

Attributional Theory

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Attribution theory is an approach to motivation concerned with the perceived causes of success and failure (e.g., Kelley, 1973; Weiner, 1986). It examines the antecedents and consequences of answers to *why* questions, such as *Why did I fail the exam?* or *Why doesn't anyone like me?* These examples intentionally concern failure because individuals are more likely to ask *why* after failure rather than success, and given unexpected or unusual outcomes (Gendolla & Koller, 2001; Stupnisky, Stewart, Daniels, & Perry, 2011). Causal search is therefore functional because it helps perceivers impose order on an uncertain environment.

Attribution theory first gained prominence in the 1970s and it has been an influential theory of motivation ever since, despite the rise of other rich and varied approaches with which it now shares the theoretical spotlight (Graham & Weiner, 2011). To provide some evidence of the continuing influence of the theory, we searched the *PsycINFO* database for peer-reviewed journal articles during the last four decades, using the keywords *attribution theory* or *causal attributions*. Over four 10-year periods, there were about 1300 articles published from 1978-1987, 1300 articles from 1988-1997, over 1600 articles from 1998-2007, and over 2100 articles from 2008-2017, showing remarkable continuity of empirical activity on attribution theory even as other theories of motivation (e.g., self-efficacy, self-determination, achievement goals, growth mindsets) gained more visibility.

Although many theorists are identified with attributional analyses, in this article we focus on attribution theory as formulated and elaborated by Bernard Weiner (see Weiner, 1986, 1995). Weiner's model incorporates the antecedents of attributions, the dimensions or properties of causes in addition to causes per se, and the cognitive, affective, and behavioral consequences of particular causal ascriptions. That theory also distinguishes between the consequences of attributions that individuals make about their own outcomes – labeled an intrapersonal theory of motivation – and attributions that perceivers make about the outcomes of other people – labeled

an interpersonal theory of motivation. Given its breadth, this theory remains the framework of choice for many researchers studying motivation in educational settings.

Figure 1 shows a conceptual representation of an attributional theory of motivation. Think of the linkages as a temporal sequence that begins with an outcome interpreted as a success or failure. Following an initial reaction of happiness or sadness (outcome-dependent emotions), individuals then undertake a causal search to determine why that outcome occurred. In the achievement domain, Figure 1 shows that success and failure often are attributed to an ability factor that includes both aptitude and acquired skills, an effort factor that can be either temporary or sustained, the difficulty of the task, luck, mood, and help or hindrance from others. Among these causal ascriptions, in this culture at least, ability and effort are the most dominant perceived causes of success and failure. When explaining achievement outcomes, individuals attach the most importance to their perceived competence and how hard they try.

Figure 1 about here

Attributional Antecedents

What factors influence attributions? How do students know, for example, whether they failed a test because they are low in ability or because they did not try hard enough? Early attribution research identified a number of antecedent cues, such as prior performance history and social norm information, that influence self-ascriptions (Kelley, 1973). If a student has been doing poorly in a course all semester, or if she fails a test and everyone else gets an “A,” both of these are very salient sources of information that might then be used by the student to infer low ability as the cause for failure.

Teacher Feedback as Indirect Attributional Cues

Another source of attributional information, particularly about effort and ability, identified in Figure 1 is feedback from teachers. Teachers no doubt often directly tell their

students that they did not put forth enough effort, for trying hard is compatible with the work ethic espoused in school. Although teachers typically do not directly tell their students that they are low in ability, this attributional information may be subtly, indirectly, and even unknowingly conveyed. In a series of laboratory-experimental studies, Graham (1990) drew on basic attribution principles to document that three seemingly positive teacher behaviors can indirectly function as low ability cues. The particular behaviors examined in these studies were communicated sympathy following failure; the offering of praise following success, particularly at easy tasks; and unsolicited offers of help.

Teacher sympathy and unsolicited help. A robust finding in attribution research is that failure attributed to uncontrollable factors such as lack of ability elicits sympathy from others and sympathy, in turn, promotes offers of help (Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Tscharaktschiew & Rudolph, 2016). This is in contrast to failure attributed to controllable causes such as lack of effort, which tends to evoke anger and the withholding of help. Now suppose that a teacher does respond with sympathy as opposed to anger toward a failing student or with an unsolicited offer of help. It might be the case that the student will then use these affective and behavioral displays to infer the teacher's attribution, and his or her own self-ascription for failure. In a study that manipulated failure on a novel puzzle solving task, 6th grade failing students who received sympathy from an experimenter posing as a teacher were more likely to attribute their failure on the task to low ability whereas students who received feedback from the experimenter that communicated anger were more likely to report lack of effort as the cause of failure (Graham, 1984). In other words, the students used the emotional displays of teachers to infer why they themselves failed. Using a methodology of observed rather than experienced achievement failure to study unsolicited help, Graham and Barker (1990) had 6- to 12-year-old participants watch a videotape of two students working on a challenging

achievement task, where one of the students was offered unsolicited help from the teacher. All participants, including the youngest children, perceived the helped student to be lower in ability than the student who was not helped. Thus unsolicited help, like sympathy, can function as a low ability cue.

There is other evidence of the ability-implicating consequences of academic assistance that is not requested. For example, when female college students received a type of help from men labeled as *benevolent sexism*, they experienced greater self-doubt and poorer performance than their peers who encountered outright hostile sexism (Dardenne, Dumont, & Bollier, 2007). Benevolent statements were presented in a warm and friendly manner but conveyed the message that women were in need of men's help and therefore relatively incompetent.

Teacher praise. Teachers can also indirectly communicate low ability cues in situations of success and positive verbal feedback such as praise. Two attribution principles are relevant here (Graham, 1990). First, praise is related to perceived effort in that the successful student who tries hard is maximally rewarded. Second, effort and ability are often perceived as compensatory causes of achievement: in both success and failure, the higher one's perceived effort, the lower one's perceived ability, and vice versa. Thus if two students achieve the same outcome, often the one who tries harder (and is praised) is perceived as lower in ability. Drawing on these attribution principles in studies with both college students (Meyer et al., 1979) and children (Barker & Graham, 1987) it was documented that students who were praised for success at a relatively easy task were inferred to be lower in ability than their counterparts who received neutral feedback. In other words, the offering of praise following success, like communicated sympathy following failure and unsolicited help, functioned as a low ability cue.

Although not grounded in attributional analyses per se, there are many examples in more current motivation literatures of how teacher feedback of the types described above can have

unexpected ability-implicating consequences. For example, Dweck and her colleagues have found that *person praise* (“you’re a smart person”) compared to process praise (“you tried hard”) can lead to motivational deficits, such as decreased persistence or avoidance of challenging tasks, when students do encounter failure (Brummelman et al., 2014; Haimovitz & Dweck, 2017). Thus praise for effort can be a double-edged sword: It can be protective, as in Dweck’s research, but it can also be risky if it communicates that high effort is compensating for low ability, as in the attribution research reviewed above. Praise has the potential to undermine motivation particularly during adolescence when stereotypes about ability and high stakes testing are at their peak (Amemiya & Wang, 2018).

Too much praise and, by implication, too little criticism for poor performance seems to be particularly directed toward ethnic minority students. For example, Harber and colleagues have documented a “positive feedback bias,” defined as a tendency for teachers to provide less critical comments to African American and Latino students compared to White students with the same low achievement (Harber et al., 2012). The teachers in Harber’s research appear to have been motivated by egalitarian concerns and the desire to protect the self-esteem of vulnerable minority students. The downside was that the minority students were not the beneficiaries of ability-confirming constructive feedback that communicated high expectations and more clarity about where to exert effort. Other recent experimental research has also documented that praise from a White evaluator can lead African American students to perceive that the evaluator had low expectations that they would succeed (Lawrence, Crocker, & Blanton, 2011).

In summary, principles from attribution theory help explain how some well-intentioned teacher behaviors can function as low ability cues. Teachers might be more likely to engage in such feedback patterns when they desire to protect the self-esteem of failure-prone students (Brummelman, Crocker, & Bushman, 2016). Recent findings from adult research on stigmatized

groups also suggests that women confronting feedback on their achievements in male-dominated fields might be particularly susceptible to evaluations from authority figures that implicate their ability. We are not arguing that teachers should never help their students or that they should always be critical as opposed to complimentary. The appropriateness of any communication will depend on many factors, including the characteristics of both students and teachers. Rather, the general message is that attribution principles can shed light on how some well-intentioned teacher behaviors can have unexpected or even negative effects on student motivation.

ATTRIBUTIONAL CONSEQUENCES

What difference does it make if a student attributes failure to low ability versus lack of effort or to any of the other causes listed in Figure 1? To answer this question, we turn to the consequences of causal ascriptions, or the implications of causal thinking for subsequent thoughts, feelings, and behavior. Consequences are related to the underlying properties of causes. Three such properties, labeled *causal dimensions*, have been identified with some certainty (Weiner, 1986). These are *locus*, or whether a cause is internal or external to the individual; *stability*, which designates a cause as constant or varying over time; and *controllability*, or whether a cause is subject to volitional influence. All causes theoretically are classified into one of the eight cells of a locus X stability X controllability dimensional matrix. For example, ability is typically perceived as internal, stable, and uncontrollable. When we attribute our failure to low ability, we tend to see this as a characteristic of ourselves, enduring over time, and beyond personal control. Effort, on the other hand, is also internal, but unstable and controllable. Failure attributed to insufficient effort indicates a personal characteristic that is modifiable by one's own volitional behavior.

As shown in Figure 1, each causal dimension is linked to a particular set of psychological and behavioral consequences. The locus dimension of causality is related to self-

esteem and esteem-related emotions like pride and shame. The stability dimension affects subjective expectancy about future success and failure. As the third dimension of causality, causal controllability relates largely to perceived responsibility in *others* and therefore is linked to a set of interpersonal cognitive, emotional, and behavioral consequences that are directed toward other people. Research supporting each of these causal dimension-to-consequence linkages is reviewed in the following sections.

Locus of causality and self-esteem

Locus of causality, which distinguishes between internal and external causes, is related to self-esteem and esteem-related affect. More specifically, successful outcomes that are ascribed to the self (e.g., personality, ability, effort) result in greater self-esteem and pride than does success that is attributed externally – for example, to task ease or good luck. Similarly, failure attributed to internal causes evokes more shame or guilt than when the same outcomes are attributed to external causes. When people make use of the hedonic bias, which is the well-documented tendency to take credit for success and blame others for failure (Miller & Ross, 1975), they are making use of the locus-esteem relation .

Self-handicapping. Other than hedonic bias, it is possible that individuals might engage in various strategies, some of which might be quite dysfunctional, to avoid self-ascriptions for failure to low ability. Jones and Berglass (1978) first described a phenomenon, labeled *self-handicapping*, in which people create obstacles that make failure more likely, but where presumably that failure is not diagnostic of their abilities. For example, a student may stay up all night playing video games rather than studying the night before an important exam so that poor performance on the exam can be attributed to factors other than his or her ability. It is also possible that pride and positive self-esteem can be enhanced if success is achieved despite the handicap (i.e., the person must have very high ability to succeed in spite of lack of effort). In

attributional terminology (Kelley, 1973), self-handicappers can *discount* ability attributions for failure by blaming the handicap, but can *augment* ability attributions following success.

The self-handicapping literature has generated great interest in individuals who are willing to place obstacles in the way of successful performance in order to protect themselves from the esteem-threatening implications of failure. Many empirical studies of self-handicapping have been conducted in the 40 years since Jones and Berglass first coined the term. A recent meta-analysis of the negative relations between self-handicapping and academic achievement reported a mean correlation of $r = -.23$ ($p < .001$), which is a medium effect size (Schwinger, Wirthwein, Lemmer, & Steinmayr, 2014). Many predicted moderators of these effects such as gender, self-esteem, ability level, or achievement domain (e.g., math versus English) were not significant in the meta-analysis, underscoring the generality of self-handicapping effects. However, a strong mastery goal orientation can buffer some of those negative effects (Török, Szabó, & Tóth, 2018).

Attributions to discrimination among stigmatized groups. A second area of research that can be incorporated within the locus-esteem linkage focuses on self-perceptions of the stigmatized. By stigmatized we mean groups or individuals who are perceived to possess characteristics or social identities that are devalued in certain contexts - for example, racial/ethnic minorities and women in achievement contexts and people who are obese, learning disabled, mentally ill, or criminally delinquent (Crocker, Major, & Steele, 1998). There are reasons to believe that such stigmatized individuals will have low self-esteem because feelings of worth are partly determined by how one's primary social group is evaluated. However, this belief has not been supported. In an influential theoretical review, Crocker and Major (1989) drew on attribution research to argue that attributing failure to external causes, such as to

prejudice or discrimination by others, is an important self-protective mechanism that members of stigmatized groups use to maintain their self-esteem in spite of disparaging treatment by others.

The idea that external attributions can be self-protective for stigmatized groups provides an attributional account for why low status groups have positive self-views *in spite of* their disadvantaged position (see Major & Sawyer, 2009). In recent years, however, empirical support for the esteem-protecting function of attributions to prejudice has been questioned. For example, attributions to prejudice do not protect the self-esteem of stigmatized individuals who endorse a meritocracy worldview (e.g., hard work pays off) (Major, Kaiser, O'Brien, & McCoy, 2007). There also appear to be social costs to making attributions to prejudice. Ethnic minority group members who report discrimination (“it’s *them*, not *me*”) are sometimes perceived as irritating and troublesome by outgroup observers (Kaiser & Miller, 2003) or as violating personal responsibility norms by ingroup members (Garcia et al., 2005). These studies suggest that attributions to prejudice do not protect self-esteem when they lead to devaluation or exclusion by ingroup or outgroup members.

A growing literature documents that perceiving racial discrimination is a common experience among youth of color and it can exact a heavy toll on the target’s physical, mental, and academic well-being (Benner, Wang, Shen, Boyle, Polk, & Cheng, 2018). It is therefore important to evaluate the ways in which the consequences of perceived racial discrimination are amenable to attributional analyses. Because discrimination implicates personal characteristics (one’s race or ethnicity) as well as the characteristics of external agents, it may be perceived as both internal and external on the locus dimension of causality (Major & Sawyer, 2009). Which dimensional placement is most salient will shape the psychological consequences of that experience.

Causal Stability and Expectancy of Success: Attribution Retraining

The stability-expectancy linkage is one of the most well-documented in attribution research. When achievement failure is attributed to a stable cause, such as low aptitude, one is

more likely to expect the same outcome to occur again than when the cause is an unstable factor, such as lack of effort. Attribution researchers believe that differences between ability and effort on the stability dimension, rather than the controllability dimension, account for expectancy increments and decrements (Graham & Brown, 1988).

Guided by these known consequences of ability vs effort attributions based on the stability-expectancy linkage, a number of attribution retraining studies have attempted to change the failing student's attribution for failure from low ability to lack of effort. Most of the studies have followed a similar format. Target subjects are first selected on the basis of some maladaptive behavior or cognition (e.g., the tendency to attribute failure to low ability). Once selected, targeted individuals undergo an attribution re-training program to teach them to attribute their failure to insufficient effort. Typically this attributional feedback is delivered by an experimenter following induced failure on a laboratory task, although more recent studies have initiated interventions in the context of the regular school curriculum with children (e.g., Horner & Gaither, 2006) and college students (e.g., Perry et al., 2010). Following the intervention, the cognitions and behavior of the retrained subjects are then compared to those of a control group with similar characteristics.

Some retraining studies directly manipulated the stability dimension rather than specific causes. In one of the first achievement retraining studies with adults, Wilson and Linville (1982) manipulated the stability dimension by telling a group of anxious college freshmen that their grades would improve from the first to the second year; that is, the reasons for poor performance in the freshman year were unstable. Compared to a control group who received no attribution information, retrained students had greater expectations for success in their sophomore year, higher GPA, and they were less likely to drop out of college at the end of the first year.

A number of studies implicitly manipulated the stability dimension by teaching students to adopt an incremental versus entity theory of intelligence, or growth mindset (cf. Dweck, 2006). In studies with early adolescents transitioning to middle school, students in the incremental condition were taught that intelligence (the brain) expands with mental effort and is capable of growing and making new connections throughout life. These students achieved higher math grades than their counterparts in the control group (Blackwell, Trzesniewski, & Dweck, 2007). More recent studies have documented that growth mindset interventions can effectively be scaled up and delivered online (Paunesku, Walton, Romero, Smith, Yeager, & Dweck, 2015).

As interventions designed to alter motivational tendencies, attribution retraining programs have proven to be quite successful with both children and adults in academic settings (see reviews in Haynes, Perry, Stupnisky, & Daniels, 2009; Robertson; Wilson, Damiani, & Shelton, 2002). Nonetheless, there are two areas in which the richness of attribution theory has not been fully utilized in these programs. First, most attribution retraining studies start with the dysfunctional attribution without considering the earlier points in a motivational sequence where intervention could also occur. Because the attributional process begins with the perception of an outcome as a success or failure, the change agent might consider ways to alter the perception of failure – for example, by developing strategies to help the student view poor performance on a test not as failure but as information about areas that need improvement. It could also be that causal cues were inaccurately processed, such that the failing student did not have adequate knowledge about the performance of others or even incorrectly recalled his or her own history of performance. In these examples the change agent is not directly communicating a new attribution, such as “you did not try hard enough”; rather the goal is to help the target student re-evaluate the outcome or arrive at a new attribution by attending more closely to causal antecedents.

A second area of theory underutilization in retraining studies is the almost exclusive focus on achievement failure or the threat of failure. However, attribution theory also predicts that success experiences can be accompanied by both adaptive and maladaptive attributions. For example, success attributed to good luck or unusual help from others might be maladaptive because success is external (thus mitigating feelings of pride) and unstable (thus lowering one's expectations for future success). There is evidence that members of stigmatized groups may process success in this manner (Crocker et al., 1998). Attribution retraining research needs change programs designed to alter maladaptive cognitions for positive as well as negative outcomes.

Causal Controllability and Interpersonal Consequences

Thus far the discussion of attributional consequences has focused on intrapersonal processes, or how individuals think and feel about themselves. Attribution research on the consequences of perceived controllability has been especially fruitful when causal inferences are made about other people. Here the perceiver asks: Is the person responsible? Was it his or her fault? Are there responses in the person's repertoire that could have altered the outcome? Judgments about responsibility then lead to other-directed emotions such as sympathy and anger and a vast set of interpersonal behaviors including reward versus punishment, help versus neglect, and prosocial versus antisocial behavior. Thus attribution theorists propose a particular thought-emotion-action sequence whereby causal thoughts determine feelings and feelings, in turn, guide behavior.

The emotional and behavioral consequences of perceiving others as responsible have been documented across a range of motivational domains; indeed, this set of principles is among the most robust in attribution theory (Weiner, 1995; 2006). Figure 1 shows the phenomena to which the analysis applies. All of these phenomena are relevant to events that take place in

classrooms and schools. The perceivers might be teachers making controllability attributions and responsibility inferences about their students' academic performance, or peers making similar causal judgments about the social behavior of classmates who have stigmatizing conditions. We illustrate these attribution principles in three distinct domains.

Achievement evaluation. Teachers reward the effortful student and punish the lazy and unmotivated. Attribution theory can explain this empirical fact. When a teacher attributes failure by a student to lack of effort, the student is perceived to be responsible, anger is elicited, and punishment or reprimand is meted out. In contrast, when failure is attributed to low aptitude, the student is perceived as not responsible, sympathy is aroused, and help may be offered. We partially introduced these principles in the discussion of indirect attributional cues: when teachers express sympathy toward a failing student or offer unsolicited help, these emotions and behaviors can indirectly communicate low ability (Graham, 1990). Thus attribution principles about how we think and feel about ourselves and how others think and feel about us are closely interrelated. These interrelated linkages also highlight the dilemmas that some students might face in terms of their own experiences of success and failure and managing the impressions that others have of them. For example, some students may choose to avoid the appearance of having tried too hard for fear of being perceived as low in ability, as documented in the self-handicapping literature. The endorsement of low effort attributions also can result in more peer approval, particularly during adolescence when popularity and downplaying effort appear to go hand-in-hand (Juvonen, 2000). In so doing, however, the student risks the negative reactions of evaluative agents like teachers and parents. High effort can therefore be a “double-edged sword,” rendering approval from one's teacher and parents but at the same time undermining perceived competence and peer approval. The complex interplay between private evaluations

and self-presentational concerns in achievement settings are well-illustrated in attribution principles related to perceived controllability in others.

Causal controllability and stereotypes. Stereotypes are culturally shared beliefs, both positive and negative, about the characteristics and behaviors of particular groups. Attributional analyses have been applied to stereotypes about members of stigmatized groups. Stereotypes function as attributional signatures (Reyna, 2008). They convey information about responsibility for a stigmatizing condition and therefore impact the way stigmatized individuals and their groups are treated by others.

Negative racial stereotypes about African American adolescents have been examined from an attributional perspective. Even though privately held beliefs about African Americans have become more positive over the last 50 years, studies of cultural stereotypes continue to show that respondents associate being Black (and male) with hostility, aggressiveness, violence, and danger (Jones, Dovidio, & Vietze, 2014). Moreover, racial stereotypes often are activated and used outside of conscious awareness (Banaji & Greenwald, 2013). By automatically categorizing people according to cultural stereotypes, perceivers can manage information overload and make social decisions more efficiently.

Using a priming methodology with police officers and probation officers in the juvenile justice system, Graham and Lowery (2004) examined the unconscious activation of racial stereotypes about adolescent males and their attributional consequences. Participants in whom racial stereotypes were unconsciously primed judged a hypothetical adolescent offender as more dangerous, responsible and blameworthy for his alleged offense, and more deserving of harsh punishment than participants in an unprimed control condition. The priming effects were documented irrespective of the respondents' gender, race/ethnicity, political orientation, or consciously held attitudes about African Americans. Hence, automatic stereotype activation

does not require perceivers to endorse the stereotype, to dislike African Americans, or to hold any explicit prejudice toward that group. Even decision makers with good intentions can be vulnerable to racial stereotypes and their responsibility-related consequences (see also Goff et al., 2014, Okonoufua & Eberhardt, 2015).

Peer-directed aggression. Causal controllability and responsibility inferences have been prominent in the peer aggression literature. One very robust finding in that literature is that aggressive children display a “hostile attributional bias” to over-attribute negative intent to others (“it’s your fault”), particularly in situations of ambiguously caused provocation (Dodge et al., 2015). Attributions to hostile intent (the person is responsible) then lead to anger and the desire to retaliate. Many studies document that hostile attributional bias in aggressive youth is correlated with maladaptive outcomes including poor school achievement, conduct disorder, externalizing behavior, and peer rejection (Dodge et al., 2006). A common theme underlying this literature is that having a tendency to adopt a blameful stance toward others interferes with the processing of social information, anger management, and effective problem solving.

If attributions to hostile peer intent instigate a set of reactions that lead to aggression, then it might be possible to train aggressive-prone students to see ambiguous peer provocation as unintended. This should mitigate anger as well as the tendency to react with hostility. Hudley and Graham (1993) developed a 6-week school based attribution intervention for 4th-6th grade boys labeled as aggressive. Using a variety of interactive activities, the intervention was designed to strengthen aggressive boys’ ability to accurately detect responsibility in other. Later refinements incorporated a greater repertoire of social skills such as managing the impressions (attributions) of others (Graham, Taylor, & Hudley, 2015). Across this series of studies, the intervention led to reductions in attributional bias, improved anti-bullying attitudes, and better

teacher ratings of social behavior. This program of research is unique in documenting the effects of specific attribution retraining on *social* as well as academic behavior.

General Summary

We organized this review by conceptualizing attribution theory as a motivational sequence that includes both the antecedents and consequences of causal thinking and that distinguishes between causal beliefs about oneself and about other people. The sequence begins with an outcome perceived as a success or failure. Regarding antecedents, we reviewed research on a number of teacher behaviors that might function as indirect low ability cues. Given a list of antecedents, the next important linkages in attribution theory focus on the dominant perceived causes for success and failure and their three underlying properties, labeled causal dimensions. Once a particular cause is endorsed, it theoretically is located in dimensional space and each dimension is related to unique psychological, emotional, and behavioral consequences. The locus dimension is primarily related to self-esteem and esteem-related affect and we reviewed research on self-handicapping and attributions to discrimination as illustrations of this linkage. The stability of causes determines expectations for future success and this linkage has guided a motivation change literature on attribution retraining. Finally, perceived controllability (responsibility) in others is related to a cluster of interpersonal reactions, including achievement evaluation, stereotyping, and peer-directed aggression. Feelings of sympathy and anger play an important motivational role in these linkages because they mediate thoughts about responsibility and subsequent interpersonal reactions. Thus, at the very heart of this temporal sequence comprising an attributional model of motivation is the specification of complex interrelationships between thinking, feeling, and acting. Our causal thoughts tell us how to feel and feelings, in turn, guide behavior.

Toward the Future

We conclude this article with three recommendations for future research on an attributional theory of motivation.

Mediation and moderation in attribution research

Much of the contemporary discourse in psychology around theory utility focuses on the degree to which conceptual models address *mediators*, or the mechanisms that explain the relationships between a set of predictors and their correlated outcomes, and *moderators*, or variables that describe the conditions under which the predicted relations are strong versus weak. As a theory based on motivational sequences, attribution theory has many examples of tests of emotions as mediators of the relations between causal thoughts and subsequent behavior. A logical next step will be to test for bi-directional, cyclical, or cumulative relations over time. For example, do emotions such as sympathy and anger influence *subsequent* perceptions of responsibility in others? Such sequence questions can best be addressed with longitudinal research that tracks within-person change over time in causal beliefs about self and others. There are not many examples in attribution research that test continuity and discontinuity in mediating mechanisms with longitudinal analyses.

Studies including moderating variables also have a place in attributional analyses. Age might be an important moderator of thinking-feeling-action linkages; the field would greatly benefit from more developmental analyses of attribution principles. Individual differences in attributional tendencies are good moderator variable candidates for examining conditions under which the consequences of causal thinking are strong versus weak. Attribution theorists believe that it is first important to document general principles of motivation that are robust and then turn to how those principles vary between individuals or contexts. In this way, the absence of individual differences can lead to theory generality and the presence of differences can lead to theory refinement.

Motivation interventions

Most attribution retraining studies are relatively brief, comprising one or a few sessions, and focusing on short-term outcomes. A number of recent interventions emerging from social psychology research, some rooted in attributional analyses, have increased excitement about the potential of brief, even single-session treatments to increase achievement of stigmatized youth and college students. These interventions utilize constructs such as stereotype threat, mindsets, and self-affirmation to deliver short but powerful treatments that not only boost immediate achievement but also reduce the racial achievement gap (see review in Dweck, Walton, & Cohen, 2014). As firm believers in theory-guided interventions, attribution theorists applaud the social psychologists engaged in new intervention approaches that can better uncover the mechanisms underlying motivational change. However, we are less convinced that changing one set of beliefs – be it worries about confirming racial stereotypes, growth mindsets, the importance of affirming personal values, or causal attributions for failure – will have lasting effects on motivation and achievement. The attribution principles reviewed in this chapter suggest that effective interventions will need to target causal beliefs and their linked emotions, how individuals think (and feel) about themselves and about others, and the close intersection between children’s academic lives and their social lives. We doubt that this can be achieved with very brief interventions no matter how powerfully they are delivered. Moreover, when the targets of intervention are ethnic minority youth and the outcomes are pervasive problems like the racial achievement gap, effective interventions will need to address structural as well as psychological barriers to achievement.

Race, ethnicity, and the attributional process

The Western world has become more ethnically diverse than at any time in history. In the United States, a school-aged population that was 80 percent White a generation ago has

dropped to just over 50 percent White and public schools will soon be the first social institution in the nation without a clear racial/ethnic majority group (NCES, 2015). Attribution research will need to cast a broader conceptual and methodological net to encompass more ethnically diverse school-aged samples.

One very direct (and theoretically less complex) way to study school motivation in different racial/ethnic groups from an attributional perspective is to examine whether there are differences in attribution content or the meaning of disparate attributions in terms of their underlying properties. For example, are African American students more likely to endorse external attributions for failure than White students? Does good luck as an attribution for success have a different subjective meaning in Asian students with recent immigrant histories compared to their more assimilated peers from the same country of origin? If differences in attributional content or subjective meaning are found, the attribution researcher must be cautious not to conclude that the theory does not “work” or that it lacks cross-cultural generality. This is because attributional judgments are phenomenological; they depict the causal world as perceived by the actor or the observer. Thus, attributional content as well as causal meaning will surely differ between individuals and between different racial/ethnic groups (Chen & Graham, 2018). . This is not a problem for the theory.

A more fruitful approach to studying motivation in ethnic minority youth from an attributional perspective is to embrace the full motivational sequence. For example, if a researcher is interested in motivational explanations for the achievement gap between different racial/ethnic groups, it is probably too narrow to limit one’s research questions to causal attributions *per se* when studying antecedents and consequences is conceptually so much richer. Attribution theorists would want to know whether low achieving students perceive poor performance as an achievement “failure,” which then raises questions about achievement values

and the meaning of success; how feedback from teachers is processed, which addresses antecedents; or whether altering the perceived stability of causes for failure can lead to enhanced achievement strivings, which addresses consequences.

At any point along this motivational sequences, it seems likely that attributional thinking, feeling, and acting will be influenced by important context factors such as racial identity, parental socialization about race, immigrant history, or the ethnic composition of classrooms and schools. For example, research on peer victimization from an attributional perspective documented being a victim and a member of the majority ethnic group in one's school made students particularly vulnerable to self-blaming attributions ("it must be *me*") and this attribution, in turn, was related to low self-esteem and depression (Graham, Bellmore, Nishina, & Juvonen, 2009). It may be especially hard to make an esteem-protecting attribution to the prejudice of others when most of the perpetrators are from one's own racial/ethnic group. In contrast, ethnically diverse contexts where multiple racial/ethnic groups are relatively evenly represented may be particularly adaptive because they create enough attributional ambiguity to ward off self-blaming tendencies (Graham, 2018). These kinds of hypotheses are guided by a belief that it is not so much ethnicity per se, but rather ethnicity within a particular context (e.g., schools that vary in racial/ethnic diversity) that will inform attribution research with different racial groups.

Attribution theory will never provide all of the answers to the complex problems associated with low achievement or poor peer relations among members of historically marginalized groups. These problems often involve issues of poverty and social injustice in this society that are far beyond the range and focus of attribution theory. What the theory does offer us, however, is a useful framework for asking some of the right questions.

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Figure Captions

Figure 1. An attributional theory of motivation.

