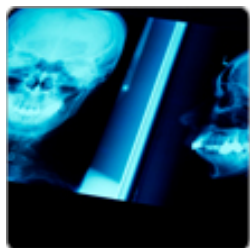


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## Attitudinal Ambivalence

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### Introduction

Research on attitudinal ambivalence started in the early 1970s, forty years after the first wave of research on attitudes. Ambivalent attitudes consist of both positive and negative evaluations of the same object. Early approaches proposed different measurement methods, and ambivalence can now be measured either directly (referred to as “felt ambivalence”) or indirectly (referred to as “potential ambivalence”). Because of its duality, ambivalence has been studied in comparison with univalent attitudes—which consist of either positive or negative evaluations of an object—to uncover their specific features, antecedents, and consequences. Relevant research has focused on identifying the prevalence of ambivalent attitudes, and on whether they could stem from particular personality traits or situations. Researchers have found that ambivalent attitudes seem to be widespread and can be held for a long period of time. Their relationship with behaviors has also been widely studied. At the individual level, ambivalence increases response latency when a choice has to be made, extends information processing, can affect attitude stability, and can even lead to discomfort. At the behavioral level, studies have highlighted the moderating role of attitudinal ambivalence on the relationship between attitudes and behavior. A different field of research focuses on its strength to question whether ambivalence leads to more resistance or susceptibility to persuasion and influence. It appears that ambivalent attitudes are pliable and, depending on the context, can either help individuals to be more adaptive or prevent them from arriving at a satisfying conclusion. The role of ambivalent attitudes in interpersonal relationships and self-presentation also highlight some benefits in holding an ambivalent attitude. This article opens by reviewing general overviews to provide a detailed picture of the current state of research. It then presents early approaches to attitudinal ambivalence, and reviews studies that highlight the moderating role of attitudinal ambivalence on the relationship between attitudes and behavior, as well as studies that question whether ambivalence might lead to more resistance or susceptibility to persuasion and influence. The article then focuses on the impact of ambivalence at the individual level. Antecedents of attitudinal ambivalence will be reviewed, as well as its consequences on the individual. The article concludes by presenting research questioning its functions as well as some applied work.

### General Overviews

Several literature reviews about attitudinal ambivalence are available, beginning with Jonas, et al. 2000. Among these, many are important because they account for the lively discussions that have taken place in this field. Conner and Sparks 2002 examines the relationship between ambivalence and other features of attitude strength, while antecedents and consequences of attitudinal ambivalence are well reviewed in Conner and Armitage 2008. Ambivalence has been often linked to the activation of an aversive state, and conditions for such a state have also been discussed. On this matter, the reader might consider van Harreveld, et al. 2009; van Harreveld, et al. 2015; and Rothman, et al. 2017. Finally, Schneider and Schwarz 2017 may be helpful in order to better understand methodological aspects.

**Conner, M., and C. J. Armitage. 2008. Attitudinal ambivalence. In *Attitudes and attitude change*. Edited by W. Crano and R.**

**Prislin, 261–286. New York: Psychology Press.**

This review starts with the claim that conceiving attitudes as univalent is an oversimplification, as it is very unlikely to endorse a totally positive or negative view of any object. It therefore contradicts the idea of ambivalence as an exceptional state to overcome in some way. The authors provide an overview of conceptual and operational definitions, top-down and bottom-up antecedents, and consequences in terms of attitude stability, pliability, and attitude-behavior relationship.

**Conner, M., and P. Sparks. 2002. Ambivalence and attitudes. *European Review of Social Psychology* 12:37–70.**

This chapter in the *European Review of Social Psychology* provides an overview of the general concept of ambivalence as a dimension of attitude strength. After comparing the various ways in which ambivalence has been defined, the authors review the evidence of its impact on information processing, intention, and behaviors; attitude temporal stability and pliability are also discussed. The classification and comparison among methods for measuring ambivalence is of particular importance.

**Jonas, K., P. Broemer, and M. Diehl. 2000. Attitudinal ambivalence. *European Review of Social Psychology* 11:35–74.**

This is the first review of the scientific literature on ambivalence. The authors deal with the origin and the history of the concept and discuss the different operational approaches to measuring ambivalence.

**Rothman, N. B., M. G. Pratt, L. Rees, and T. J. Vogus. 2017. Understanding the dual nature of ambivalence: Why and when ambivalence leads to good and bad outcomes. *Academy of Management Annals* 11:33–72.**

This review tackles the advantages and disadvantages of ambivalent attitudes. The psychological literature has more frequently addressed ambivalence as a source of discomfort or as a dysfunctional characteristic of attitude. However, a few papers have shown the benefits of holding an ambivalent orientation. This paper tries to reconcile the two sides of ambivalence, building also on empirical evidence from nonpsychological approaches (e.g., management).

**Schneider, I. K., and N. Schwarz. 2017. Mixed feelings: The case of ambivalence. *Current Opinion in Behavioral Sciences* 15:39–45.**

After a general review of ambivalence research, this short paper focuses on recent methodological advances in ambivalence measurement. It illustrates and discusses the usefulness of the mouse tracking technique in capturing individual response toward ambivalent objects and attempts to reduce ambivalence.

**van Harreveld, F., H. U. Nohlen, and I. K. Schneider. 2015. The ABC of ambivalence: Affective, behavioral, and cognitive consequences of attitudinal conflict. *Advances in Experimental Social Psychology* 52:285–324.**

The chapter provides an integrative model of affective, behavioral, and cognitive consequences of ambivalence and the interactions among these factors. It provides evidence that, when the conflicting components of the attitude are simultaneously activated, people experience ambivalence as an aversive state, which results in cognitions and behaviors aimed at resolving or mitigating such a state.

**van Harreveld, F., J. van der Pligt, and Y. De Liver. 2009. The agony of ambivalence and ways to resolve it: Introducing the MAID model. *Personality and Social Psychology Review* 13:45–61.**

A highly discussed question in the field of attitudinal ambivalence concerns whether this construct necessarily entails an aversive state and how it differs from cognitive dissonance. This review focuses on this issue. It presents a model describing the conditions

and the process whereby ambivalence induces discomfort and motivates individuals to reduce it. The key thesis is that ambivalence is particularly uncomfortable when people have to make a choice.

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## Early Approaches to Attitudinal Ambivalence

Research on attitudinal ambivalence kicked off from the observation in Scott 1959 that people may hold positive and negative evaluations simultaneously. The midpoint of the scales measuring attitudes can indicate neutral, uncertain, and ambivalent responses at the same time, which may have different behavioral consequences; hence Klopfer and Madden 1980 highlights the need to disentangle these three options. The idea of this positive and negative evaluation coexistence was first apparent in studying attitudes toward minorities. The discussion of this original rationale can be found in Katz, et al. 1977.

**Katz, I., D. C. Glass, D. J. Lucido, and J. Farber. 1977. Ambivalence, guilt, and the denigration of a physically handicapped victim. *Journal of Personality* 45:419–429.**

This paper develops the idea of response amplification provoked by ambivalent attitudes toward out-group members for the first time. Drawing on Freudian theory, the authors hypothesized that a sense of guilt is responsible for the effect. Results confirmed the response amplification theory, but not the role of guilt arousal, and gave rise to a line of research deepening such an interpretation.

**Klopfer, F. J., and T. M. Madden. 1980. The middlemost choice on attitude items: Ambivalence, neutrality, or uncertainty? *Personality and Social Psychology Bulletin* 6:97–101.**

The authors of this paper directly investigated the polysemy of the meaning associated with the midpoint of attitude scales (i.e., indifference, uncertainty, and ambivalence), and show that this central point is frequently used to express ambivalence.

**Scott, W. A. 1959. Cognitive consistency, response reinforcement, and attitude change. *Sociometry* 22:219–229.**

This influential early paper introduces the idea that ambivalent people may hold positive and negative evaluations of the same object, and that ambivalence does not necessarily give rise to cognitive dissonance that has to be solved. Inconsistency can be a normal and stable characteristic of the attitudinal cognitive structure. A helpful elucidation of the concept's origins.

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## Attitudinal Ambivalence Measurement

Scholars have long debated how to measure attitudinal ambivalence. Two main methods have emerged that tap two different aspects of ambivalence with specific consequences: the first consists of assessing the positive and negative ratings of the attitude object and then combining these evaluations into an ambivalence index through a formula, as proposed by Kaplan 1972 and Thompson, et al. 1995. This approach provides a measure of an aspect called “potential,” “objective,” or “operative” ambivalence. A variation of this method is proposed in Bell, et al. 1996 via open-ended questions. The second approach is meta-judgmental and operationalizes ambivalence as the degree to which individuals directly express their perception of being ambivalent (Priester and Petty 1996). This is called “subjective” or “felt” ambivalence. Riketta 2000 and Breckler 2004 highlight the advantages and disadvantages of these methods. More recently, Schneider, et al. 2015 proposes a method based on the embodied cognition approach.

**Bell, D. W., V. M. Esses, and G. R. Maio. 1996. The utility of open-ended measures to assess intergroup ambivalence. *Canadian Journal of Behavioural Science* 28:12–18.**

The authors develop a method that both assesses potential ambivalence and overcomes a critical aspect of other indirect methods, namely that they artificially prompt respondents to display ambivalent attitudes. Their open-ended measure is based on spontaneous answers (participants list the adjectives/emotions they associate with a specific attitude object) that have to be further evaluated on a numerical scale. These scores are then combined into a formula to obtain a score of ambivalence.

**Breckler, S. J. 2004. Hold still while I measure your attitude: Assessment in the throes of ambivalence. In *Contemporary perspectives on the psychology of attitudes*. Edited by G. Haddock and G. R. Maio, 77–92. New York: Psychology Press.**

This is a critical review of the different measurement methods of ambivalence, with the goal of supporting the conception of attitude multivalence as opposed to attitude bivalence. Multi-statement scales are viewed as better able to capture multivalence in respect to semantic differential split in this paper.

**Kaplan, K. J. 1972. On the ambivalence-indifference problem in attitude theory and measurement: A suggested modification of the semantic differential technique. *Psychological Bulletin* 77:361–372.**

This seminal paper presents an early method to assess ambivalence. The author argues that bipolar items used to measure attitude tend to confound indifference with ambivalence. He proposes splitting the semantic differential and separating the negative and positive components to further combine them within a formula, whose score is a linear function of the conflicting reaction to assessed ambivalence.

**Priester, J. R., and R. E. Petty. 1996. The gradual threshold model of ambivalence: Relating the positive and negative bases of attitudes to subjective ambivalence. *Journal of Personality and Social Psychology* 71:431–449.**

This paper discusses and compares several operationalizations of attitudinal ambivalence indexes representing dominant or conflicting responses to the object. In addition, a coherent conception of the relationship between objective and subjective ambivalence, through the gradual threshold model is proposed. The paper is mostly cited because it presents a set of three questions to directly tap subjective or felt ambivalence. This is the most widely used way to directly assess felt ambivalence—that is, a subjective feeling of conflict.

**Riketta, M. 2000. Discriminative validation of numerical indices of attitude ambivalence. *Current Research in Social Psychology* 5:63–83.**

An informative paper in which the author empirically compares five proposed formulae and one direct measure, showing that, though different in stability, all the measures have sufficient discriminant validity.

**Schneider, I. K., F. van Harreveld, M. Rotteveel, et al. 2015. The path of ambivalence: Tracing the pull of opposing evaluations using mouse trajectories. *Frontiers in Psychology* 6:996.**

In this paper the authors propose and test a way to capture ambivalence without relying on self-report answers. This is an embodied measure of pull based on mouse movement tracking during the rating of objects. This technique offers data about both the magnitude of pull (greater when participants evaluated ambivalent stimuli) and the temporal trajectory of motor movements.

**Thompson, M. M., M. P. Zanna, and D. W. Griffin. 1995. Let's not be indifferent about (attitudinal) ambivalence. In *Attitude strength: Antecedents and consequences*. Edited by R. E. Petty and J. A. Krosnick, 361–386. Hillsdale, NJ: Erlbaum.**

This is a widely cited paper in this field, as the most used equation to operationalize the potential ambivalence (indirect measure) proposed by Griffin is presented and detailed. The final index of ambivalence is a score that increases when both the degree of positivity and the degree of negativity increase, and also as the difference between both poles decreases.

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## Antecedents

Intrapersonal, interpersonal, and contextual factors have been identified as sources of attitudinal ambivalence. Intrapersonal sources of ambivalence have been the most investigated. Even though attitudinal ambivalence is today widely conceived as attitude-specific, Thompson and Zanna 1995 and Hui, et al. 2009 portray ambivalence as rooted in personality traits across attitudinal objects. Rudolph and Popp 2007 highlights that systematic information processing—often analyzed as a consequence of ambivalence (see, for example, Jonas, et al. 1997, cited under Impact on Information Processing)—may also be a source of ambivalence as it increases the likelihood of being exposed to opposing stances, particularly in the political domain. Beyond evaluative incongruity, semantic incongruity may also lead to ambivalence, as Gebauer, et al. 2013 shows. Among intrapersonal sources of ambivalence, DeMarree, et al. 2014 investigates the role of actual-desired attitude discrepancy. Petty, et al. 2006 is a particularly interesting case of implicit ambivalence stemming from the relationship between prior and changed attitude. Priester and Petty 2001 illustrates the interpersonal source of ambivalence. Finally, Keele and Wolak 2008 highlights the role of context in making salient the value conflict leading to ambivalence.

**DeMarree, K. G., S. C. Wheeler, P. Briñol, and R. E. Petty. 2014. Wanting other attitudes: Actual–desired attitude discrepancies predict feelings of ambivalence and ambivalence consequences. *Journal of Experimental Social Psychology* 53:5–18.**

In six studies, the authors document an unexplored antecedent of subjective ambivalence—that is, the discrepancy between actual and desired attitude. The observed results were consistent across many attitude objects (e.g., person, social issues, health behavior), and also emerged when the discrepancy was manipulated and controlling for objective ambivalence (as index of actual conflict).

**Gebauer, J. E., G. R. Maio, and A. Pakizeh. 2013. Feeling torn when everything seems right: Semantic incongruence causes felt ambivalence. *Personality and Social Psychology Bulletin* 39:777–791.**

This paper introduces the idea that semantic incongruence (e.g., a target person characterized by equally positive communal and agentic traits), and not only evaluative incongruence, may produce ambivalence.

**Hui, C. M., H. K. Fok, and M. H. Bond. 2009. Who feels more ambivalence? Linking dialectical thinking to mixed emotions. *Personality and Individual Differences* 46:493–498.**

Individual differences such as cognitive style and, in particular, dialectical thinking promote potential affective ambivalence as a response to positive and negative events. These findings support a dispositional conception of affective ambivalence.

**Keele, L., and J. Wolak. 2008. Contextual sources of ambivalence. *Political Psychology* 29:653–673.**

Context conditions (such as political campaign periods) may promote ambivalence by making conflicting values salient. The

analysis was performed on the American National Election Study dataset from 2000, and the dependent variable was potential ambivalence. Controlling for individual differences, contextual factors affected the level of citizens' ambivalence toward presidential candidates.

**Petty, R. E., Z. L. Tormala, P. Brinol, and W. B. G. Jarvis. 2006. Implicit ambivalence from attitude change: An exploration of the PAST model. *Journal of Personality and Social Psychology* 90:21–41.**

The authors formulate the “Past Attitudes are Still There” (PAST) model. The idea is that implicit ambivalence derives from the coexistence of a newly changed attitude and the previously held attitude that remains in memory. In this original research, the authors showed that this coexistence does not translate to felt or potential explicit ambivalence, but rather to implicit ambivalence that induces deep information processing and other ambivalence-like consequences.

**Priester, J. R., and R. E. Petty. 2001. Extending the bases of subjective attitudinal ambivalence: Interpersonal and intrapersonal antecedents of evaluative tension. *Journal of Personality and Social Psychology* 80:19–34.**

This widely cited paper introduces and empirically supports the idea that ambivalence can be the output of an interpersonal process and not only of intrapersonal processes. Indeed, it can stem from the perception of a discrepancy between one's own position and that of liked close others.

**Priester, J. R., R. E. Petty, and K. Park. 2007. Whence univalent ambivalence? From the anticipation of conflicting reactions. *Journal of Consumer Research* 34:11–21.**

Possessing conflicting evaluations is not a necessary condition for feeling ambivalent: anticipating the existence of unknown conflicting information and feeling relatively uninformed about an issue is enough to promote felt ambivalence. Three studies reported in this article confirm this idea.

**Rudolph, T. J., and E. Popp. 2007. An information processing theory of ambivalence. *Political Psychology* 28:563–585.**

This paper tests the hypothesis that systematic processing of information and knowledge generates ambivalence as people are more likely to be exposed to potential conflicting information. In this study, ambivalence toward political objects was correlated to dispositional orientation toward systematic processing (e.g., need for cognition). However, this relation was true for people with weak partisan commitment only (more focused on attitudinal consistent information).

**Thompson, M. M., and M. P. Zanna. 1995. The conflicted individual: Personality-based and domain specific antecedents of ambivalent social attitudes. *Journal of Personality* 63:259–288.**

This paper maintains a controversial conception of ambivalence as an individual chronic tendency. Antecedents rooted in personality traits like need for cognition and fear of invalidity are viewed as helpful to characterize individuals who hardly tolerate ambiguity and are therefore motivated to remove ambivalence. However, this behavior only appears under high issue involvement.

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## Consequences

Many works have focused on the impact of attitudinal ambivalence (in comparison to univalent attitudes) at the affective and cognitive levels. A key issue is the discomfort that ambivalence may produce. As concerns the cognitive processing, the literature

highlights different consequences in terms of response latency, systematic processing, and persuasion susceptibility.

## Discomfort

A great deal of research has focused on the relation between ambivalence and a feeling of discomfort, potentially motivating individuals to act in order to solve this aversive state. Newby-Clark, et al. 2002; van Harreveld, et al. 2009; and Nohlen, et al. 2016 investigate the conditions of discomfort activation, while van Harreveld, et al. 2014 examines compensatory strategies able to resolve it. Other contributions investigate the conditions of ambivalence tolerance—that is, what may defuse the motivation to reduce ambivalence. One such condition is dispositional and practiced mindfulness, as Haddock, et al. 2017 discusses.

**Haddock, G., C. Foad, B. Windsor-Shellard, S. Dummel, and I. Adarves-Yorno. 2017. On the attitudinal consequences of being mindful: Links between mindfulness and attitudinal ambivalence. *Personality and Social Psychology Bulletin* 43:439–452.**

This paper provides a new investigative direction. Dispositional mindfulness is associated with a less frequent experience of attitudinal ambivalence (both subjective perception and actual). Furthermore, mindfulness also helps individuals to feel comfortable with ambivalence, it can indeed buffer the negative affect usually stemming from ambivalence.

**Newby-Clark, I. R., I. McGregor, and M. P. Zanna. 2002. Thinking and caring about cognitive inconsistency: When and for whom does attitudinal ambivalence feel uncomfortable? *Journal of Personality and Social Psychology* 82:157–166.**

Contains an important discussion about the difference between ambivalence and cognitive dissonance. As with other inconsistency states, when the positive and negative component of the attitude are simultaneously accessible, ambivalence is experienced as being uncomfortable. This evidence may assimilate ambivalence to cognitive dissonance, but according to the authors, the main difference is that the former emerges in a pre-decisional phase, whereas the latter is mainly a post-decisional conflict.

**Nohlen, H. U., F. van Harreveld, M. Rotteveel, A. J. Barends, and J. T. Larsen. 2016. Affective responses to ambivalence are context-dependent: A facial EMG study on the role of inconsistency and evaluative context in shaping affective responses to ambivalence. *Journal of Experimental Social Psychology* 65:42–51.**

Two aspects of this study are of particular interest. First, it highlights a new condition in which ambivalence entails discomfort—that is, when the context creates a choice conflict because evaluations are inconsistent in the current situation. Second, affective responses were detected through facial EMG, while ambivalence was manipulated, presenting positive and negative information about a target person. This finding helps shed light on previous inconsistent findings.

**van Harreveld, F., B. T. Rutjens, M. Rotteveel, L. F. Nordgren, and J. van der Pligt. 2009. Ambivalence and decisional conflict as a cause of psychological discomfort: Feeling tense before jumping off the fence. *Journal of Experimental Social Psychology* 45:167–173.**

A critical distinction between judgment and choice is used as a foundation for the hypothesis that judgment per se is not enough for ambivalence to induce discomfort, but rather that anticipating a commitment leads to discomfort. Therefore, in a low-commitment situation, ambivalent individuals did not experience discomfort. It is worth noting that in these three studies, ambivalence was manipulated and measured both directly and indirectly.

**van Harreveld, F., B. T. Rutjens, I. K. Schneider, H. U. Nohlen, and K. Keskinis. 2014. In doubt and disorderly: Ambivalence**

**promotes compensatory perceptions of order. *Journal of Experimental Psychology: General* 143:1666–1676.**

In this paper, ambivalence is conceived as a psychological threat. Authors empirically document a distal coping strategy—that is, trying to compensate the attitudinal inconsistency through increasing perception of order. Ambivalence was manipulated in three studies, and perception of order was operationalized in three different ways, including beliefs in conspiracy theories. Self-reported measures of negative affect induced by ambivalence were also included.

## Response Latency

The coexistence of positive and negative evaluations toward the same attitudinal object may entail the need for more time to combine them into a single evaluation when it comes to expressing attitude. This matter also speaks to the weakness versus strength of ambivalent attitudes. Bargh, et al. 1992 is a frequently cited paper regarding this matter. De Liver, et al. 2007 questions the interpretation of response latency in cases of ambivalent attitudes as a weakness feature.

**Bargh, J. A., S. Chaiken, R. Govender, and F. Pratto. 1992. The generality of the automatic attitude activation effect. *Journal of Personality and Social Psychology* 62:893–912.**

This is a frequently cited paper that supports the idea of ambivalent attitudes as being weak. People with ambivalent (versus univalent) attitudes tend to be slower in expressing their attitudes because of the simultaneous activation of competing evaluations, as well as the need to suppress one response in favor of the other. Ambivalence therefore seems to moderate the automatic activation effect.

**De Liver, Y., J. van der Pligt, and D. Wigboldus. 2007. Positive and negative associations underlying ambivalent attitudes. *Journal of Experimental Social Psychology* 43:319–326.**

This paper focuses on structural differences between ambivalent and non-ambivalent attitudes, showing that in the former case, both positive and negative associations are strong when assessed at an implicit level. According to the authors, this evidence suggests that ambivalence is different from other characteristics of attitudinal weakness in that ambivalent attitudes can work as strong attitudes.

## Impact on Information Processing

Many studies suggest that ambivalence entails deep information processing. Two interpretations have been advanced to explain such a result. The first, endorsed by Nordgren, et al. 2006 and Sawicki, et al. 2013, calls into question the discomfort provoked by felt ambivalence and the motivation to reduce it through attention to (pro)attitudinal information. The second interpretation can be found in Jonas, et al. 1997 and van Harreveld, et al. 2004 and is based on the weak confidence people have in (potential) ambivalent attitudes, which in turn induces systematic processing of relevant information. However, Fong 2006 and Rees, et al. 2013 provide a positive interpretation: ambivalence, and in particular emotional ambivalence, can increase openness to various alternatives, promote creativity, and lead to better judgment accuracy.

**Fong, C. T. 2006. The effects of emotional ambivalence on creativity. *Academy of Management Journal* 29:1016–1030.**

This paper studies a positive consequence of emotional ambivalence: the promotion of creativity operationalized as the ability to recognize unusual links between concepts. Emotional ambivalence is manipulated in two experiments. Results are also discussed in light of their implications for performance in organizations.



**Jonas, K., M. Diehl, and P. Brömer. 1997. Effects of attitudinal ambivalence on information processing and attitude-intention consistency. *Journal of Experimental Social Psychology* 33:190–210.**

This paper presents the first experimental manipulation of ambivalence toward a new object to test its impact on attitude confidence, systematic processing, and attitude-intention consistency. The results of two experiments confirmed that in the case of a new attitude, ambivalence provoked low confidence, which in turn increased systematic processing and strengthened the attitude-intention link. The manipulation was checked through an index of potential ambivalence.

**Nordgren, L. F., F. van Harreveld, and J. van der Pligt. 2006. Ambivalence, discomfort and motivated information processing. *Journal of Experimental Social Psychology* 42:252–258.**

The authors highlight that ambivalence is an aversive state that motivates individuals to mitigate it through the systematic processing of information consistent with prior attitude. It is worth noting that in this case, too, felt and not potential ambivalence was operationalized.

**Rees, L., N. B. Rothman, R. Lehavy, and J. Sanchez-Burks. 2013. The ambivalent mind can be a wise mind: Emotional ambivalence increases judgment accuracy. *Journal of Experimental Social Psychology* 49:360–367.**

Another positive consequence of emotional ambivalence is highlighted here. The article focuses on whether and why emotional ambivalence promotes greater accuracy in estimation than happiness. In four experiments, the authors manipulated felt emotional ambivalence and found that this state promotes receptivity to alternative perspectives.

**Sawicki, V., D. T. Wegener, J. K. Clark, L. R. Fabrigar, S. M. Smith, and G. R. O. Durso. 2013. Feeling conflicted and seeking information: When ambivalence enhances and diminishes selective exposure to attitude-consistent information. *Personality and Social Psychology Bulletin* 39:735–747.**

In two experiments, the authors showed that people who feel ambivalent selectively expose themselves to unfamiliar pro-attitudinal information in a condition of low object knowledge, whereas non-ambivalent people do not. It is the need to resolve felt ambivalence that pushes people to prefer the exposition to pro-attitudinal and unfamiliar information.

**van Harreveld, F., J. van der Pligt, N. K. De Vries, C. Wenneker, and D. Verhulst. 2004. Ambivalence and information integration in attitudinal judgment. *British Journal of Social Psychology* 43:431–447.**

Ambivalence slows down the formulation of evaluative judgments because individuals have to integrate inconsistent evaluations. However, the already observed longer response time to express an attitude in cases of ambivalence is not necessarily due to low accessibility of attitudes (i.e., weakness), but rather to a deep process of inconsistent information integration.

## Ambivalence as Moderator of Attitude-Behavior Relationship

Armitage and Conner 2004 reviews studies conceiving ambivalence as a property of weak attitudes. In this vein, scholars have tested the moderating role that ambivalence can play in mitigating the impact of attitude on related constructs. Indeed, Sparks, et al. 2001; Sparks, et al. 2004; and Conner, et al. 2002 find that ambivalence attenuates attitude-intention, intention-behavior, and attitude-behavior consistency. Few studies on attitude-behavior moderation have objective measures of behavior, one exception being Dormandy, et al. 2006. However, Ullrich, et al. 2008 criticizes this moderation effect as a possible outcome of a statistical artifact that emerges when a single index of potential ambivalence is used. Jonas, et al. 2000 also finds the moderation effect with

felt ambivalence.

**Armitage, C. J., and M. Conner. 2004. The effects of attitudinal ambivalence on attitude-intention-behavior relations. In *Contemporary perspectives on the psychology of attitudes*. Edited by G. Haddock and G. R. Maio. 121–143. Hove, UK: Psychology Press.**

Systematically reviews research on the moderation effect of ambivalence in the relationship among attitude, intention, and behavior. Highlights that findings in this domain are mixed: the moderating effect may translate in a strengthened or weakened attitude-intention-behavior link at higher (vs. lower) levels of attitudinal ambivalence.

**Conner, M., P. Sparks, R. Povey, R. James, R. Shepherd, and C. J. Armitage. 2002. Moderator effects of attitudinal ambivalence on attitude-behaviour relationships. *European Journal of Social Psychology* 32:705–718.**

Potential ambivalence is found to moderate the attitude-behavior relationship with regard to two different behaviors (i.e., eating a low-fat diet; eating five portions of fruit and vegetables per day) and in two prospective experimental designs. Consistent with the view of ambivalent attitudes as weak, highly ambivalent participants were less likely to behave consistently with their attitudes in comparison to participants low in ambivalence.

**Dormandy, E., M. Hankins, and T. M. Marteau. 2006. Attitudes and uptake of a screening test: The moderating role of ambivalence. *Psychology & Health* 21:499–511.**

One of the valuable aspects of this study is that the authors test the moderation hypothesis including an objective measure of behavior (i.e., taking part in the screening for prenatal Down syndrome). In this case, too, they found that pregnant women who are ambivalent toward the screening test are less likely to take the test compared to less ambivalent women. Ambivalence is operationalized as potential through the Griffin formula.

**Jonas, K., P. Broemer, and M. Diehl. 2000. Experienced ambivalence as a moderator of the consistency between attitudes and behaviors. *Zeitschrift fur Sozialpsychologie* 31:153–165.**

This is one of the rare articles testing the moderation hypothesis with a measure of felt ambivalence. Two studies document that felt ambivalence weakly, but significantly, moderates the attitude-behavior relationship via a lowered temporal attitude stability.

**Sparks, P., M. Conner, R. James, R. Shepherd, and R. Povey. 2001. Ambivalence about health-related behaviours: An exploration in the domain of food choice. *British Journal of Health Psychology* 6:53–68.**

A correlational study aimed at applying the theory of planned behavior to chocolate and meat consumption can be found in this paper. Analyses tested and confirmed the moderating effect of potential and felt ambivalence toward chocolate and meat on the attitude-intention relationship: high-ambivalent participants showed a weaker attitude-intention relationship compared to the low-ambivalent ones.

**Sparks, P., P. R. Harris, and N. Lockwood. 2004. Predictors and predictive effects of ambivalence. *British Journal of Social Psychology* 43:371–383.**

Study 1 of this paper documents the moderating effect of ambivalence on the relationship between intention and behavior using an objective (observed) measure of behavior (i.e., attendance at a health club). Measures of actual behavior are relatively rare in favor of intention measures or self-reported data, and this can help explain previous inconsistent findings.

**Ullrich, J., K. Schermelleh-Engel, and B. Böttcher. 2008. The moderator effect that wasn't there: Statistical problems in ambivalence research. *Journal of Personality and Social Psychology* 95:774–794.**

The authors argue that the recurring moderating effect of attitudinal ambivalence may be a statistical artifact when potential ambivalence as a single index derived from negative and positive evaluations is employed, instead of modeling components of ambivalence separately. They recommend a multivariate approach to overcome the limitations. Their conclusion was that no support for the moderation hypothesis was actually available at the time.

## Attitude Stability and Susceptibility to Persuasion

Are receivers who hold ambivalent attitudes (vs. univalent ones) more vulnerable to persuasion? Are ambivalent attitudes less stable over time? If ambivalence is conceived of as a characteristic of weak attitudes, the answer to both questions should be yes. Some studies, however, find mixed evidence. For example, Armitage and Conner 2000 highlights that ambivalent attitudes are easier to change than univalent ones; Bassili 1996 fails to find a difference; whereas Luttrell, et al. 2016; Maio, et al. 1996; Clark, et al. 2008; and Cavazza and Butera 2008 help illuminate when and why this is the case.

**Armitage, C. J., and M. Conner. 2000. Attitudinal ambivalence: A test of three key hypotheses. *Personality and Social Psychology Bulletin* 26:1421–1432.**

Two experiments highlight the greater susceptibility of ambivalent attitudes to persuasion, but fail to show that ambivalence affects the stability of attitudes over time. This lack of results questions the weakness of ambivalent attitudes. In this paper, an index of potential ambivalence was used. It is not clear, however, why some aspects of attitude strength are influenced by potential ambivalence and others are not.

**Bassili, J. N. 1996. Meta-judgmental versus operative indexes of psychological attributes: The case of measures of attitude strength. *Journal of Personality and Social Psychology* 71:637–653.**

Performed with the aim of comparing the efficacy of operative and meta-judgmental measures of attitudes, the two studies included in the article are also important because they fail to show that ambivalent attitudes are more vulnerable to counter-attitudinal argumentation and less stable (i.e., weaker) than univalent ones.

**Cavazza, N., and F. Butera. 2008. Bending without breaking: Examining the role of attitudinal ambivalence in resisting persuasive communication. *European Journal of Social Psychology* 38:1–15.**

This paper challenges the idea that ambivalence is a characteristic of weak attitudes, and thus vulnerable to persuasion. In two studies, the authors show that attitudes change after exposure to a persuasive message, in case of (potential) ambivalent attitude (measured by the open-ended procedure), but that such a change may well be only superficial, a way to conform to the social context, and hide resistance. These results support the hypothesis that ambivalence serves an adaptive function, thanks to the pliability it gives to attitudes.

**Clark, J. K., D. T. Wegener, and L. R. Fabrigar. 2008. Attitudinal ambivalence and message-based persuasion: Motivated processing of proattitudinal information and avoidance of counterattitudinal information. *Personality and Social Psychology Bulletin* 34:565–577.**

Clark and colleagues clarify that deep message processing by ambivalent people is not a general phenomenon but rather a strategy used to lower ambivalence. As pro-attitudinal information helps to reduce ambivalence, individuals avoid deep information processing when they anticipate a counter-attitudinal message. In the two experiments presented, only felt ambivalence is considered, because discomfort induced by ambivalence is considered as the drive.

**Luttrell, A., R. E. Petty, and P. Briñol. 2016. Ambivalence and certainty can interact to predict attitude stability over time. *Journal of Experimental Social Psychology* 63:56–68.**

In this paper the authors contend that mixed findings about the relationship between ambivalence and attitude stability are due to the moderating role of certainty. Indeed, although both ambivalence and certainty are features of attitude strength, they are distinct properties. In a series of three studies considering different attitude objects, the authors show that potential ambivalent attitudes are less stable when compared to non-ambivalent ones, especially when the individual expresses them with relatively high certainty. The ambivalence-certainty interaction is not significant when felt ambivalence is considered.

**Maio, G. R., D. W. Bell, and V. M. Esses. 1996. Ambivalence and persuasion: The processing of messages about immigrant groups. *Journal of Experimental Social Psychology* 32:513–536.**

This is the first study testing the idea that the content of a persuasive message is processed more deeply when receivers hold ambivalent attitudes toward the issue as compared with non-ambivalent participants. In this case, potential ambivalence is operationalized through the open-ended technique. The interpretation calls into question a motivational process: ambivalent individuals pay attention to information in order to reduce their ambivalence.

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## Ambivalence toward Social Groups and Response Amplification

Attitudes that majority members hold toward minority members are often not negative but ambivalent, deriving from both negative and positive feelings and beliefs. A long-standing line of research has observed a consequence in terms of response amplification, or the tendency to polarize attitudes or behaviors according to the supplementary information offered by the context, as a means to reduce such ambivalence. One example is offered by Bell and Esses 2002. Katz and Hass 1988 is an early paper that demonstrates this phenomenon. More recently, Pacilli, et al. 2013 shows that this is particularly the case for affective ambivalence. Mucchi-Faina, et al. 2002 and Costarelli and Gerłowska 2015 also specify the function ambivalence may fulfill in this case: it mitigates the intergroup bias in order to conform to a fairness norm. In addition, Jost and Burgess 2000 argues that people may hold ambivalent attitudes toward the in-group as a combination of in-group valorization and system justification.

**Bell, D. W., and V. M. Esses. 2002. Ambivalence and response amplification: A motivational perspective. *Personality and Social Psychology Bulletin* 28:1143–1152.**

Response amplification is presented as a motivated means to reduce ambivalence toward a minority group (in this paper, Native peoples of North American). This effect was not observed when ambivalence was experimentally depicted as an advantageous state, but only when it was presented negatively. In both studies, ambivalence was assessed as potential through the open-ended procedure.

**Costarelli, S., and J. Gerłowska. 2015. Ambivalence, prejudice and negative behavioural tendencies towards out-groups: The moderating role of attitude basis. *Cognition and Emotion* 29:852–866.**

In the framework of the functional approach, the authors found that cognitive ambivalence expression can be used to justify

prejudice toward an out-group when social norms prescribe prejudice suppression, in that ambivalence may be perceived as a balanced and defensible attitude. The expression of cognitive ambivalence is viewed as a masked way to express prejudice.

**Jost, J. T., and D. Burgess. 2000. Attitudinal ambivalence and the conflict between group and system justification motives in low status groups. *Personality and Social Psychology Bulletin* 26:293–305.**

The original finding of this paper stems from the idea that ambivalence toward the in-group is the way out for low-status group members who experience a conflict between in-group valorization and system justification. In these two studies, potential ambivalence was assessed through three different formulae. Group status was either manipulated or made salient (women vs. men).

**Katz, I., and R. G. Hass. 1988. Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology* 55:893–905.**

In this widely cited paper, Katz and Hass examine attitudinal ambivalence toward minority groups. Negative and positive sentiments stem from cultural values conflict between egalitarianism and the Protestant ethic. In two studies, they offer empirical evidence of the role of cultural values conflict in ambivalence toward African Americans. These results have stimulated a great deal of research on the role of attitudinal ambivalence in intergroup relations.

**Mucchi-Faina, A., S. Costarelli, and C. Romoli. 2002. The effects of intergroup context of evaluation on ambivalence toward the ingroup and the outgroup. *European Journal of Social Psychology* 32:247–259.**

An interesting hypothesis about the function of ambivalence is tested: ambivalence can be a compromising strategy to mitigate the intergroup bias in conformity to the fairness norm. Ambivalence toward the in-group and the out-group may derive from two competing motivations: to hold a positive distinctiveness of the in-group, and to conform to the fairness norm. Interestingly, the authors found more cognitive-based ambivalence toward the in-group than the out-group, and the reverse for affective-based ambivalence.

**Pacilli, M. G., A. Mucchi-Faina, S. Pagliaro, A. Mirisola, and F. R. Alparone. 2013. When affective (but not cognitive) ambivalence predicts discrimination toward a minority group. *Journal of Social Psychology* 153:10–24.**

Since affective evaluations tend to be highly sensitive to situational context, the authors expected and found response amplification produced by ambivalent attitudes toward a minority only for affective-based ambivalence.

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## Functions

Because ambivalence may affect (i.e., mitigate) the stability and the impact of an attitude, it has often been conceived of as a feature of weak attitude. But if this is the case, why do people still hold ambivalent attitudes in the long run? A line of research has focused on the positive side of ambivalence, and on its function. Pagliaro, et al. 2012; Pillaud, et al. 2013; and Pillaud, et al. 2018 document the adaptive function of ambivalent attitude in social situations. In a similar vein, Reich and Wheeler 2016 discusses a possible case in which ambivalence can be a desirable (instead of an aversive) state.

**Pagliaro, S., F. R. Alparone, M. G. Pacilli, and A. Mucchi-Faina. 2012. Managing a social identity threat: Ambivalence toward the ingroup as psychological disengagement. *Social Psychology* 43:41–46.**

This article shows another case in which ambivalent attitudes may serve a positive function, this time in the management of social identity. Holding an ambivalent attitude toward an in-group may help members to disengage themselves in conditions of disadvantageous intergroup comparison (here Italian-British vs. Italian-Senegalese). Results confirmed that this was the case in particular when individuals displayed low levels of identification with the in-group.

**Pillaud, V., N. Cavazza, and F. Butera. 2013. The social value of being ambivalent: Self-presentational concerns in the expression of attitudinal ambivalence. *Personality and Social Psychology Bulletin* 39:1139–1151.**

This article presents the first direct evidence that ambivalence can serve an adaptive function. The studies highlight that the expression of ambivalence is controlled by individuals and strategically used to present themselves positively when the object is controversial (e.g., GMO); that is, when evaluating the pros and the cons is socially desirable.

**Pillaud V., N. Cavazza, and F. Butera. 2018. The social utility of ambivalence: Being ambivalent on controversial issues is recognized as competence. *Frontiers in Psychology* 9:961.**

The authors studied, for the first time, the social perception of expressed attitudinal ambivalence. Results highlight that when an issue is controversial, expressing ambivalence is interpreted as communicating competence. Individuals who expressed ambivalent attitudes on controversial issues were judged by the participants as more competent than those who expressed univalent attitudes; such an effect was not found on consensual issues. Findings are therefore in line with the adaptive function of ambivalence.

**Reich, T., and S. C. Wheeler. 2016. The good and bad of ambivalence: Desiring ambivalence under outcome uncertainty. *Journal of Personality and Social Psychology* 110:493–508.**

This paper shows that ambivalence is not always aversive: when people are uncertain about the possibility to obtain a desired goal, they desire and maintain ambivalence as a useful self-protection strategy against failure.

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## Applied Work

Ambivalence is an intrinsic experience in human life. This is why a great deal of research has focused on its role in promoting or inhibiting specific socially desired or undesired behaviors. Many studies are concerned with the political domain: Armitage and Conner 2005 is the first review of this research. The consequences of attitudinal ambivalence have been investigated in other domains as well. Lipkus, et al. 2005 and Zhao and Cappella 2008 focus on the role of attitudinal ambivalence in promoting health behaviors, especially in the adolescence period. Costarelli and Colloca 2004 and Castro, et al. 2009 both focus on the relationship between ambivalent attitudes and environmental concerns and behaviors. Onwezen, et al. 2017; Penz and Hogg 2011; and Russell, et al. 2011 study the role of attitudinal ambivalence on consumer behavior.

**Armitage, C. J., and M. Conner. 2005. Attitudinal ambivalence and political opinion: Review and avenues for further research. In *Ambivalence, Politics and Public Policy*. Edited by S. C. Craig and M. D. Martinez 145–166. New York: Palgrave Macmillan.**

Many studies have considered the role of ambivalence toward political objects (e.g., issues, leaders, parties), and analyzed antecedents (e.g., value conflict) and consequences on engagement, as well as various forms of participation. This chapter reviews the research on the role of ambivalence in the realm of political opinion.

**Castro, P., M. Garrido, E. Reis, and J. Menezes. 2009. Ambivalence and conservation behaviour: An exploratory study on the recycling of metal cans. *Journal of Environmental Psychology* 29:24–33.**

The authors compared two groups of participants: those expressing high versus low felt ambivalence toward recycling. The correlation between attitude and intention was similar for the two groups, whereas the correlation between intention and behavior was stronger in the high ambivalence group of participants than in the low ambivalence group.

**Costarelli, S., and P. Colloca. 2004. The effects of attitudinal ambivalence on pro-environmental behavioural intentions. *Journal of Environmental Psychology* 24:279–288.**

Considering both felt and potential ambivalence (measured, not manipulated) toward recycling and other pro-environment behaviors, the authors found a negative correlation of both forms of ambivalence with behavioral intention.

**Lipkus, I. M., K. I. Pollak, C. M. McBride, R. Schwartz-Bloom, P. Lyna, and P. N. Bloom. 2005. Assessing attitudinal ambivalence towards smoking and its association with desire to quit among teen smokers. *Psychology and Health* 20:373–387.**

A positive outcome of ambivalence is shown here. Felt ambivalence strongly predicted the desire to quit smoking in a prospective study of 402 American adolescent smokers. The interpretation calls into question the need to avoid the aversive emotional state provoked by ambivalence.

**Onwezen, M. C., M. J. Reinders, and S. J. Sijtsema. 2017. Understanding intentions to purchase bio-based products: The role of subjective ambivalence. *Journal of Environmental Psychology* 52:26–36.**

Using a very large sample recruited in six European countries, this study analyzed the contribution of felt ambivalence in explaining intention to purchase bio-based products. This contribution is significant after controlling for emotions and TPB variables. In particular, ambivalence weakened the intention and strengthened (i.e., moderated) the relationship between perceived risk and intention.

**Penz, E., and M. K. Hogg. 2011. The role of mixed emotions in consumer behaviour: Investigating ambivalence in consumers' experiences of approach-avoidance conflicts in online and offline settings. *European Journal of Marketing* 45:104–132.**

Emotional ambivalence is tested as a mediator between situation, reference group, and product variables, on the one hand, and intention to purchase, on the other hand, on a sample of both online and offline consumers in three European countries.

**Russell, C. A., D. W. Russell, and J. Klein. 2011. Ambivalence toward a country and consumers' willingness to buy emblematic brands: The differential predictive validity of objective and subjective ambivalence measures on behavior. *Marketing Letters* 22:357–371.**

This study analyzed the role of felt and potential ambivalence toward the country of origin of products on the intention to purchase these products. Participants comprised more than two hundred consumers from a representative panel of the French population. Potential, but not felt, ambivalence toward the United States decreased the willingness to buy typical American products after controlling for brand and country attitude and other potentially influencing variables.

**Zhao, X., and J. Cappella. 2008. The influence of ambivalence on adolescents' reactions to anti-drug messages. *Communication Quarterly* 52:131–148.**

More than three hundred American adolescents were exposed to an anti-drug message. Potential ambivalence toward marijuana use was assessed prior to message exposition. Analyses confirmed that participants who were more ambivalent were more persuaded as compared with participants who were less ambivalent. However, participants did not differ in term of message content scrutiny.

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