourangeau and Rasinski (1988) in four steps: (1) understanding the item, (2) retrieving necessary information, (3) forming a judgment, and (4) providing a response. In the context of an employee attitude survey, participants might be presented with an item on job satisfaction: “I am satisfied with my job” (Minnesota Organizational Assessment Questionnaire; Cammann, Fichman, Jenkins, & Klesh, 1983, as cited in Fields, 2002, p. 5). According to the processing model, they would read the item and understand what it is asking (1). Then, they would try and think of what aspects of their job they are satisfied with and what aspects could be improved (2). Next, in weighing these aspects against each other, they would reach a conclusion regarding their satisfaction level (3), and finally, provide their response by selecting the appropriate option (4). When considering the response process on this level of detail, it quickly becomes apparent that differences in item wording may alter the outcome. For example, if said item contains an intensifier (e.g., “I am *extremely* satisfied with my job”), the judgment made and subsequent response option selected might be different from the first item. Specifically, the intensifier *extremely* would alter the response process in the retrieval stage, as participants would have to think about situations or aspects of the job that made them very happy and these would have to outweigh all other situations or aspects to a greater extent than in the first example. The intensifier should hence “rais[e] the threshold” (O’Muircheartaigh, Gaskell, & Wright, 1993, p. 553) of being able to agree with the item, thus leading to a different response compared to the first item. This has also been suggested by previous research, which found that even small changes in item wording potentially alter the outcome (e.g., Krosnick & Schuman, 1988; Schuman & Presser, 1977; Tourangeau &

Rasinski, 1988). In itself, this might not be problematic. It may potentially cause issues, however, when items within an employee attitude survey are phrased in different ways so that some items contain intensifiers, while others do not. If results in fact differ, then their comparability might be decreased. As noted above, in organizational survey practice, results are often compared between survey topics regarding strengths and weaknesses of the organization or different organizational units. If one topic was assessed with items including intensifiers and another one did not, then it would potentially cause issues with comparing these results. Also, organizations rely on score improvement measures to indicate a trend of important work attitude measures (Wiley, 2012). If an item wording was changed regarding the use of intensifiers between survey cycles, this may potentially also decrease the informational value of historic comparisons. As intensifiers are frequently used in employee attitude items to varying degrees, it would be beneficial to examine their effects on the comparability of results. Furthermore, as part of employee attitude surveys' follow-up process, organizations often apply linkage research to better understand the impact of employee attitudes on business outcomes (Mason et al., 2005; Vance, 2006). Linkage research analyses rely on a certain level of variability in the data to learn more about these associations (Lebow, 1982). An issue arising in the context of employee attitude surveys is that results are often left-skewed (e.g., Braunscheidel, Suresh, & Boisnier, 2010; French-Lazovik & Gibson, 1984; McCarty & Shrum, 2000; Peterson & Wilson, 1992; Stanton et al., 2002), which may decrease the variability of results (Keppler-Seid, Windle, & Woy, 1980; Lebow, 1982; Tanner & Stacey, 1985). Hence, survey practitioners should be interested in taking measures to ensure sufficient variability in the data, so that they may learn more from linkage analyses for the follow-up process. If intensifiers in the item stem do raise the bar of agreement, then the variability of responses should subsequently increase. Thereby, organizations would potentially be able to learn more about their employees' perceptions in the context of linkage research.

Such beneficial effects of intensifiers in the item stem do, however, depend on participants' diligent processing of item stems, so that the intensifiers are considered for the judgment and following response. Whether the response process is carried out thoroughly is influenced by participants' response behavior. In this regard, Krosnick (1991) distinguishes *optimizing* and *satisficing* behavior. While optimizing entails careful compliance with each processing step described by Tourangeau and Rasinski (1988), satisficing entails more superficial processing that produces merely satisfactory rather than optimal responses (Krosnick, 1991). The choice of whether optimizing or satisficing behavior is applied in

responding to surveys is determined by participants' ability and motivation (Krosnick, 1991). Factors contributing to the motivation to optimize include personal characteristics (e.g., need for cognition), the perceived importance and usefulness of the survey, the personal relevance of the survey's topic, and accountability for responses provided (Krosnick, 1991). Similar factors motivating employees to engage in an employee attitude survey have been described by Rogelberg et al. (2000) in their survey response model explicitly tailored to the organizational context. However, the specific conditions in different settings leading to certain response behaviors in the form of satisficing and optimizing have not received much attention in the literature so far. Nevertheless, as the setting of employee attitude surveys is quite different from those of public opinion, marketing, political or student satisfaction surveys (Mueller et al., 2011; Rogelberg, Spitzmüller, Little, & Reeve, 2006), it is necessary to more closely examine employees' motivation to apply optimizing response behavior in this particular setting.

1.3 The Setting of Employee Attitude Surveys

When trying to understand the response process of employees in organizational surveys and employee attitude surveys particularly, it is important to take the special setting of this type of survey into account. Compared to other types of surveys (e.g., marketing surveys, political surveys, student satisfaction surveys, public opinion surveys) there are several psychological and practical aspects that set employee attitude surveys apart (e.g., Mueller et al., 2011; Rogelberg, 2006; Rogelberg et al., 2006). These aspects, first, refer to the special relationship between employees as participants and the organization as the survey sponsor. The two parties are in a social exchange relationship constituted by the psychological contract (Fauth, Hattrup, Mueller, & Roberts, 2013; Kolar & Kolar, 2008; Rogelberg et al., 2006; Spitzmüller, Glenn, Barr, Rogelberg, & Daniel, 2006). Social exchange theory has often been applied to understanding survey response (Albaum, Evangelista, & Medina, 1998; Dillman, 2007; Evangelista, Albaum, & Poon, 1999; Fan & Yan, 2010; Fauth et al., 2013) and it is particularly relevant in this setting. Based on the psychological contract, each party has expectations that need to be fulfilled: Employees are expected to respond to the survey by the organization, and in turn, they expect the organization to act on the results (Kolar & Kolar, 2008). Second, employee attitude surveys are embedded in extensive communication efforts (Mueller et al., 2011) that promote a norm of taking part in the survey. This survey norm may become even more explicit when leaders are involved in motivating their employees to take the survey. Consequently, employees may feel a “normative and social pressure” (Mueller et al., 2011, p. 784) to participate, which could not easily be re-created in other types of survey

settings (Mueller et al., 2011; Rogelberg et al., 2006). Third, employee attitude surveys often ask about topics that are very personal and crucial to individual careers (Mueller et al., 2007). Therefore, employees' motivation to complete the survey and process it diligently should be higher compared to other survey settings, as they can expect potential improvements from providing accurate responses (Kolar & Kolar, 2008). Additionally, the value and relevance of employee attitude surveys should conversely also be high, as working on improving the working environment for everyone in the organization leads to public benefits that have also been shown to increase motivation to optimize (Kolar & Kolar, 2008). Due to this constellation of social exchange relationships combined with tight-knit communication efforts and personal and organizational benefits to be gained from survey participation, the employee attitude survey should elicit increased motivation to optimize in the response process compared to other types of survey settings.

2. The Presented Research

2.1 Overview of the Presented Research

Taking together the presented argumentation on survey design, survey processing, survey criteria, and the special setting of employee attitude surveys, the process of survey response in employee attitude surveys is conceptualized for the presented research as depicted in Figure 1. Based on this model, several research questions emerge from the previous literature and practical considerations of employee attitude survey design and implementation. These research questions are addressed in three empirical studies that contribute to previous research and practice in the context of survey design and employee attitude surveys. The overall aim of this dissertation project is to provide insights into motivational and cognitive aspects relevant to survey response. Specifically, it aims to deepen the understanding of participants' experience of taking a survey and the response process in employee attitude surveys.

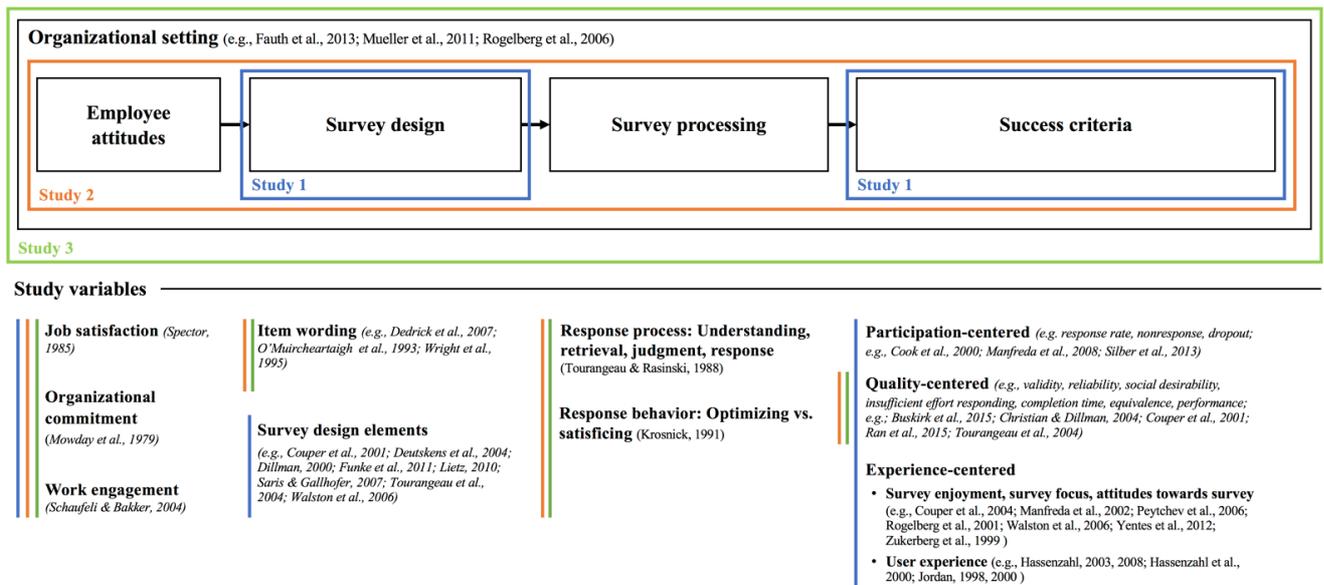


Figure 1. Process of survey response in employee attitude surveys and overview of appended studies

By drawing on existing theories of survey response and user experience research, this dissertation project, first, aims to promote a respondent-centered approach by introducing an experience-centered criterion for successful survey implementation.

In particular, **Paper 1** aims to address the lack of a criterion for successful survey design from a respondent-centered point of view by focusing on participants' experience. The paper introduces the concept of *survey experience* based on user experience theory (e.g., Hassenzahl, 2003, 2008; Hassenzahl et al., 2000). A short measure for survey design is developed and tested in two separate studies in terms of reliability and criterion-validity. To examine the construct on a deeper level, survey design features are varied in an experimental approach to better understand the relationship between survey experience and other survey criteria. The paper's main contribution on a theoretical level is the short measure of survey experience comprised of *usability* and *pleasure*. The measure closes a gap in the assessment of survey success criteria in extending previous evaluation criteria by taking a respondent-centered approach. Such an approach may shed light on factors contributing to participants' motivation to respond to a survey. It can further provide insights for survey design practice, as it can be used to evaluate survey projects regarding participants' experience of design elements. Survey designers may use this information to derive implications for future improvements to survey design.

Second, this dissertation project aims to provide a deeper understanding of motivational and cognitive aspects of participants' response processes in the context of employee attitude measurement and applied employee attitude surveys.

Accordingly, **Paper 2** aims to examine item-wording effects on the example of intensifiers in item stems of Likert-type items typically used in employee attitude measurement and surveys (Borg & Mastrangelo, 2008). As stronger intensifiers in the item stem, should make the respective statement more extreme, fewer participants should endorse such a statement (Nye, Newman, & Joseph, 2010; O’Muircheartaigh et al., 1993). Using strong intensifiers in the item stem should, therefore, affect the response behavior of participants with regard to means, variance, skewness of results, and inter-correlations between studied variables. If intensifiers show the expected effects, then they might provide a possible way of addressing several practical issues of employee attitude measurement. First, employee attitude results are often left-skewed indicating decreased variability in responses, which means that practitioners may not take full advantage of the information that can be derived from such results (e.g., Keppler-Seid et al., 1980; Lebow, 1982; Tanner & Stacey, 1985). Second, intensifiers are often used in employee attitude measures to varying degrees and previous research has shown that even small changes in item-wording might alter results (e.g., Krosnick & Schuman, 1988; Schuman & Presser, 1977; Tourangeau & Rasinski, 1988). This could potentially impact the usefulness of comparisons between different survey topics, or even for historic or external benchmarks. Thus, the paper contributes an investigation of participants’ response processes in the context of employee attitude measurement to improve our understanding of the underlying cognitive and motivational processes. Further, it derives theoretical and practical implications for survey design concerning the use of intensifiers in the item stem of employee attitude measurement.

Building on Paper 2, **Paper 3** extends the examination of effects of intensifiers in the item stem of employee attitude surveys by taking an experimental field study approach. Subsequently, it focuses on the generalizability of the findings of Paper 2 to the special context of applied employee attitude surveys. Due to a lack of investigation of such effects in this regard, it thereby contributes to survey research by contextualizing survey response in the applied setting of an employee attitude survey. Moreover, it investigates the specific motivational conditions contributing to cognitive processing and response behavior of employees. Finally, by building on the reasonings of Paper 2, it provides important insights into response process theory and survey design research and practice with regard to item wording effects.

Taken together, the three studies contribute to the field of survey design research by focusing on the reality of respondents as they participate in a survey. Specifically, motivational and cognitive aspects of survey response are considered. Finally, a first attempt

to link these processes is made in trying to gain a more comprehensive picture of the survey response process in the specific setting of employee attitude surveys.

2.2. Paper 1

Let's make it an experience! Introducing survey experience as a respondent-centered criterion of successful survey design

Schumacher¹, S. K., Hofschroer¹, P., Hund¹, P. M., Schoenemann¹, F., & Mueller¹, K. (under review). Let's make it an experience! Introducing survey experience as a respondent-centered criterion of successful survey design. *Educational and Psychological Measurement*.

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Abstract

Surveys play a critical role in research and business practice. To measure their adequacy most survey designers use criteria of participation and quality to evaluate survey design. A third important criterion is often neglected: the experience of taking the survey. This study introduces the construct of *survey experience* as an experience-centered measure of successful survey design. We systematically developed a short-scale of survey experience on the theoretical foundation of user experience theory and validated it in two studies. Overall, the short-scale showed good reliability and was associated with other experience-centered criteria but distinct from participation- or quality-centered criteria. Further, we tested differences in survey experience when manipulating survey design features. In Study 1, we found significant differences for two design features impacting survey experience namely the number of response categories and the use of graphics in the survey. As the results indicated that survey experience might be influenced by a configuration of design features rather than individual features, we examined the effects of configurations of survey design features on survey experience in Study 2. We found enhancement effects for pleasure and survey-experience in the corresponding conditions compared to the control conditions. This study contributes to survey design research by drawing on user experience theory to develop the new construct of survey experience as a third category of criteria for successful survey design. As SX is associated with the willingness to participate in similar future surveys, practitioners may use SX as a possible lever to counter potential adverse effects of survey fatigue. The short-scale provides an economic and reliable way to assess participants' SX and derive design implications for future surveys tailored to specific target groups.

Keywords: survey design, user experience, survey experience, attitudes towards surveys, satisfaction with surveys

2.3. Paper 2

Does “very” make a difference? Effects of intensifiers in item stems of employee attitude surveys on response behavior

Hofschroer^{1*}, P., Schumacher^{1*}, S. K., & Mueller¹, K. (under review). Does “very” make a difference? Effects of intensifiers in item stems of employee attitude surveys on response behavior. *Survey Research Methods*.

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Abstract

Employee attitude surveys are important tools for organizational development. To gain insights into employees' attitudes, surveys most often use Likert-type items. Measures assessing these attitudes frequently use *intensifiers* (e.g., *extremely*, *very*) in item stems. To date little is known about the effects of intensifiers in the item stem on response behavior. They are frequently used inconsistently, which potentially has implications for the comparability of results in the context of benchmarking. Also, results often suffer from left-skewed distributions limiting data quality for which the use of intensifiers potentially offers a remedy. Therefore, we systematically examine the effects of intensifiers' on response behavior in employee attitude surveys and their potential to remedy the issue of left-skewed distributions. In three studies, we assess effects on level, skewness and nomological structure. Study 1 examines the effects of *intensifier strength* in the item stem, while Studies 2 and 3 assess whether *intensifier salience* would increase these effects further. Interestingly, results did not show systematic effects. Future research ideas in regards to item design and processing as well as practical implications for the design of employee attitude surveys are discussed.

Key Words: employee attitude survey, survey design, intensifier, item stem, ceiling effect, left-skewed distribution, intensifier salience, intensifier strength

2.4. Paper 3

“I am extremely committed” versus “I am committed”- Do intensifiers make a difference in employee attitude surveys: A field experiment

Schumacher¹, S. K., Hofschroer¹, P., Bauhaus², T., & Mueller¹, K. (under review). “I am extremely committed” versus “I am committed”- Do intensifiers make a difference in employee attitude surveys: A field experiment. *European Journal of Work and Organizational Psychology*.

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Abstract

Item stems of employee attitude surveys frequently contain intensifiers (e.g., “extremely”) to varying degrees. Item stems with intensifiers should receive less endorsement resulting in more differentiated responses. Previous research has found equivocal results in this regard, suggesting that the survey setting is of importance. We aimed to examine such effects in the context of employee attitude surveys. We expected that the employee attitude survey setting would motivate optimising (Krosnick, 1991) in survey response (Tourangeau & Rasinski, 1988), thus ensuring diligent processing of intensifiers. Data ($N = 792$) were collected in an employee attitude survey of a food retail company. In a randomised field experiment, employees either received item stems with or without intensifiers. Response distributions were less left-skewed for item stems with intensifiers, but other response behaviour was not affected. Accordingly, intensifiers in item stems should not adversely affect the comparability of results. They are also not suited to increase variability of data and associated benefits to organisational learning. This study gains relevant insights for survey design by systematically examining effects of intensifier use in item stems on survey results in an applied organisational setting. It thus contributes to the theory of response behaviour in employee attitude surveys.

Key Words: employee attitude survey, survey design, intensifier, item stem, randomised field experiment, applied setting

3. General Discussion

The aim of this dissertation project was to address two challenges to successful employee attitude survey implementation by taking a respondent-centered approach. First, surveys should create an enjoyable experience to motivate survey response to counter possible negative effects of over-surveying (Adams & Umbach, 2012; Manfreda et al., 2008; Porter et al., 2004). Second, survey designers have to ensure the comparability of results for analyses and interpretation in the context of promoting an organizational learning culture. Taking a respondent-centered approach to understanding *motivational* and *cognitive processes* of survey response may advance theoretical knowledge and design better employee attitude surveys for organizational practice.

Based on the integration of survey design (e.g., Buskirk, Saunders, & Michaud, 2015; Dedrick, Marfo, & Harris, 2007; Dillman, 2000; Lietz, 2010; Wänke, 2002; Walston et al., 2006), user experience (e.g., Hassenzahl, 2003; Hassenzahl et al., 2000), response process (e.g., Krosnick, 1991; Tourangeau & Rasinski, 1988), and organizational survey (e.g., Mueller et al., 2011; Rogelberg et al., 2000; Rogelberg et al., 2006) research and theory, this dissertation project developed research questions along the survey process in terms of survey design, survey processing, response behavior, and survey evaluation. In particular, three empirical studies addressed specific needs for the evaluation of surveys from a respondent-centered point of view (Paper 1), and implications of survey design for participants' response process and response behavior (Papers 2 and 3) considering the specific survey setting of applied employee attitude surveys (Paper 3).

Overall, by investigating the survey response process from a participant's perspective, the presented research contributes new insights into *motivational* and *cognitive processes* that determine employees' response behavior. Through integrating the relevant literature from different research streams, the presented research advances the theoretical understanding of survey response in employee attitude surveys and provides insights for organizational practice.

3.1 Summary of Paper-Specific Results and Implications

An important factor in the evaluation of surveys that has been somewhat neglected in research and practice is the experience of a survey on behalf of participants. **Paper 1**, therefore, addressed the question of how a particular survey may be evaluated from a respondent-centered point of view. It conceptualized participants' survey experience on the basis of user experience theory (e.g., Hassenzahl, 2003; Hassenzahl et al., 2000) and developed a short measure distinguishing between the pleasure and usability of a survey. In

two separate studies, Paper 1 tested the newly developed survey experience measure with regard to factorial structure, item selection, reliability, and validity. In the first study ($n = 799$), the measure was added to a market research survey. Based on factorial analyses, six items were selected for the short scale with three items each assessing the pleasure and usability component. Reliability was good (Cronbach's $\alpha = .85$). With regard to criterion validity, survey experience was significantly associated with other experience-centered criteria (i.e., the overall attitude towards the survey, satisfaction with the survey, and the willingness to recommend survey participation to others). However, it was unrelated to participation- and quality-centered criteria. Further, the effects of individual design elements on survey experience were examined by systematically varying ten survey design features compared to a standard survey version. Results showed significant effects on survey experience in the expected direction for two out of ten design elements (i.e., middle category and graphics). Taking these results into account, it was suggested that configurations of survey design features might be more effective in impacting participants' survey experience. While, overall, these results indicated a promising start, it was necessary to conduct further validation of the newly developed scale in a second study. In the second study ($n = 240$), the measure was added to a survey on employee attitudes administered to job incumbents. Factor loadings differed slightly from those in the first study and some items did not meet the set quality criteria. As a consequence, four items of the original 17 item measure had to be excluded. Factor analysis of the remaining item set was able to confirm the item selection of the first study with one exception. The usability subscale only meaningfully included two items in the second study. Although short (sub-)scales often show limited reliability (Rammstedt & Beierlein, 2014; Schweizer, 2011), the internal consistency for the short scale was acceptable (usability: $\alpha = .74$) to good (pleasure: $\alpha = .81$; overall survey experience: $\alpha = .81$). Next, the analyses of the relationship between survey experience and other survey criteria, again, found survey experience to be positively related to other experience-centered criteria (i.e., satisfaction with the survey, general attitudes towards the survey, and the likeliness of participating in similar surveys) but unrelated to participation- and quality-centered criteria. Once more, survey design features were varied, this time, however, by creating survey design feature configurations intended to heighten (1) the usability of the survey, (2) the pleasure of taking part, or (3) the overall survey experience compared to a (4) control condition. Results indicated that the usability condition (i.e., grouped item content, middle category, radio buttons) was not able to show a significantly higher usability experience compared to the control condition. However, both the pleasure (i.e., graphics,

colorful design) and overall survey experience (i.e., grouped item content, middle category, radio buttons, graphics, colorful design) conditions were able to produce higher levels of pleasure and survey experience respectively compared to the control condition. Interestingly, when examining findings in the overall survey experience condition more closely, results were again significantly higher regarding the pleasure but not usability subscale. Therefore, the results indicate that the inclusion of pleasure-inducing design elements (e.g., graphics and a colorful design) may play a special role in determining survey experience. One possible explanation for this pattern of results could be that survey design features eliciting pleasure were presumably stronger and more decisive in this context. The second study used a standard survey tool, which should have provided a certain baseline of usability in terms of its design options. In fact, the mean usability rating was 5.76 across all four conditions with a range between 5.55 to 5.95 indicating a good usability of the survey. Hence, all conditions might just have been usable enough and to a similar extent. Potentially, with today's advances in technology, internet connections, and programming possibilities in standardized tools (Evans & Mathur, 2005, 2018), usability might just be present at a certain level. Consequently, it may only make a difference if the survey is implemented in an especially badly programmed tool. If this is the case, usability could be seen as more of a hygiene factor (Herzberg, Mausner, & Snyderman, 1959). Pleasure would then be the main contributor to survey experience, if a certain level of usability is ensured, thereby constituting a motivating factor (Herzberg et al., 1959). This interpretation is paralleled by research in the context of user experience, where Hassenzahl, Koller, and Burmester (2008) suggested that pleasure causes satisfaction, while the lack of usability causes dissatisfaction.

Another possible explanation for the results regarding differences in usability would be that the two-item scale simply needs improvements. Subsequently, more testing and application of the newly developed scale is needed with a specific focus on further developing the usability component. While acknowledging this need for additional testing and application of the scale, Paper 1 contributes to the understanding of how participants perceive and are motivated by specific surveys' designs. It, thus, provides a first attempt to close the gap in the previous literature by advancing the research field through the development and testing of a theoretically founded measure of participants' survey experience. Accordingly, it offers a good starting point for future research on the conceptualization and measurement of participants' survey experience. Such insights contribute to the theory on motivational issues of survey response as well as survey design. Moreover, they may help to evaluate and improve the design of surveys in organizational practice.

Next to the evaluation of survey design from a respondent-centered perspective, another important factor in the context of surveys in general - and employee attitude surveys particularly - is the comparability of survey results. For this reason, **Paper 2** examined the effects of item wording variations on the example of intensifier use in item stems of Likert-type attitude items on response behavior. Next to examining these effects for comparability purposes, it specifically focused on the response process of employees when answering attitude items as described by Tourangeau and Rasinski (1988). It, therefore, aimed to contribute to the understanding of how participants process intensifiers. In a three-study experiment ($n_1 = 205$, $n_2 = 155$, $n_3 = 352$), intensifier use in the item stem of employee attitude measures was systematically varied to examine effects on the level, distribution and nomological structure of results. In particular, in the first study participants were either presented with item stems including strong intensifiers, moderate intensifiers, or no intensifiers. Curiously and contrary to the hypotheses, the results indicated no differences with regard to mean, variance, skewness, or inter-correlations between the conditions. As a consequence, the second and third study aimed to increase the salience of intensifiers in the item stem to increase the likelihood of processing and subsequent inclusion in the judgment process (Tourangeau & Rasinski, 1988). To that end, the second study compared item stems with strong intensifiers printed in bold to item stems with strong intensifiers, or without intensifiers. The third study included the same conditions as the second study, but additionally compared item fragments (i.e., item statements reduced to only the most necessary information) to full item statements. Surprisingly, the results of both the second and third studies were insignificant or inconsistent concerning the effects of intensifiers in the item stem on response behavior. The results of Paper 2 have important implications for response theory and survey design practice. First, on a practical level, using intensifiers in item stems to varying degrees should not adversely affect the comparability of survey results. Second, on a theoretical level, intensifiers in the item stem do not seem to be taken into account when forming and providing a judgment in Paper 2. This may be due to satisficing strategies (Krosnick, 1991) preventing the diligent processing of all item content and thus the effects of intensifiers in the item stem. Another potential explanation for the lack of significant effects may be the point of reference participants apply to think about the item content and make their judgment (McPherson & Mohr, 2005). Here, they might always consider item stems' "general intent (...), rather than its literal meaning" (Nye et al., 2010, p. 807), thereby neglecting intensifiers in the item stem. They would then rely on intensifiers in the response format to indicate their level of agreement (Nye et al., 2010). In conclusion, more research is

needed to examine the specific conditions of survey processing and response behavior in employee attitude surveys.

Moreover, as in previous research results concerning the use of intensifiers in item stems were somewhat equivocal, the setting of the survey might play a role in determining participants' response behavior regarding the processing of intensifiers. If this is the case, the specific organizational context of employee attitude surveys could potentially affect the response process of employees. Specifically, employees might have a higher motivation to apply optimizing strategies (Krosnick, 1991) in survey response compared to participants of other surveys (e.g., Mueller et al., 2011; Rogelberg et al., 2006). Hence, the organizational setting should also increase the likelihood of the effects of intensifiers in item stems of attitude measures. Subsequently, **Paper 3** addressed the role of the survey's setting in determining response behavior of employees in processing an employee attitude survey. To that end, item stems of an applied employee attitude survey in a company of the food retail industry were either presented with or without an extreme intensifier. Surprisingly, the results showed that there was again no significant effect of intensifier use in item stems on the overall results with regard to item means, variance, and inter-correlations. Results did, however, show that skewness consistently decreased for item stems containing extreme intensifiers. This indicates that theoretically the "threshold" (O'Muircheartaigh et al., 1993, p. 553) for agreement to an item stem is indeed raised by including an extreme intensifier in the item stem. However, there might be other forces at play that hinder these effects from becoming pronounced enough to significantly affect response behavior.

Both **Papers 2 and 3** contribute to the literature on survey response theory by attempting to better understand the response process of employee attitude items, while Paper 3 also focuses on the context of the applied survey setting within organizations. Similar to Paper 2, Paper 3 raises the question of whether intensifiers in the item stem were simply neglected as a result of satisficing strategies applied by employees. Another possible explanation could have been that intensifiers in the response format might just have played a more decisive role and participants did in fact optimize. Overall, more research on the conditions leading to and subsequent choice of response strategy in the field of applied employee attitude surveys is needed. Specifically, with regard to the special setting of such surveys, it is further necessary to gain a deeper understanding of what role the conditions of the survey setting play in determining survey processing and response behavior. On a practical level, Papers 2 and 3 provide promising insights for survey design, as changes to survey items – at least with regard to intensifiers – between survey topics or survey cycles

should not affect the comparability of the results.

3.2. General Implications for Research

The presented research in this dissertation project has several important implications for research on survey design and the response process. While all taking a participant-focused perspective on examining the survey response process, the three studies focus on two different vantage points to this regard. **Paper 1** highlights the need for a survey criterion that can help shed more light on participants' actual experience with a survey. **Papers 2 and 3** more closely examine the response process of participants in employee attitude surveys. Together, they provide important insights into the motivational and cognitive processes of participants in employee attitude surveys.

First, the presented research takes the first step towards a more comprehensive picture of participants' response processes by bringing together the overall experience (i.e., motivational aspects) and the actual processing (i.e., cognitive and motivational aspects) of a survey. Focusing on response behavior (optimizing vs. satisficing) in employee attitude surveys, Papers 2 and 3 examined the effects of intensifiers in item stems under the assumption that they are actually being processed. Both studies even tried to enhance the likelihood of their processing by highlighting them (Paper 2) or through the motivating conditions induced by the survey setting (Paper 3). As both studies did not find significant or consistent effects of intensifiers in the item stem, one possible explanation could be that participants satisficed in both studies. Thus, the results of the presented research indicate that more insights are needed concerning what motivates specific response behaviors in cognitive survey processing. Satisficing response behavior is a common problem in survey response (Alvarez, Atkeson, Levin, & Li, 2019; Kim, Lee, & Gweon, 2019; Maniaci & Rogge, 2014) and can possibly have negative effects on the interpretability of obtained responses (Bansak, Hainmueller, Hopkins, & Yamamoto, 2018; Miura & Kobayashi, 2016; Zhang & Conrad, 2018). Hence, it would be beneficial to better understand the circumstances leading to a specific response behavior concerning when, how, and why it might occur. This knowledge would provide additional insights into participants' response processes and how they might be steerable through design choices.

In this context, it is also necessary to learn more about the role of different survey design features or configurations thereof in determining the choice of response behavior in employee attitude surveys. According to Vannette and Krosnick (2014) survey designers "cannot control the ability level that a respondent brings to a [survey], but (...) can influence an individual's motivation" (p. 319). This is an important point of leverage that should receive

more attention in the future. Paper 1 showed that a participants' survey experience is positively related to their likeliness of taking part in future surveys. It would, therefore, be interesting to examine how response behaviors relate to participants' survey experience. To address this research question, this dissertation project contributes an important first step through the development of a short measure of survey experience. The presented research, thus, paves the way to taking a broader perspective and linking motivational and cognitive aspects of survey response on a theoretical level. For example, participants with a more positive survey experience might conceivably be inclined to optimize more. Paper 1 did not find survey experience to be related to insufficient effort responding as an indicator of quality-centered survey criteria. Nevertheless, it would be beneficial to examine survey experience in relation to other criteria of response quality as indicators of optimizing strategies in survey response. Going a step further, it would also be interesting to examine the relationship between survey experience and theories of response behavior (e.g., Krosnick, 1991; Tourangeau & Rasinski, 1988) by more directly assessing response behavior (e.g., think-aloud tasks, eye-tracking).

Second, the presented research also has theoretical implications for the understanding of the survey response process itself. Particularly, Papers 2 and 3 focused on the effects of item wording changes regarding the inclusion of intensifiers in the item stem of Likert-type items in employee attitude measurement on response behavior. As results in both studies were insignificant or inconsistent, one possible explanation could be that participants simply satisficed (Krosnick, 1991), which led to a neglect of the intensifier in the response process (Tourangeau & Rasinski, 1988). Another possible explanation could be that participants optimized (Krosnick, 1991) but intensifiers in the response format are more dominant as response anchors. McPherson and Mohr (2005) suggested that participants might simply interpret items concerning their "general intent (...), rather than [their] literal meaning" (Nye et al., 2010, p. 807). If this is true, then intensifiers might be processed, but then intentionally neglected as the interpretation (steps 1 and 2; Tourangeau & Rasinski, 1988) of an item would not require it to be included in providing a judgment. Further, intensifiers in the response format of Likert-type items have shown more consistent effects on response behavior in previous research (e.g., French- Lazovik & Gibson, 1984; Lam & Klockars, 1982; Lam & Stevens, 1994; Weijters, Geuens, & Baumgartner, 2013; Wildt & Mazis, 1978; Wyatt & Meyers, 1987). This might indicate that they are simply more relevant in providing a response compared to intensifiers in the item stem. However, even though Papers 2 and 3 did not find significant effects of intensifiers in the item stem in two different survey setting, there are

other studies, where they did make a difference (e.g., Dedrick et al., 2007; O’Muircheartaigh et al., 1993; Wright, Gaskell, & O’Muircheartaigh, 1995). Additionally, in a small case study where participants performed think-aloud tasks to examine the role of intensifiers in the response process, some participants did consider and include them in their judgment, while others did not (Low, 1996). Considering all of these findings together, it seems to be evident that more research is needed on the influencing factors of the survey setting. This would allow us to better understand the presence or absence of intensifier effects in the item stem and on a more general level the survey response process.

Following this line of argumentation, the participation in, experience, and processing of a survey seem to be highly dependent on its context or setting. This context-dependency becomes quite noticeable when examining the effects of survey design features on survey criteria. For example, personal salutations in online surveys increased response rates in a student setting (e.g., Heerwegh et al., 2005; Joinson & Reips, 2007), but did not affect them in an intra-organizational setting (e.g., Mueller, Straatmann, Hatrup, & Jochum, 2014). These results indicate that - similarly to mail surveys - personalization in online surveys may boost response rates in more general settings (e.g., general public surveys, research surveys, market research surveys), but has no effect in a setting where a group identity is formed (e.g., organizational surveys; Dillman et al., 2007). Accordingly, it is important to consider how different settings influence participants’ response behavior.

The question of the role of context or setting has received some attention in organizational research (Hatrup & Jackson, 1996; Johns, 2001, 2006). Johns (2006) describes the context as „situational opportunities and constraints that affect the occurrence and meaning of (...) behavior“ (p. 386). In the context of survey response, such opportunities and constraints presented by the survey setting may then affect whether a survey design feature adds to or subtracts from someone’s survey experience, or whether participants apply optimizing or satisficing behavior in their survey response. While in general, context has been described as having “many faces” (Johns, 2006, p. 387), there does not seem to be a comprehensive taxonomy of what exactly constitutes the context or setting in organizational research to date (Johns, 2006). A general, yet “speculative” (p. 517) attempt has been made by Hatrup and Jackson (1996). The authors suggested different categories of attributes describing the context in organizational research (i.e., informational, task, physical, and social). They, further, urged “researchers [to] be more explicit about settings in which individual differences are studied” (Hatrup & Jackson, 1996, p. 534). Johns (2006) differentiated between the omnibus context (who, when, where, why) and the discrete context

(task, social, physical). With specific regard to the understanding of response behavior to employee attitude surveys, Rogelberg et al. (2000) have described aspects of the survey setting (e.g., OCB and survey norms within the organization, time pressure) next to more individual (e.g., individual traits, attitudes towards surveys) or survey-specific (e.g., clarity, length, interest in topics) aspects. However, to date and to the best of my knowledge, there is no comprehensive taxonomy of the survey setting or context in general or regarding employee attitude surveys in particular. As the results of the presented research in this dissertation project indicate that the survey setting does play an important role in determining the experience and processing of surveys, a taxonomy of survey settings is desperately needed. Taxonomies could help to organize this large number of aspects relevant to survey design and implementation and provide researchers with a list of possible factors to consider when researching survey design or the response process (Hatrup & Jackson, 1996). A taxonomy of the survey setting could, thus, advance the understanding of inconsistent results regarding the effects of survey design features on important survey criteria and the response behavior participants apply. On the basis of previous research and the presented argumentation in this dissertation project, such a taxonomy could include aspects of the organizational setting (Hatrup & Jackson, 1996; Johns, 2006) and the employee attitude survey setting (e.g., Borg & Mastrangelo, 2008; Church & Oliver, 2006; Kolar & Kolar, 2008; Krosnick, 1991; Mueller et al., 2011; Rogelberg et al., 2000; Rogelberg et al., 2006; Vannette & Krosnick, 2014; Wiley, 2010). For a suggestion of an integrative approach to the literature on the organizational context and research on employee attitude surveys, see Figure 3. This integration may provide a starting point for future research into the role of the survey setting in determining the response behavior and survey experience of survey participants.

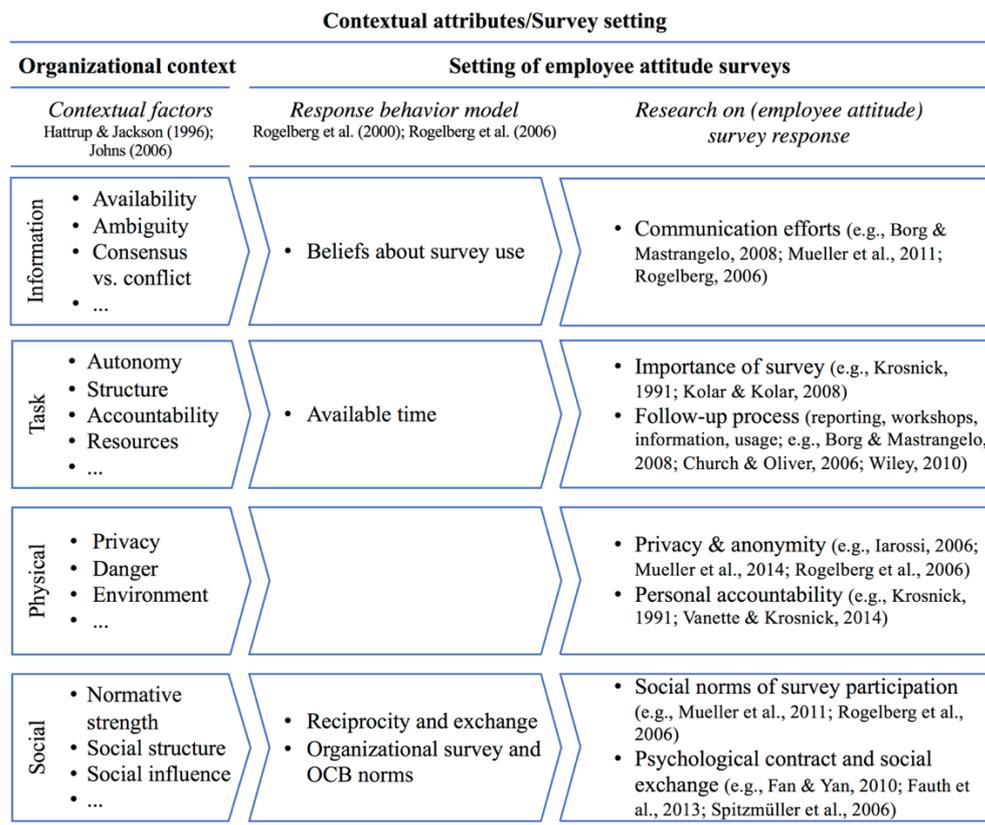


Figure 2. Suggested aspects of the survey setting in employee attitude surveys

3.3. General Practical Implications

The practical implications of the presented research in this dissertation project are threefold. Overall, this dissertation project provides survey practitioners with insights into the experience participants have when responding to a survey.

First, this dissertation project proposes survey experience as a respondent-centered criterion for evaluating successful survey implementation. In the face of growing numbers of surveys being implemented in organizations (Saari & Scherbaum, 2011; Wiley, 2010), learning more about the pleasure a specific survey is evoking and the usability of its design will help practitioners to improve the overall experience participants have with the survey. In turn, this may also improve participants' motivation to engage in future surveys and counter possible adverse effects of survey fatigue (Porter et al., 2004). The dissertation project provides survey practitioners with an economic tool to generate valuable insights in this regard. Another possible advantage of the survey experience measure concerns the evaluation of different survey design features with regard to pleasure and usability. While there is some support for the use of individual survey design features (e.g., middle category, graphics) to guarantee a positive survey experience, the configuration of certain survey design features may be beneficial to creating a pleasurable and usable experience for participants. This was

supported by findings in Sample 2, where survey experience was significantly higher in the pleasure (i.e., graphics, colorful design) and overall survey experience condition (i.e., grouped item content, middle category, radio buttons, graphics, colorful design) compared to a control condition. In addition, pleasure-inducing survey design features potentially might be of special importance to ensure an overall positive survey experience. Results were mostly significant for the pleasure subscale in Sample two across the conditions. While usability ratings were good ($M = 5.76$), there were no significant differences between the conditions regarding the ease of use. Therefore, when a survey is implemented in a standard tool ensuring a certain baseline of usability, pleasure-inducing design features should provide possible levers to increase participants' survey experience and thus motivation to participate. Accordingly, adding the survey experience scale to organizational surveys will help survey designers evaluate the survey in terms of what constitutes a pleasurable and usable survey design within their specific organization. Hence, survey practitioners will be able to continuously improve their survey design and create surveys specifically tailored to the preferred experience of their target group.

Second, this dissertation project contributes to the understanding of the survey response process of employees when answering employee attitude surveys. Based on the lack of effects on statistical parameters in Papers 2 and 3, intensifiers are not suited to increase the variability of results. Consequently, they do not qualify as a potential countermeasure for the frequent left-skewness of results in employee attitude surveys. Moreover, in the context of employee attitude measurement in both research and practical organizational settings, using intensifiers in the item stem to varying degrees should not affect the comparability of results. Subsequently, on the basis of the presented studies, slight changes in item wording should not create issues for the analysis or interpretation of results in the context of linkage research, strength and weaknesses analyses, historic comparisons, or benchmarking. This is good news for organizational survey practice as it paves the way for more flexible handling of item wording.

Finally, the results of the presented research urge survey practitioners to consider the context or setting in which a survey is conducted. In light of the sometimes contrasting results regarding questions of successful survey design, practitioners should consider influencing factors of the specific survey setting at hand. They will then be better equipped to ensure successful processing and a positive experience of their survey projects.

3.4. General Limitations

As with all research, some limitations have to be taken into account for interpreting

the presented results.

First, not all data used in this dissertation project are collected from samples of employees within the context of applied employee attitude surveys. Paper 1 analyzed panel data, which were obtained from customers in a market research setting in the first study and job incumbents in an employee attitude setting in the second study. A potential limitation, in this context, may arise due to the large amount of surveys panelists respond to. Their experience might not be affected as much compared to other survey participants due to familiarization effects. Further, they were incentivized for participation, which could potentially have affected their motivation and choice of response behavior. Paper 2 recruited job incumbents via personal contact and social media. Participants were employed in many different organizations and industries in all three studies. Finally, Paper 3 was implemented in the context of an applied employee attitude survey within one company.

Second, the power and effect sizes of the studies presented in this dissertation project have to be considered. In **Paper 1** the power of both experiments in the first study (.92) and the second study (.84) was high enough to detect medium effect sizes ($d = .50$) for survey experience. The effect in the first experimental study was minimal ($d = .04$) and detecting it would have required a sample size of 13,516 to reach significance. In the second study, effects for the pleasure and overall SX condition were significant. The effect for usability present in the usability condition was negligible ($d = .07$) and would have required a sample size of 4,518 participants to reach significance. Overall, effects in varying individual design features were interpreted as too small to make a meaningful difference for SX in the first study. The manipulation of survey design features had a sufficient power in the context of pleasure and overall survey experience in the second study. The effect on usability in this study was interpreted as too minimal to meaningfully affect results. Therefore, the power of the two experiments was sufficient to detect meaningful differences in survey experience between the conditions of Paper 1.

In **Paper 2** the power was high (.99 to 1.00) for detecting medium effect sizes ($d = .50$), which would account for a shift in responses of between 0.36 and 0.73. While Paper 2 would not have been able to detect small effects ($d = 0.20$) in the respective sample sizes, these would only have resulted in small shifts (0.14 to 0.29) on the response scale. **Paper 3** yielded a high power (approx. 1.00) for the detection of medium effect sizes ($d = 0.50$) resulting in a shift on the response scale between 0.40 and 0.46. Small effects ($d = 0.20$) would have resulted in a shift of 0.16 to 0.18 on the response scale. Overall, although the power of Papers 2 and 3 were sufficient to detect medium effects, they did not include

sufficiently large sample sizes to find small effects. However, in the context of employee attitude surveys, small effects might be too small to meaningfully contribute to organizational learning. Medium-sized effects, on the other hand, would lead to meaningful shifts in responses regarding practical learning opportunities and would have been detected in the presented research.

Third, **Papers 2 and 3** used employee attitude measures to systematically examine the effects of intensifiers in item stems of Likert-type items. The measures used in **Paper 2** were all developed in the context of organizational research. While they are widely used and well-tested, such instruments are “rarely directly suited” (Borg & Mastrangelo, 2008, p. 78) for applied employee attitude surveys. Hence, results need to be interpreted with this limitation in mind. **Paper 3** tried to find a middle ground in this regard as it largely used the existing items from the last survey cycle of the employee attitude survey of the company. As the survey had to be shortened, items were selected from the original item pool on the basis of content considerations with regard to established scales of employee attitudes for job satisfaction and commitment. Work engagement and employer attractiveness were newly added to the survey, and thus, also constituted by measures developed for research. While there might be slight differences between measures designed for research and practice, the presentation format was kept consistent across our studies and was adapted to a Likert-item format common in employee attitude practice. Further, while not being implemented into organizational surveys as they are, research measures often serve as an orientation to item content and phrasing. In any case, they refer to the same content.

Finally, like in many empirical studies on the effects of survey design features on response behavior (Galesic & Yan, 2011), this dissertation project does not assess the direct experience as participants go through the process of taking part (e.g., think-aloud tasks, eye-tracking, click-tracking/mouse movement, neuro-imaging). All three studies instead used indirect measures of the experience derived from examining the survey results (e.g., nonresponse, dropout, insufficient effort responding, means, variance, skewness, intercorrelations).

3.5 Future Directions

On the basis of the general implications for research and addressing the limitations of the presented research, this dissertation project opens several avenues for future research.

First, future research should further examine the link between motivational and cognitive processes in survey response. One possible way of addressing this link would be to study the conditions of response behavior in employee attitude surveys. Understanding when

and why employees opt for optimizing versus satisficing response strategies will help to shed more light on the response process of employee attitude items as suggested by Tourangeau and Rasinski (1988). In this context, future research should also explore the role of participants' survey experience as a possible lever for increasing the likelihood to optimize in survey response. A second approach to exploring the process link between motivational and cognitive aspects could focus on new insights into design recommendations for surveys. For instance, a current trend in survey design is the gamification of surveys (Keusch & Zhang, 2017). Gamification is supposed to make the experience more enjoyable, thereby engaging participants more with positive effects on response rates and data quality (Keusch & Zhang, 2017). However, applying the survey experience concept, future research could examine the implementation of gamified surveys more closely considering information on their usability and elicited pleasure. An interesting question would be, whether a gamified survey might indeed motivate participation through the pleasure of filling it out, or whether it might be too cognitively demanding. This could then potentially result in satisficing behavior (Krosnick, 1991; Vannette & Krosnick, 2014), as participants "tend to reduce the burden" (Tourangeau, Rips, & Rasinski, 2000, p. 254) of taking part. Therefore, exploring the link between survey experience and response theories (e.g., Krosnick, 1991; Tourangeau & Rasinski, 1988) may possibly lead to a better understanding of the underlying process of survey response and potential consequences for designing a survey.

Second, when designing future studies in this regard, it would generally be beneficial to take a process research approach. This could be accomplished by using think-aloud tasks (e.g., Low, 1996; van Someren, Barnard, & Sandberg, 1994), eye-tracking (e.g., Galesic & Yan, 2011; Lenzner, Kaczmirek, & Galesic, 2011; Nichols, Olmsted-Hawala, Holland, & Riemer, 2020), or neuro-imaging technology (e.g., Freunberger & Nieuwland, 2016; Zhan, Jiang, Politzer-Ahles, & Zhou, 2017). For example, similar to the approach by Low (1996), participants could be asked to voice their thoughts while responding to employee attitude surveys. Importantly, this should include their thoughts about instructions and design as well as items. With regard to response strategies (Krosnick, 1991), it would thus be possible to get a better picture of what is actually processed and whether this is performed diligently or not. Concerning survey experience, such approaches could complement the information about the usability and pleurability of certain design elements or configurations. Eye-tracking is another common technique to understand how participants navigate and process a survey (Galesic & Yan, 2011). For instance, previous research has examined participants' eye-movements as an indicator for the level of processing applied on behalf of participants in the

context of various survey design features such as item wording, response order, response format, or the accessibility of definitions (e.g., Couper, Tourangeau, Conrad, & Crawford, 2004; Galesic, Tourangeau, Couper, & Conrad, 2008; Neuert & Lenzner, 2016). Taking a similar approach, future research could use eye-tracking to better understand the link between response behaviors (Krosnick, 1991) and, for example, the usability of a survey by examining the number of fixations overall and on specific design elements. The tracking of clicks or mouse movements in an online survey might also provide useful information in this context. Particularly, examining mouse movements allows for differentiation between “general movements, demonstrating how a person interacts with a computer” and movements associated with the interaction with specific survey design features (Horwitz, Kreuter, & Conrad, 2017). Finally, neuro-imaging techniques might possibly also help to gain deeper insights into the response process of participants. For example, a study by Zhan et al. (2017) examined which parts of the brain were activated when processing certain qualifiers in communication. This approach could potentially also be applied to the context of using intensifiers in the item stem or response format in employee attitude surveys. Another interesting approach would be to utilize neuro-imaging techniques to examine survey experience and the pleasure of taking a survey in particular. It would be conceivable that if participants do enjoy the survey, related regions in the brain are activated. This would provide interesting implications for survey design research and practice – especially with regard to determining the configuration of survey design features that motivates survey response the most in relation to survey experience.

Finally, future research should more strongly address the role of the survey setting or context. On an empirical level, the field needs a systematic approach to the research on influencing factors of the survey setting. In this regard, more studies are needed that examine the specific conditions and implications of various different survey settings (e.g., student evaluation, employee attitude surveys, research surveys, market research surveys, political surveys) for participants’ experience and processing of surveys. In the specific context of employee attitude surveys, more research is needed on the specific conditions of this setting and their influence on the survey experience and response behavior of employees. This would be especially interesting in the context of survey experience, as the design elements constituting a positive survey experience in employee attitude surveys might differ from those in other types of survey settings.

On a theoretical level, the next step should lead to a categorization of contextual factors into a comprehensive taxonomy. In this regard, the presented research in this

dissertation project provides first indications for a broader perspective on the survey response process.

Additionally, a possible starting point may be the existing research on the organizational context (e.g., Hatstrup & Jackson, 1996; Johns, 2001, 2006), models of survey response in specific settings (e.g., Rogelberg et al., 2000; Rogelberg et al., 2006), general models of survey response (e.g., Krosnick, 1991; Tourangeau & Rasinski, 1988), research on survey design (e.g., Buskirk et al., 2015; Dedrick et al., 2007; Dillman, 2000; Lietz, 2010; Wänke, 2002; Walston et al., 2006) and survey criteria (e.g., Cook et al., 2000; Heerwegh et al., 2005; Yentes et al., 2012). Going forward, the challenge, here, will be that the “development of adequate taxonomies requires some understanding of the process through which causal variables impact outcomes of interest” (Hatstrup & Jackson, 1996, p. 515). Applied to the understanding of survey response in employee attitude surveys, this would imply a broader understanding of the interplay of the survey setting with individual attributes of participants, different characteristics of the survey itself, and respective survey criteria (see Figure 4).

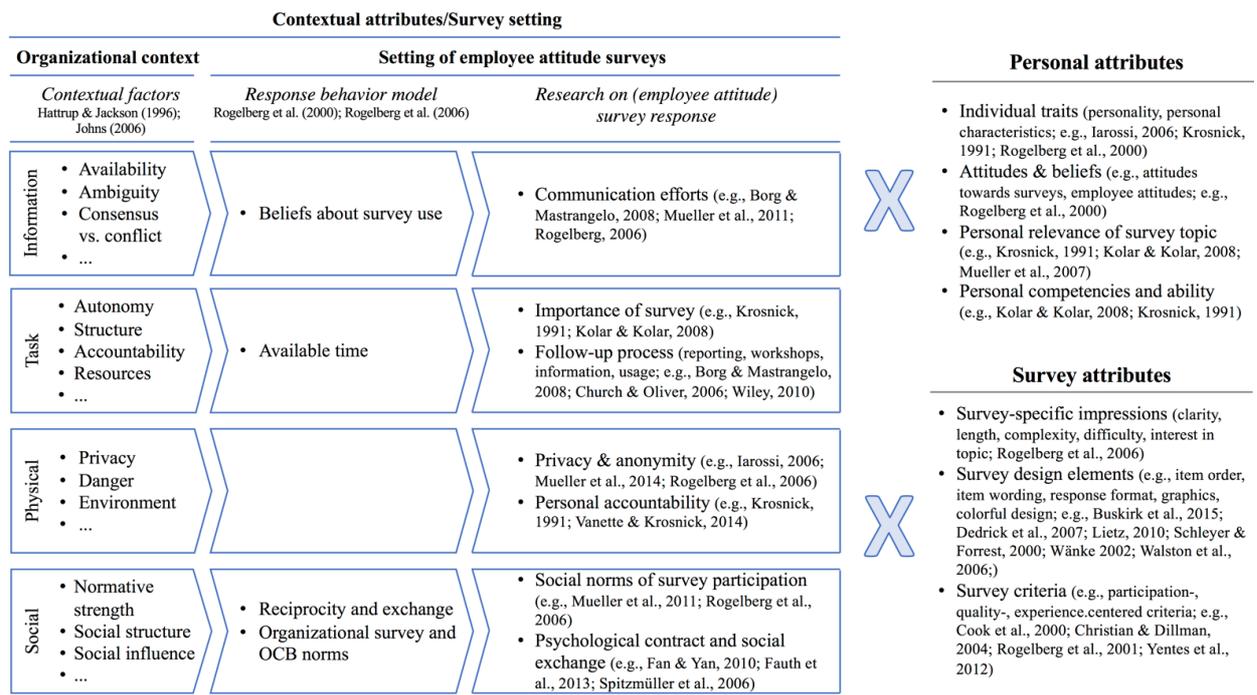


Figure 3. Outline of future research on a taxonomy of survey settings and the interplay with participants and survey characteristics

In this context, many research questions arise. For instance, with regard to the findings of Paper 1, it would be interesting to examine whether survey experience differs as a function of the interaction between a specific survey setting, survey design, and individual characteristics of the participants. Concerning the item wording changes examined in Papers 2

and 3, future research should further address the role of the setting in the determination of specific response behavior determined by motivation and ability and the interplay with potentially motivating survey design strategies. Such an interactional research approach would allow for more differentiated insights into the determinants of response behavior and subsequent impacts on survey results by taking a more comprehensive, almost systemic perspective. In conclusion, a new approach is needed that “systematically model[s] interactional effects” (Hatstrup & Jackson, 1996, p. 534) between these aspects in order to achieve a deeper and more sophisticated understanding of the survey response process.

3.6. General Conclusion

Given the high relevance of surveys as a tool for organizational learning and development (e.g., Burke, 2006; Cummings & Worley, 2015; Smither et al., 2016; Williams, 1998) this dissertation project sought to investigate the response process of employee attitude surveys in terms of motivational and cognitive aspects from a respondent-centered point of view. A review and integration of the literature on survey design (e.g., Buskirk et al., 2015; Dedrick et al., 2007; Dillman, 2000; Lietz, 2010; Wänke, 2002; Walston et al., 2006), user experience (e.g., Hassenzahl, 2003; Hassenzahl et al., 2000), response process (e.g., Krosnick, 1991; Tourangeau & Rasinski, 1988), and organizational survey (e.g., Mueller et al., 2011; Rogelberg et al., 2000; Rogelberg et al., 2006) research and theory led to a model of employee attitude survey response that specifically focused on the role and perspective of participants. In doing so, the dissertation project took a first step in linking motivational and cognitive processes of survey response. On the basis of this theoretical model, research questions concerning participants’ experience and processing of a survey were developed.

The presented research was able to contribute to the existing theory and organizational survey practice in three ways.

First, a short and economic measure of survey experience was theoretically developed and tested. On a practical level, this measure may help survey practitioners to design motivating, enjoyable, and usable surveys tailored to the specific experiential preferences of their target group. Contributing to theory, such a measure will be useful in examining survey design and processing with regard to participants’ experiences with the survey.

Second, item wording changes in terms of intensifier use in Likert-type items of employee attitudes were examined concerning their processing and the comparability of survey results. For organizational practice, the results mean that survey designers may be optimistic regarding the equivalence of survey results when different item wording strategies in terms of intensifier use are applied. Comparisons between survey topics, survey cycles, or

in the context of external benchmarks should not be affected. Thus, practitioners may be able to apply more flexibility to changing survey items as previously thought. The presented research also has several theoretical implications. The role of the response process (Tourangeau & Rasinski, 1988) and motivational factors of response behavior are of special importance here. Particularly, the conditions leading to optimizing or satisficing behavior (Krosnick, 1991) in the context of employee attitude surveys require more attention. Further, intensifiers may be more useful and relevant in the response format and are possibly negligible in item stems.

Third, contemplating the results of the presented studies in the context of previous research indicates that the context or setting in which a survey is implemented plays an important role in determining motivational and cognitive processes of survey response. Therefore, future research is needed on constituting factors of the survey setting and how it affects the survey experience (i.e., motivational processes) or processing and response behavior (i.e., cognitive and motivational processes) in different implementation contexts. Integrating previous research on survey design and response processing with future studies focusing on the survey setting will eventually allow for the development of a taxonomy of the survey setting. This is desperately needed, as research on the interaction between survey characteristics, the setting and individual characteristics of participants is dependent on such a taxonomy. This interactional approach will advance our knowledge about surveys and survey response significantly by providing more sophisticated and in-depth insights through taking a more comprehensive perspective. In time, this will allow for a more tailored survey design practice that caters to the specific needs and preferences of different target groups in different settings.

4. References

- Adams, M. J., & Umbach, P. D. (2012). Nonresponse and online student evaluations of teaching: Understanding the influence of salience, fatigue, and academic environments. *Research in Higher Education*, 53(5), 576-591. doi: 10.1007/s11162-011-9240-5
- Albaum, G., Evangelista, F., & Medina, N. (1998). Role of response behavior theory in survey research: A cross-national study. *Journal of Business Research*, 42(2), 115–125. doi:10.1016/S0148-2963(97)00108-2
- Alvarez, R. M., Atkeson, L. R., Levin, I., & Li, Y. (2019). Paying attention to inattentive survey respondents. *Political Analysis*, 27(8), 145-162. doi: 10.1017/pan.2018.57
- Armstrong, J. S., & Lusk, E. J. (1987). Return postage in mail surveys a meta-analysis. *Public Opinion Quarterly*, 51(2), 233-248. doi: 10.1086/269031
- Bachmann, D.P. (1984). Cover letter appeals and sponsorship effects on mail survey response rates. *Journal of Management Education*, 9(3), pp. 45–51. doi: 10.1177/105256298700900309
- Bansak, K., Hainmueller, J., Hopkins, D. J., & Yamamoto, T. (2018). The number of choice tasks and survey satisficing in conjoint experiments. *Political Analysis*, 26(1), 112-119. doi: 10.1017/pan.2017.40
- Birnholtz, J. P., Horn, D. B., Finholt, T. A., & Bae, S. J. (2004). The effects of cash, electronic, and paper gift certificates as respondent incentives for a web-based survey of technologically sophisticated respondents. *Social Science Computer Review*, 22(3), 355-362. doi: 10.1177/0894439304263147
- Borg, I., & Mastrangelo, P. M. (2008). *Employee surveys in management: Theories, tools, and practical applications*. Göttingen, Germany: Hogrefe.
- Bosnjak, M., Neubarth, W., Couper, M. P., Bandilla, W., & Kaczmirek, L. (2008). Prenotification in web-based access panel surveys: The influence of mobile text messaging versus e-mail on response rates and sample composition. *Social Science Computer Review*, 26(2), 213-223. doi: 10.1177/0894439307305895
- Braunscheidel, M. J., Suresh, N. C., & Boisnier, A. D. (2010). Investigating the impact of organizational culture on supply chain integration. *Human Resource Management*, 49(5), 883–911. doi:10.1002/hrm.20381
- Brennan, M., & Charbonneau, J. (2005). The colour purple: The effect of questionnaire colour on mail survey response rates. *Marketing Bulletin*, 16(5), 1–7. Retrieved from

http://marketing-bulletin.massey.ac.nz/V16/MB_V16_N5_Brennan.pdf

- Burke, W. W. (2006). Organizational surveys as leverage for organization development and change. In A. I. Kraut (Ed.), *Getting action from organizational surveys: New concepts, technologies and applications* (pp. 131–149). San Francisco, CA: Jossey Bass.
- Buskirk, T. D., Saunders, T., & Michaud, J. (2015). Are sliders too slick for surveys? An experiment comparing slider and radio button scales for smartphone, tablet and computer based surveys. *Methods, Data, Analyses*, 9(2), 229-260. doi: 10.12758/mda.2015.013
- Christian, L. M., & Dillman, D. A. (2004). The influence of graphical and symbolic language manipulations on responses to self-administered questions. *Public Opinion Quarterly*, 68(1), 57–80. doi: 10.1093/poq/nfh004
- Church, A. H., & Oliver, D. H. (2006). The importance of taking action, not just sharing survey feedback. In A. I. Kraut (Ed.), *Getting action from organizational surveys: New concepts, technologies, and applications* (pp. 102–130). San Francisco, CA: Jossey-Bass.
- Church, A. H., & Waclawski, J. (2017). *Designing and Using Organizational Surveys*. New York, NY: Routledge.
- Cook, C., Heath, F., & Thompson, R.L. (2000). A meta-analysis of response rates in web- or internet-based surveys. *Educational and Psychological Measurement*, 60(6), 821–836. doi: 10.1177/00131640021970934
- Couper, M. P., Blair, J., & Triplett, T. (1999). A comparison of mail and e-mail for a survey of employees in US statistical agencies. *Journal of Official Statistics*, 15(1), 39-56. Retrieved from <https://www.scb.se/contentassets/f6bcee6f397c4fd68db6452fc9643e68/a-comparison-of-mail-and-e-mail-for-a-survey-of-employees-in-u.s.-statistical-agencies.pdf>
- Couper, M. P., Traugott, M. W., & Lamias, M. J. (2001). Web survey design and administration. *Public Opinion Quarterly*, 65(2), 230–253. doi: 10.1086/322199
- Couper, M. P., Tourangeau, R., & Kenyon, K. (2004). Picture this!: Exploring visual effects in web surveys. *Public Opinion Quarterly*, 68(2), 255–266. doi: 10.1093/poq/nfh013
- Couper, M. P., Tourangeau, R., Conrad, F. G., & Crawford, S. D. (2004). What they see is

- what we get: response options for web surveys. *Social Science Computer Review*, 22(1), 111-127. doi: 10.1177/0894439303256555
- Cummings, T. G., & Worley, C. G. (2015). *Organization development and change*. Stamford, CT: Cengage learning.
- Dedrick, R. F., Marfo, K., & Harris, D. M. (2007). Experimental analysis of question wording in an instrument measuring teachers' attitudes toward inclusive education. *Educational and Psychological Measurement*, 67(1), 116–131. doi:10.1177/0013164406292034
- Deutskens, E., De Ruyter, K., Wetzels, M., & Oosterveld, P. (2004). Response rate and response quality of internet-based surveys: An experimental study. *Marketing Letters*, 15(1), 21-36. doi: 10.1023/B:MARK.0000021968.86465.00
- Dillman, D. A. (2000). *Mail and Internet surveys: The tailored design method* (2nd ed.). New York, NY: John Wiley & Sons.
- Dillman, D. A. (2007). *Mail and Internet Surveys: The tailored design method. 2007 update with new Internet, visual, and mixed-mode guide* (2nd ed.). Hoboken, NJ: John Wiley & Sons.
- Dillman, D. A., Lesser, V., Mason, R., Carlson, J., Willits, F., Robertson, R., & Burke, B. (2007). Personalization of mail surveys for general public and populations with a group identity: Results from nine studies. *Rural Sociology*, 72(4), 632-646. doi: 10.1526/003601107782638693
- Dillman, D., Tortora, R. D., Conratt, J., & Bowker, D. (1998). Influence of plain versus fancy design on response rates for web-based surveys. In *Annual Meeting of the American Statistical Association*, Dallas, TX. Retrieved from <https://subsites.sesrc.wsu.edu/dillman/papers/1998/influenceofplain.pdf>
- Edwards, P., Roberts, I., Clarke, M., DiGuseppi, C., Pratap, S., Wentz, R., & Kwan, I. (2002). Increasing response rates to postal questionnaires: Systematic review. *BMJ*, 324, 1183. doi: 10.1136/bmj.324.7347.1183
- Edwards, P. J., Roberts, I. Clarke, M., DiGuseppi, C., Wentz, R., Kwan, I., Cooper, R., Felix, L.M., & Pratap, S. (2009). Methods to increase response to postal and electronic questionnaires. In The Cochrane Collaboration & P. J. Edwards (Eds.), *Cochrane Database of Systematic Reviews*. Chichester, UK: John Wiley & Sons, Ltd. Retrieved from <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.MR000008.pub>

- Evangelista, F., Albaum, G., & Poon, P. (1999). An empirical test of alternative theories of survey response behavior. *Journal of the Market Research Society*, 41(2), 227–44. doi:10.1177/147078539904100201
- Evans, J. R., & Mathur, A. (2005). The value of online surveys. *Internet research*, 15(2), 195-219. doi: 10.1108/10662240510590360
- Evans, J. R., & Mathur, A. (2018). The value of online surveys: a look back and a look ahead. *Internet Research*, 28(4), 854-887. doi: 10.1108/IntR-03-2018-0089
- Falletta, S. V., & Combs, W. (2002). Surveys as a tool for organizational development and change. In J. Waclawski and A. H. Church (Eds.), *Organization development: A data-driven approach to organizational change* (pp. 78–102). San Francisco, CA: Jossey-Bass.
- Fan, W., & Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in Human Behavior*, 26(2), 132–139. doi: 10.1016/j.chb.2009.10.015
- Fauth, T., Hattrup, K., Mueller, K., & Roberts, B. (2013). Nonresponse in employee attitude surveys: A group-level analysis. *Journal of Business and Psychology*, 28(1), 1–16. doi:10.1007/s10869-012-9260-y
- Fields, D. L. (2002). *Taking the measure of work: A guide to validated scales for organizational research and diagnosis*. Thousand Oaks, CA: Sage Publications.
- Forlizzi, J., & Battarbee, K. (2004). Understanding experience in interactive systems. In D. Benyon, P. Moody, D. Gruen & I. McAra-McWilliam (Eds.), *Proceedings of the 5th conference on Designing interactive systems: processes, practices, methods, and techniques* (pp. 261-268). doi: 10.1145/1013115.1013152
- Fox, R. J., Crask, M. R., & Kim, J. (1988). Mail survey response rate: A meta-analysis of selected techniques for inducing response. *Public Opinion Quarterly*, 52(4), 467-491. doi: 10.1086/269125
- French-Lazovik, G., & Gibson, C. L. (1984). Effects of verbally labeled anchor points on the distributional parameters of rating measures. *Applied Psychological Measurement*, 8(1), 49–57. doi:10.1177/014662168400800106
- Freunberger, D., & Nieuwland, M. S. (2016). Incremental comprehension of spoken quantifier sentences: Evidence from brain potentials. *Brain Research*, 1646, 475–481. doi: 10.1016/j.brainres.2016.06.035
- Funke, F. (2016). A web experiment showing negative effects of slider scales compared to visual analogue scales and radio button scales. *Social Science Computer Review*,

- 34(2), 244-254. doi: 10.1177/0894439315575477
- Galesic, M., Tourangeau, R., Couper, M. P., & Conrad, F. G. (2008). Eye-tracking data: New insights on response order effects and other cognitive shortcuts in survey responding. *Public Opinion Quarterly*, 72(5), 892-913. doi: 10.1093/poq/nfn059
- Galesic, M., & Yan, T. (2011). Use of eye tracking for studying survey response processes. In M. Das, P. Ester, & L. Kaczmirek (Eds.), *Social and behavioral research and the internet: Advances in applied methods and research strategies* (pp. 349-370). New York, NY: Taylor & Francis Group.
- Goeritz, A. S. (2004). The impact of material incentives on response quantity, response quality, sample composition, survey outcome and cost in online access panels. *International Journal of Market Research*, 46(3), 327-345. doi: 10.1177/147078530404600307
- Goyder, J. (1982). Further evidence on factors affecting response rates to mailed questionnaires. *American Sociological Review*, 47(4), 550-553. doi: 10.2307/2095199
- Goyder, J. (1986). Surveys on surveys: Limitations and potentialities. *Public Opinion Quarterly*, 50(1), 27-41. doi:10.1086/268957
- Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2004). *Survey methodology*. Hoboken, NJ: Wiley.
- Groves, R. M., Presser, S., & Dipko, S. (2004). The role of topic interest in survey participation decisions. *Public Opinion Quarterly*, 68(1), 2-31. doi: 10.1093/poq/nfh002
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *Journal of Applied Psychology*, 87(2), 268-279. doi: 10.1037//0021-9010.87.2.268
- Hassenzahl, M. (2003). The thing and I: Understanding the relationship between user and product. In Mark A. Blythe, Andrew F. Monk, Kees Overbeeke & Peter C. Wright (Eds.), *Funology: From Usability to Enjoyment* (pp. 31-42). Dordrecht, Netherlands: Kluwer Academic Publishers.
- Hassenzahl, M. (2008). User Experience (UX): Towards an experiential perspective on product quality. *Proceedings of the 20th Conference on l'Interaction Homme-Machine*, 11-15, Metz, France. Retrieved from https://www.researchgate.net/profile/Marc_Hassenzahl/publication/238472807_User_

experience_UX_Towards_an_experiential_perspective_on_product_quality/links/00b7d51bf4873231da000000.pdf

- Hassenzahl, M., Koller, F., & Burmester, M. (2008). Der User Experience (UX) auf der Spur: Zum Einsatz von www.attrakdiff.de. In Brau, H., Diefenbach, S., Hassenzahl, M., Koller, F., Peissner, M. & Röse, K. (Eds.), *Tagungsband UP08* (pp. 78-82). Stuttgart, Germany: Fraunhofer Verlag. Retrieved from https://dl.gi.de/bitstream/handle/20.500.12116/5708/Koller_2008.pdf?sequence=2&isAllowed=y
- Hassenzahl, M., Platz, A., Burmester, M., & Lehner, K. (2000). Hedonic and ergonomic quality aspects determine a software's appeal. In T. Turner, & G. Szwillus (Eds.), *Proceedings of the SIGCHI conference on Human Factors in Computing Systems* (pp. 201-208). New York, NY: ACM. Retrieved from https://www.researchgate.net/profile/Marc_Hassenzahl/publication/221519760_Hedonic_and_ergonomic_quality_aspect_determine_a_software's_appeal/links/0fcfd50c059b6781d1000000/Hedonic-and-ergonomic-quality-aspect-determine-a-software's-appeal.pdf
- Hassenzahl, M., & Tractinsky, N. (2006). User experience - a research agenda. *Behaviour & Information Technology*, 25(2), 91–97. doi: 10.1080/01449290500330331
- Hattrup, K., & Jackson, S. E. (1996). Learning about individual differences by taking situations seriously. In K. R. Murphy (Ed.), *Individual differences and behavior in organizations* (pp. 507–547). San Francisco, CA: Jossey-Bass.
- Heberlein, T.A., & Baumgartner, R. (1978). Factors affecting response rates to mailed questionnaires: A quantitative analysis of the published literature. *American Sociological Review*, 43(4), 447-462. doi: 10.2307/2094771
- Heerwegh, D. (2005). Effects of personal salutations in e-mail invitations to participate in a web survey. *Public Opinion Quarterly*, 69(4), 588-598. doi: 10.1093/poq/nfi053
- Heerwegh, D., & Loosveldt, G. (2002). Web surveys: The effect of controlling survey access using PIN numbers. *Social Science Computer Review*, 20(1), 10-21. doi: 10.1177/089443930202000102
- Heerwegh, D., & Loosveldt, G. (2006). An experimental study on the effects of personalization, survey length statements, progress indicators, and survey sponsor logos in Web Surveys. *Journal of Official Statistics*, 22(2), 191-210. Retrieved from

- <https://www.scb.se/contentassets/ff271eeeca694f47ae99b942de61df83/an-experimental-study-on-the-effects-of-personalization-survey-length-statements-progress-indicators-and-survey-sponsor-logos-in-web-surveys.pdf>
- Heerwegh, D., Vanhove, T., Matthijs, K., & Loosveldt, G. (2005). The effect of personalization on response rates and data quality in web surveys. *International Journal of Social Research Methodology*, 8(2), 85-99. doi: 10.1080/1364557042000203107
- Helgeson, J. G., & Ursic, M. L. (1994). The role of affective and cognitive decision-making processes during questionnaire completion. *Psychology & Marketing*, 11(5), 493-510. doi: 10.1002/mar.4220110506
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The Motivation to Work*. New York, NY: John Wiley and Sons Inc.
- Horwitz, R., Kreuter, F., & Conrad, F. (2017). Using mouse movements to predict web survey response difficulty. *Social Science Computer Review*, 35(3), 388-405. doi: 10.1177/0894439315626360
- Iglesias, C., & Torgerson, D. (2000). Does length of questionnaire matter? A randomised trial of response rates to a mailed questionnaire. *Journal of Health Services Research & Policy*, 5(4), 219-221. doi: 10.1177/135581960000500406
- International Organization for Standardization (ISO; 2018). *Ergonomics of human-system interaction – Part 11: Usability: Definitions and concepts*. Geneva, Switzerland: International Organization for Standardization. Retrieved from <https://www.iso.org/obp/ui/#iso:std:iso:9241:-11:ed-2:v1:en>
- Jepson, C., Asch, D. A., Hershey, J. C., & Ubel, P. A. (2005). In a mailed physician survey, questionnaire length had a threshold effect on response rate. *Journal of Clinical Epidemiology*, 58(1), 103-105. doi: 10.1016/j.jclinepi.2004.06.004
- Johns, G. (2001). In praise of context. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 22(1), 31-42. doi: 10.1002/job.80
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, 31(2), 386-408. doi: 10.5465/amr.2006.20208687
- Joinson, A.N. & Reips, U. D. (2007). Personalized salutation, power of sender and response rates to web-based surveys. *Computers in Human Behavior*, 23(3), 1372–1383. doi: 10.1016/j.chb.2004.12.011
- Jordan, P. W. (1998). Human factors for pleasure in product use. *Applied Ergonomics*, 29(1),

25–33. doi: 10.1016/S0003-6870(97)00022-7

- Jordan, P. W. (2000). *Designing pleasurable products: An introduction to the new human factors*. London, UK: Taylor & Francis.
- Kaczmirek, L. (2008). *Human Survey-Interaction: Usability and Non-response in Online Surveys*. Mannheim, Germany: MADOC.
- Kaczmirek, L. (2011). Attention and usability in internet surveys: Effects of visual feedback in grid questions. In M. Das, P. Ester & L. Kaczmirek (Eds.), *Social and Behavioral Research and the Internet: Advances in Applied Methods and Research Strategies* (pp. 191-214). New York, NY: Routledge.
- Kepler-Seid, H., Windle, C. & Woy, J.R. (1980). Performance measures for mental health programs: Something better, something worse, or more of the same?. *Community Mental Health Journal*, 16(3), 217–234. doi: 10.1007/BF00835726
- Keusch, F. (2015). Why do people participate in web surveys? Applying survey participation theory to internet survey data collection. *Management Review Quarterly*, 65(3), 183-216. doi: 10.1007/s11301-014-0111-y
- Keusch, F., & Zhang, C. (2017). A review of issues in gamified surveys. *Social Science Computer Review*, 35(2), 147-166. doi: 10.1177/0894439315608451
- Kim, S., Lee, J., & Gweon, G. (2019). Comparing data from chatbot and web surveys: Effects of platform and conversational style on survey response quality. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-12), Glasgow, Scotland, UK. doi: 10.1145/3290605.3300316
- Kolar, T., & Kolar, I. (2008). What respondents really expect from researchers. *Evaluation Review*, 32(4), 363–391. doi:10.1177/0193841X07306953
- Kraut, A. I. (2006). Moving the needle: Getting action after a survey. In A. I. Kraut (Ed.), *Getting action from organizational surveys: New concepts, technologies and applications* (pp. 1–30). San Francisco, CA: Jossey-Bass.
- Krosnick, J. A. (1991). Response strategies for coping with the cognitive demands of attitude measures in surveys. *Applied Cognitive Psychology*, 5(3), 213–236. doi:10.1002/acp.2350050305
- Krosnick, J. A., & Schuman, H. (1988). Attitude intensity, importance, and susceptibility to response effects. *Journal of Personality and Social Psychology*, 54(6), 940-952. doi: 10.1037/0022-3514.54.6.940
- Kwak, N., & Radler, B. (2002). A comparison between mail and web surveys: Response pattern, respondent profile, and data quality. *Journal of Official Statistics*, 18(2), 257-

273. Retrieved from
<https://www.scb.se/contentassets/ca21efb41fee47d293bbee5bf7be7fb3/a-comparison-between-mail-and-web-surveys-response-pattern-respondent-profile-and-data-quality.pdf>
- LaGarce, R., & Kuhn, L.D. (1995). The effect of visual stimuli on mail survey response rates. *Industrial Marketing Management*, 24(1), 11–18. doi: 10.1016/0019-8501(94)00026-S
- Lam, T. C., & Klockars, A. J. (1982). Anchor point effects on the equivalence of questionnaire items. *Journal of Educational Measurement*, 19(4), 317–322. doi:10.1111/j.1745-3984.1982.tb00137.x
- Lam, T. C. M., & Stevens, J. J. (1994). Effects of content polarization, item wording, and rating scale width on rating response. *Applied Measurement in Education*, 7(2), 141–158. doi:10.1207/s15324818ame0702_3
- Law, E. L. C., Roto, V., Hassenzahl, M., Vermeeren, A. P., & Kort, J. (2009). Understanding, scoping and defining user experience: A survey approach. In S. Greenberg, S. E. Hudson, K. Hinckley, M. Ringel Morris, & D. R. Olsen, Jr. (Eds.), *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 719-728). New York: ACM. Retrieved from
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.150.180&rep=rep1&type=pdf>
- Lebow, J. (1982). Consumer satisfaction with mental health treatment. *Psychological Bulletin*, 91(2), 244-259. doi: 10.1037/0033-2909.91.2.244
- Lenzner, T., Kaczmarek, L., & Galesic, M. (2011). Seeing through the eyes of the respondent: An eye-tracking study on survey question comprehension. *International Journal of Public Opinion Research*, 23, 361–373. doi: 10.1093/ijpor/edq053
- Lietz, P. (2010). Research into questionnaire design. *International Journal of Market Research*, 52(2), 249-272. doi: 10.2501/S147078530920120X
- Low, G. (1996). Intensifiers and hedges in questionnaire items and the lexical invisibility hypothesis. *Applied Linguistics*, 17(1), 1–37. doi:10.1093/applin/17.1.1
- Maniaci, M. R., & Rogge, R. D. (2014). Caring about carelessness: Participant inattention and its effects on research. *Journal of Research in Personality*, 48, 61-83. doi: 10.1016/j.jrp.2013.09.008
- Manfreda, K.L., Batagelj, Z., & Vehovar, V. (2002). Design of web survey questionnaires: Three basic experiments. *Journal of Computer-Mediated Communication*,

- 7(3), JCMC731. doi: 10.1111/j.1083-6101.2002.tb00149.x
- Manfreda, K. L., Bosnjak, M., Berzelak, J., Haas, I., & Vehovar, V. (2008). Web surveys versus other survey modes: A meta-analysis comparing response rates. *International Journal of Market Research*, 50(1), 79-104. doi: 10.1177/147078530805000107
- Mason, C. M., Chang, A. C., & Griffin, M. A. (2005). Strategic use of employee opinion surveys: Using a quasi-linkage approach to model the drivers of organisational effectiveness. *Australian Journal of Management*, 30(1), 127-143. doi: 10.1177/031289620503000107
- McCarthy, J., & Wright, P. (2004). *Technology as experience*. Cambridge, MA: The MIT Press.
- McCarty, J. A., & Shrum, L. J. (2000). The measurement of personal values in survey research: A test of alternative rating procedures. *Public Opinion Quarterly*, 64(3), 271–298. doi: 10.1086/317989
- McPherson, J., & Mohr, P. (2005). The role of item extremity in the emergence of keying-related factors: An exploration with the Life Orientation Test. *Psychological Methods*, 10(1), 120–131. doi:10.1037/1082-989X.10.1.120
- Miura, A., & Kobayashi, T. (2016). Survey Satisficing Inflates Stereotypical Responses in Online Experiment: The Case of Immigration Study. *Frontiers in Psychology*, 7, 1563. doi: 10.3389/fpsyg.2016.01563
- Mueller, K., Liebig, C., & Hatrup, K. (2007). Computerizing organizational attitude surveys: An investigation of the measurement equivalence of a multifaceted job satisfaction measure. *Educational and Psychological Measurement*, 67(4), 658–678. doi:10.1177/0013164406292084
- Mueller, K., Straatmann, T., Hatrup, K., & Jochum, M. (2014). Effects of personalized versus generic implementation of an intra-organizational online survey on psychological anonymity and response behavior: A field experiment. *Journal of Business and Psychology*, 29(2), 169-181. doi: 10.1007/s10869-012-9262-9
- Mueller, K., Voelkle, M. C., & Hatrup, K. (2011). On the relationship between job satisfaction and non-response in employee attitude surveys: A longitudinal field study. *Journal of Occupational and Organizational Psychology*, 84(4), 780–798. doi:10.1348/096317910X526777
- Neuert, C. E., & Lenzner, T. (2016). Incorporating eye tracking into cognitive interviewing to pretest survey questions. *International Journal of Social Research*

- Methodology*, 19(5), 501-519. doi: 10.1080/13645579.2015.1049448
- Nichols, E., Olmsted-Hawala, E., Holland, T., & Riemer, A.A. (2020). Usability testing online questionnaires: Experiences at the U.S. Census Bureau. In P. Beatty, D. Collins, L. Kaye, J.L. Padilla, G. Willis, & A. Wilmot (Eds.), *Advances in Questionnaire Design, Development, Evaluation and Testing* (pp. 315-348). doi:10.1002/9781119263685.ch13
- Nye, C. D., Newman, D. A., & Joseph, D. L. (2010). Never say "always"? Extreme item wording effects on scalar invariance and item response curves. *Organizational Research Methods*, 13(4), 806–830. doi:10.1177/1094428109349512
- O'Muircheartaigh, C. A., Gaskell, G. D., & Wright, D. B. (1993). Intensifiers in behavioral frequency questions. *Public Opinion Quarterly*, 57(4), 552–565. doi:10.1086/269395
- Peterson, R. A., & Wilson, W. R. (1992). Measuring customer satisfaction: Fact and artifact. *Journal of the Academy of Marketing Science*, 20(1), 61–71. doi:10.1007/BF02723476
- Peytchev, A., Couper, M. P., McCrabe, S. E., & Crawford, S. D. (2006). Web survey design: Paging versus scrolling. *Public Opinion Quarterly*, 70(4), 596–607. doi: 10.1093/poq/nfl028
- Porter, L. Steers, R. Mowday, R., & Boulian, P. (1974). Organisational commitment, job satisfaction and turnover among psychiatric technicians. *Journal of Applied Psychology*, 59(5), 603–609. doi:10.1037/h0037335
- Porter, S. R., Whitcomb, M. E., & Weitzer, W. H. (2004). Multiple surveys of students and survey fatigue. In S. R. Porter (Ed.), *Overcoming survey research problems: New directions for institutional research* (pp. 63–74). San Francisco, CA: Jossey-Bass.
- Qualifier (2019, October 9). In *Cambridge dictionary*. Retrieved from <https://dictionary.cambridge.org/dictionary/english/qualifier>
- Rammstedt, B., & Beierlein, C. (2014). Can't we make it any shorter? The limits of personality assessment and ways to overcome them. *Journal of Individual Differences*, 35(4), 212–220. doi:10.1027/1614-0001/a000141
- Ran, S., Liu, M., Marchiondo, L. A., & Huang, J. L. (2015). Difference in response effort across sample types: Perception or reality? *Industrial and Organizational Psychology*, 8(2), 202-208. doi: 10.1017/iop.2015.26
- Roberts, R. E., McCrory, O. F., & Forthofer, R. N. (1978). Further evidence on using a deadline to stimulate responses to a mail survey. *The Public Opinion*

- Quarterly*, 42(3), 407-410. doi: 10.1086/268464
- Rogelberg, S. G., (2006). Understanding nonresponse and facilitating response to organizational surveys. In A. I. Kraut (Ed.), *Organizational surveys: Tools for assessment and change* (pp. 312–325). San Francisco, CA: Jossey-Bass.
- Rogelberg, S. G., Fisher, G. G., Maynard, D. C., Hakel, M. D., & Horvath, M. (2001). Attitudes toward surveys: Development of a measure and its relationship to respondent behavior. *Organizational Research Methods*, 4(1), 3-25. doi: 10.1177/109442810141001
- Rogelberg, S. G., Luong, A., Sederburg, M. E., & Cristol, D. S. (2000). Employee attitude surveys: Examining the attitudes of noncompliant employees. *Journal of Applied Psychology*, 85(2), 284–293. doi:10.1037/0021-9010.85.2.284
- Rogelberg, S. C., Spitzmüller, C., Little, I., & Reeve, C. L. (2006). Understanding response behavior to an online special topics organizational satisfaction survey. *Personnel Psychology*, 59(4), 903–923. doi:10.1111/j.1744-6570.2006.00058.x
- Saari, L. M., & Scherbaum, C. A. (2011). Identified employee surveys: Potential promise, perils, and professional practice guidelines. *Industrial and Organizational Psychology*, 4(4), 435–448. doi: 10.1111/j.1754-9434.2011.01369.x
- Sanchez, P. M. (2007). The employee survey: More than asking questions. *Journal of Business Strategy*, 28(2), 48-56. doi: 10.1108/02756660710732657
- Schaufeli, W. B., & Bakker, A. B. (2004). *Utrecht work engagement scale: Preliminary manual*. Utrecht, Netherlands: Occupational Health Psychology Unit, Utrecht University.
- Schaufeli, W. B., & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10–24). New York, NY: Psychology Press.
- Schleifer, S. (1986). Trends in attitudes toward and participation in survey research. *Public Opinion Quarterly*, 50, 17-26. doi: 10.1086/268956
- Schiemann, W. A., & Morgan, B. S. (2006). Strategic surveys: Linking people to business strategy. In A. I. Kraut (Ed.), *Getting action from organizational surveys: New concepts, technologies, and applications* (pp. 76–101). San Francisco, CA: Jossey-Bass

- Schuman, H., & Presser, S. (1977). Question wording as an independent variable in survey analysis. *Sociological Methods & Research*, 6(2), 151–170. doi: 10.1177/004912417700600202
- Schweizer, K. (2011). Some thoughts concerning the recent shift from measures with many items to measures with few items. *European Journal of Psychological Assessment*, 27(2), 71–72. doi: 10.1027/1015-5759/a000056
- Sebo, P., Maisonneuve, H., Cerutti, B., Fournier, J. P., Senn, N., & Haller, D. M. (2017). Rates, delays, and completeness of general practitioners' responses to a postal versus web-based survey: a randomized trial. *Journal of Medical Internet Research*, 19(3), e83. doi: 10.2196/jmir.6308
- Shepherd, J. L., & Mathews, B. P. (2000). Employee commitment: academic vs practitioner perspectives. *Employee Relations*, 22(6), 555-575. doi: 10.1108/01425450010379199
- Sjoberg, G. (1954). A questionnaire on questionnaires. *Public Opinion Quarterly*, 18(4), 423-427. doi: 10.1086/266535
- Smither, R., Houston, J., & McIntire, S. (2016). *Organization development: Strategies for changing environments*. New York, NY: Routledge.
- Sparfeldt, J.R., Schilling, S. R., Rost, D. H., & Thiel, A. (2006). Blocked versus randomized format of questionnaires: A confirmatory multigroup analysis. *Educational and Psychological Measurement*, 66(6), 961–974. doi: 10.1177/0013164405285906
- Spitzmüller, C., Glenn, D. M., Barr, C. D., Rogelberg, S. G., & Daniel, P. (2006). "If you treat me right, I reciprocate": Examining the role of exchange in organizational survey response. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 27(1), 19–35. doi:10.1002/job.363
- Stanton, J. M., Sinar, E. F., Balzer, W. K., Julian, A. L., Thoresen, P., Aziz, S., & ... Smith, P. C. (2002). Development of a compact measure of job satisfaction: The abridged Job Descriptive Index. *Educational and Psychological Measurement*, 62(1), 173–191. doi:10.1177/001316440206200112
- Stapenhurst, T. (2009). *The benchmarking book: A how-to-guide to best practice for managers and practitioners*. Oxford, UK: Elsevier Ltd.
- Stocké, V., & Langfeldt, B. (2004). Effects of survey experience on respondents' attitudes towards surveys. *Bulletin de Méthodologie Sociologique*, 81, 5-32. doi: 10.1177/075910630408100103
- Tanner, B. A., & Stacy, W. (1985). A validity scale for the SHARP consumer satisfaction

- scales. *Evaluation and Program Planning*, 8(2), 147–153. doi: 10.1016/0149-7189(85)90009-6
- Toepoel, V., Das, M., & Van Soest, A. (2008). Effects of design in web surveys: Comparing trained and fresh respondents. *Public Opinion Quarterly*, 72(5), 985-1007. doi: 10.1093/poq/nfn060
- Toepoel, V., Das, M., & Van Soest, A. (2009). Design of web questionnaires: The effects of the number of items per screen. *Field Methods*, 21(2), 200-213. doi: 10.1177/1525822X08330261
- Tourangeau, R., Couper, M. P., & Conrad, F. (2004). Spacing, position, and order: Interpretive heuristics for visual features of survey questions. *Public Opinion Quarterly*, 68(3), 368-393. doi: 10.1093/poq/nfh035
- Tourangeau, R., & Rasinski, K. A. (1988). Cognitive processes underlying context effects in attitude measurement. *Psychological Bulletin*, 103(3), 299–314. doi:10.1037/0033-2909.103.3.299
- Tourangeau, R., Rips, L. J., & Rasinski, K. (2000). *The psychology of survey response*. Cambridge, UK: Cambridge University Press.
- Vance, R. J. (2006). *Employee engagement and commitment: A guide to understanding, measuring and increasing engagement in your organization*. Alexandria, VA: Society of Human Resource Management (SHRM) Foundation. Retrieved from <https://www.shrm.org/foundation/ourwork/initiatives/resources-from-past-initiatives/Documents/Employee%20Engagement%20and%20Commitment.pdf>
- Vannette, D. L., & Krosnick, J. A. (2014). A comparison of survey satisficing and mindlessness. In A. Ie, C. T. Ngnoumen, & E. J. Langer (Eds.), *The Wiley Blackwell handbook of mindfulness* (pp. 312–327). Chichester, UK: John Wiley & Sons Ltd. doi: 10.1002/9781118294895
- van Someren, M. W., Barnard, Y. F., & Sandberg, J. A. C. (1994). *The think aloud method: a practical approach to modelling cognitive*. London, UK: Academic Press.
- Wänke, M. (2002). Conversational norms and the interpretation of vague quantifiers. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, 16(3), 301-307. doi: 10.1002/acp.787
- Walker, R. W., & Cook, W. A. (2013). You can't put a price tag on a survey participant's enjoyment. *Journal of Advertising Research*, 53(3), 254-257. doi: 10.2501/JAR-53-3-254-257

- Walston, J. T., Lissitz, R. W., & Rudner, L. M. (2006). The influence of web-based questionnaire presentation variations on survey cooperation and perceptions of survey quality. *Journal of Official Statistics*, 22(2), 271–291. Retrieved from <https://www.scb.se/contentassets/ca21efb41fee47d293bbee5bf7be7fb3/the-influence-of-web-based-questionnaire-presentation-variations-on-survey-cooperation-and-perceptions-of-survey-quality.pdf>
- Weijters, B., Geuens, M., & Baumgartner, H. (2013). The effect of familiarity with the response category labels on item response to Likert scales. *Journal of Consumer Research*, 40(2), 368–381. doi:10.1086/670394
- Wildt, A. R., & Mazis, M. B. (1978). Determinants of scale response: Label versus position. *Journal of Marketing Research*, 15(2), 261–267. doi: 10.2307/3151256
- Wiley, J. (2010). *Strategic employee surveys: Evidence-based guidelines for driving organizational success*. San Francisco, CA: John Wiley & Sons.
- Wiley, J. (2012). Achieving change through a best practice employee survey. *Strategic HR Review*, 11(5), 265-271. doi: 10.1108/14754391211248675
- Williams, A. (1998), Organisational learning and the role of attitude surveys. *Human Resource Management Journal*, 8(4), 51-65. doi:10.1111/j.1748-8583.1998.tb00180.x
- Wright, D. B., Gaskell, G. D., & O’Muircheartaigh, C. A. (1995). Testing the multiplicative hypothesis of intensifiers. *Applied Cognitive Psychology*, 9(2), 167–177. doi:10.1002/acp.2350090206
- Wyatt, R. C., & Meyers, L. S. (1987). Psychometric properties of four 5-point Likert-type response scales. *Educational and Psychological Measurement*, 47(1), 27–35. doi:10.1177/0013164487471003
- Yammarino, F.J., Skinner, S.J., & Childers, T.L. (1991). Understanding mail survey response behavior: A meta-analysis. *Public Opinion Quarterly*, 55(4), 613-639. doi: 10.1086/269284
- Yentes, R.D., Toaddy, S.R., Thompson, L.F., Gissel, A.L., & Stoughton, J.W. (2012). Effects of survey progress bars on data quality and enjoyment. Paper presented at the 27th annual meeting of the Society for Industrial and Organizational Psychology. San Diego, CA. Retrieved from https://www.researchgate.net/profile/J_Stoughton/publication/263315311_Effects_of_Survey_Progress_Bars_on_Data_Quality_and_Enjoyment/links/0f31753a8e3bf23609000000/Effects-of-Survey-Progress-Bars-on-Data-Quality-and-

Enjoyment.pdf

- Yu, J., & Cooper, H. (1983). A quantitative review of research design effects on response rates to questionnaires. *Journal of Marketing Research*, 20(1), 36–44. doi: 10.1177/002224378302000105
- Zhan, J., Jiang, X., Politzer-Ahles, S., & Zhou, X. (2017). Neural correlates of fine-grained meaning distinctions: An fMRI investigation of scalar quantifiers. *Human Brain Mapping*, 38, 3848–3864. doi: 10.1002/hbm.23633
- Zhang, C., & Conrad, F. G. (2018). Intervening to reduce satisficing behaviors in web surveys: Evidence from two experiments on how it works. *Social Science Computer Review*, 36(1), 57-81. doi: 10.1177/0894439316683923
- Zuckerberg, A., Nichols, E., & Tedesco, H. (1999). Designing surveys for the next millennium: Internet questionnaire design issues. Paper presented at the 1999 American Association for Public Opinion Research Conference, St. Petersburg, FL.
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