



ELSEVIER

Contents lists available at ScienceDirect

International Journal of Educational Research

journal homepage: www.elsevier.com/locate/ijedures

Effect of task and goal interdependence on achievement, cooperation, and support among elementary school students



Andrea Bertucci^a, David W. Johnson^{b,*}, Roger T. Johnson^b, Stella Conte^a

^a University of Cagliari, Italy

^b University of Minneapolis, United States

ARTICLE INFO

Article history:

Received 2 January 2016

Received in revised form 24 June 2016

Accepted 27 June 2016

Available online xxx

Keywords:

Task interdependence

Goal interdependence

Cooperation

Cooperative learning

Individual learning

Achievement

ABSTRACT

Two studies investigated the relative impact of goal and task interdependence on achievement, attitudes toward cooperation, peer academic support, and peer personal support. Third, 4th, and 5th grade Italian students were randomly assigned to conditions. In the first study the effects of three interdependence conditions (task and goal interdependence, task interdependence and goal interdependence, and no interdependence (i.e., individual efforts) were compared. In study two, the effects of goal and task interdependence were compared with the effects of goal interdependence alone. In both studies the highest performance was found in the positive goal and task interdependence condition as well as more cooperative attitudes and greater personal social support in study one and greater academic social support in study two.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Social interdependence theory was first formulated and published by Moron Deutsch (1949, 1962). He proposed that goal interdependence among group members determined the interaction patterns among group members, which then determined the outcomes resulting from their effects. Deutsch defined *positive goal interdependence* as participants perceiving that they can succeed in reaching their goal if and only if the other individuals with whom they are cooperatively linked also reach their goals (Deutsch, 1949). An example is a business striving to make a profit or a farm family working together to plant their crops. While according to Deutsch positive goal interdependence is the defining characteristic of cooperative endeavors, subsequently, other researchers such as Thomas (1957), Pepitone (1973), and (Aronson, Blaney, Stephin, Sikes, & Snapp, 1978) conducted studies on task interdependence, role interdependence, and resource interdependence to demonstrate that goal interdependence was not the only type of interdependence to create cooperation. Skinner (1968) also conducted studies on reward interdependence (i.e., group contingencies) and DeVries and Edwards (1973) conducted studies that emphasized outside enemy interdependence (i.e., intergroup competition).

While considerable research has been conducted on many of the ways to structure positive interdependence, comparative little research has been conducted on task interdependence. *Task interdependence* exists when a task is broken down into subtasks so that each group member has to complete a subtask if the group is going to achieve its goal (Johnson & Johnson, 1992a, 1992b). Task interdependence may involve a pooled task in which subtasks are performed separately and in any order (such as each individual contributing one piece to the product without directly interacting with each other) or it

* Corresponding author.

E-mail address: dwj@visi.com (D.W. Johnson).

may involve a sequential task in which subtasks must be completed in a specified sequence (such as one group member collecting pond water, a second making a slide, a third looking at the slide through a microscope, and the fourth writing up what was observed). Task interdependence motivates individuals to complete a unique part of the group's work so the group can achieve its goals (Johnson & Johnson, 1992a, 1992b; Pepitone, 1973; Thomas, 1957). A group member completes his or her subtask out of recognition that (a) other group members cannot benefit from their work unless the group member does his or her part (and vice versa) and (b) the group will achieve its goals only if all members adequately complete their subtasks. In order to expand the scope of social interdependence theory, two studies were conducted to investigate the relative impact of goal and task interdependence on achievement, attitudes toward cooperation, peer academic support, and peer personal support. The first study compared the relative effects of task and goal interdependence, task interdependence only, and no interdependence (i.e., individual efforts). In the second study, the effects of goal and task interdependence were compared with goal interdependence alone. The two studies examined the impact of task interdependence with and without positive goal interdependence on achievement, attitudes toward cooperation, perceptions of peer academic support, and perceptions of peer personal support.

In terms of achievement, there is considerable research demonstrating that positive goal interdependence results in higher achievement and productivity than do negative or no goal interdependence (e.g., Johnson, 1970, 2003, 2013; Johnson, & Johnson, 1974, 1978, 1989, 2009; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981). There have been few studies, however, examining the impact of task interdependence on achievement. Allen, Sargent, and Bradley (2003) found that task interdependence decreased achievement, perhaps due to the increased task complexity introduced by task interdependence. Wageman and Baker (1997) found that task interdependence in and of itself did not have a positive impact on achievement; it was only when it was combined with reward interdependence that achievement was increased. Role, resource, and reward interdependence have been found to increase achievement when used in combination with goal interdependence (i.e., their effects tend to be additive), but when used in the absence of goal interdependence they have been found to have a negative effect on achievement and other outcomes (e.g., Mesh, Johnson, & Johnson, 1988; Johnson & Johnson, 1989; Ortiz, Johnson, & Johnson, 1996). These findings are somewhat surprising, as other research indicates that task interdependence has a positive effect on knowledge sharing, group efficacy, trust, integration of others' ideas, and helping behavior (Alavi & McCormick, 2008; Erez & Katz, 2002; Katz-Navon, 2005; Staples & Webster, 2008; Webb, Troper & Fall, 1995), all of which should promote achievement. Thus, there is contradictory evidence concerning task interdependence and achievement. It could be that at some times participants see an implicit cooperation in task interdependence and under other conditions participants may see their part of the task unrelated to what other participants are doing (i.e., individualistic perceptions) or more important than what others are doing (i.e., competitive perceptions). Further studies are needed, therefore, on the impact of task interdependence on achievement to resolve this inconsistency. While it may be expected that the combination of goal and task interdependence will result in higher achievement than will task interdependence with goal interdependence, goal interdependence alone, or individualistic efforts, the opposite may happen due to the increased complexity of task interdependence procedures.

The second issue concerns attitudes toward cooperation. While there is considerable evidence that more positive attitudes toward cooperation are found in cooperative than in competitive or individualistic situations (Johnson & Johnson, 1989, 2005, 2009), there is no research comparing the impact of task interdependence on attitudes toward cooperation. Since task interdependence may be perceived as being cooperative if the person focuses on the end product (or competitive or individualistic if the person focuses on his or her single responsibility), positive goal interdependence and task interdependence may have additive effects. It may be hypothesized that the most positive attitudes toward cooperation will be found in the positive goal interdependence and task interdependence condition.

The third issue concerns perceived peer academic support. *Peer academic support* is aimed at supporting and encouraging the specific actions needed to achieve and be productive. There is evidence that positive goal interdependence results in higher perceived peer academic support than do competitive or individualistic efforts (e.g., Gaith, 2002, 2003; Gaith, Shaaban & Harkous, 2007; Johnson & Johnson, 1983, 1989, 2005; Johnson, Johnson, Buckman, & Richards, 1985; Johnson, Johnson & Anderson, 1983; Johnson, Johnson, & Holubec, 2008). There is an absence of research assessing the impact of task interdependence on perceived peer academic support. Because task interdependence is inherently cooperative and is specifically imbedded in the academic task, it may be predicted that the effects of positive goal interdependence and task interdependence will be additive, so that the highest level of perceived peer academic support will be in the task and positive goal interdependence condition.

The fourth issue concerns perceived peer personal support. Again, there is considerable evidence that cooperative efforts promote higher levels of peer personal support than do competitive or individualistic efforts (e.g., Gaith et al., 2007; Gaith, 2002, 2003; Johnson & Johnson, 1983, 1989, 2005; Johnson et al., 1983; Johnson et al., 1985). There has been little or no research, however, on the impact of task interdependence on peer personal support. It is expected that task interdependence, because of its inherently cooperative nature, will have an additive effect with positive goal interdependence, resulting in the highest level of perceived peer personal support than the other conditions.

Research on the effect of task interdependence has focused mainly on college students or adults in working groups and organizations (e.g., Aube & Rousseau, 2005; Aube, Rousseau, Mama, & Morin, 2009; Bachrach, Powell, Collins, & Richey, 2006; De Dreu, 2007; Hirst, 1988; Katz-Navon & Erez, 2005; Langfred, 2000, 2005, 2007; Rico & Cohen, 2005; Somech, Desivilya, & Lidogoster, 2009) and school disciplinary teams (e.g., Somech, 2008). There have been only a few published studies about the effect of positive task interdependence on elementary school students (e.g., Bertucci, Conte, Johnson &

Download English Version:

<https://daneshyari.com/en/article/356837>

Download Persian Version:

<https://daneshyari.com/article/356837>

[Daneshyari.com](https://daneshyari.com)