



Individual Submission Summary

Reimagining Teamwork in Student Project Teams: The Role of Shared Leadership

In Event: *Presentation I Using Student Perceptions and Feedback to Improve Leadership Education*

Tue, October 26, 04:15 to 05:15 CEST (Mon, October 25, 22:15 to 23:15 EDT), Online, Online Room 2

Short Description

The central problem this study seeks to solve pertains to the inability of college graduates to engage effectively in teamwork. To solve this problem, we explored the antecedents and outcome of teamwork. We hypothesized that the effect of shared transformational leadership on team effectiveness will be mediated by teamwork quality. The hypothesis was supported. Findings suggest that shared transformational leadership improves team effectiveness by improving the quality of teamwork in student project teams. The study offers insights into the reason why many college students (and graduates) may struggle to engage effectively in teamwork, which has implications for leadership educators.

Participants

***Ibukun Dami Alegbeleye*, University of Southern Maine**
Presenter

Eric K. Kaufman, Virginia Tech
Co-Author

Reimagining Teamwork in Student Project Teams: The Role of Shared Leadership

Introduction

The nature of problems that organizations face today is increasingly complex and requires teamwork (Roberts et al., 2016; Western, 2010). As a result, employers are highlighting the importance of teams while de-emphasizing the significance of the individual leader (McIntyre & Foti, 2013). While the ability to work effectively in teams has been identified as one of the top skills employers want in college graduates (NACE, 2019; Stewart et al., 2016), employers have noted that college graduates are insufficiently prepared to work effectively in teams (Humphreys et al., 2015; NACE, 2019). The skills gap problem can be attributed to the nature of the curriculum being used by many leadership programs, which is too focused on the development of the individual leader, with little attention paid to shared leadership within teams (DeRue & Myers, 2013; Martin et al., 2018; Riggio, 2008). To fill the skills gap, we need to know more about the antecedent and outcome of teamwork.

While many studies have explored the effect of shared leadership on team effectiveness (Boies et al., 2010; D’Innocenzo et al., 2016; Wang et al., 2014), only a relatively few studies have examined shared transformational leadership as a predictor of team effectiveness (Ensley et al., 2006; Sivasubramaniam et al., 2002). Also, the research on the mediating effect of teamwork quality (or processes) on the relationship between shared transformational leadership and team effectiveness is sparse and mostly theoretical (Dionne et al., 2004). Therefore, the current study seeks to supplement limited empirical evidence regarding the effect of shared transformational leadership on team effectiveness, as mediated by teamwork quality.

Literature Review/Theoretical Framework

Team Effectiveness

Team effectiveness has been widely studied in the literature, and many theories of team effectiveness exist (Mathieu et al., 2008). McGrath (1964) conceptualized team effectiveness as consisting of input, process, and output. According to this model, inputs refer to individual differences such as personalities, team-level variables such as resources and external leader influences, and organizational-level variables such as organizational structure. Processes refer to the interactions among team members during task work (e.g., teamwork). Outcomes are the results of both the task work and teamwork (e.g., effectiveness).

This input-process-output (IPO) model serves as a framework to guide further study. Based on the IPO framework, we proposed a *Shared Transformational Leadership-Effectiveness Model*, where individual-level transformational leadership of team members (MLQ) would predict shared transformational leadership (TMLQ), which would, in turn, predict team effectiveness (TE), through teamwork quality (TWQ).

Shared Transformational Leadership

As is the case with transformational leadership at the individual level, team transformational leadership consists of four behaviors—inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration (Avolio et al., 1999). Avolio and colleagues (2002) conceptualized team transformational leadership as a measure of shared leadership within teams. According to Sivasubramaniam et al. (2002, p. 68), shared leadership refers to the “collective influence of members in a team on each other.” Consequently, team members, through shared transformational leadership, would collectively inspire, influence, stimulate, and consider one another.

While considerable research has explored the antecedents of shared leadership in general, research on the antecedents of shared transformational leadership is rather sparse (Nielsen &

Cleal, 2011; Sun et al., 2017). However, because of the similarity between transformational leadership behaviors at the individual and team level (Schriesheim et al., 2009), as well as previous studies suggesting team member's characteristics as an antecedent of shared leadership, *we hypothesized, in the current study, that the individual-level transformational leadership of team members will be positively related to shared transformational leadership* (Hypothesis 1).

Shared Transformational Leadership and Effectiveness

While there is no shortage of research on shared leadership and team effectiveness, the research on shared transformational leadership and team effectiveness is relatively sparse (Dionne et al., 2004). Nonetheless, few studies have found that shared transformational leadership predicts superior team performance and effectiveness. For example, Sivasubramaniam and Colleagues (2002) found that the shared transformational leadership of undergraduate student project teams predicted group potency and effectiveness (as measured by team grades). Similarly, Ensley and colleagues (2006) found shared transformational leadership to predict new venture performance. Thus, *we hypothesized, in the current study, that the shared transformational leadership of team members will be positively related to team effectiveness* (Hypothesis 2).

The Mediating Role of Teamwork Quality

Hoegl and Gemuenden's (2001) model of teamwork conceptualizes teamwork as consisting of six components: (a) communication, (b) coordination, (c) balance of member contribution, (d) mutual support, (e) effort, and (f) cohesion. Although many studies have reported a direct effect of transformational leadership on team performance outcomes (Braun et al., 2013; Wang, Waldman, & Zhang, 2014), they have often done so without accounting for the mediating effect of teamwork processes in such relationship (Dionne et al., 2004).

Dionne and colleagues (2004) proposed a theoretical model whereby teamwork processes would mediate the relationship between transformational leadership behaviors and team performance outcomes. Previous studies (e.g., Pillai & Williams, 2004; Stashevsky & Koslowsky, 2006) found that team cohesiveness partially mediated the relationship between transformational leadership and team performance. Consequently, *we hypothesized, in the current study, that the effect of shared transformational leadership on team effectiveness will be mediated by teamwork quality* (Hypothesis 3).

Methods

Procedure and Sample

Participants from a Governor School of Agriculture (GSA) program, which took place in a large-sized land-grant university in the Southern part of the United States, were sampled for the study. The specific GSA was chosen because its participants are required to work in self-managed teams. We chose the context of self-managed teams because shared leadership is more likely to emerge in self-managed teams than teams with positional leaders (Yang & Shao, 1996). Students in the GSA are required to submit a final team paper and deliver a presentation.

A cross-sectional study was designed to explore the effect of shared transformational leadership on team effectiveness, as mediated by teamwork quality. The study sampled 100 GSA students, sub-divided into 20 project teams. Of those, 98 students that made up 20 project teams ($n=20$) completed the survey. The majority of respondents (82.7%) were between the ages of 16 and 17 years old. Sixty-five percent (65.3%) reported they were females while 34.7% reported they were males. While four major races were reported (i.e., Spanish/Hispanic/Latino, White American, Black/African American, and Asian American), Asian Americans (38.8%) and White Americans (33.7%) make up the majority of the respondents. Team size ranges from four to five.

Measures

Multifactor Leadership Questionnaire (MLQ-5X Short)

An individual-level questionnaire developed by Avolio and Bass (1995) was used to measure individual team member transformational leadership. Twenty items were used from the 'MLQ-5X Short Form' to measure four transformational leadership behaviors (i.e., Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration). A sample item rated by participants is: "As a leader, I spend time teaching and coaching." The MLQ-5X instrument uses a five-point scale ranging from 0 for 'not at all' to 4 for 'frequently, if not always.'

Team Multifactor Leadership Questionnaire (TMLQ)

A team-level questionnaire developed by Bass and Avolio (1996) was used to measure the shared transformational leadership. Twenty-five items were used from the TMLQ to measure four transformational leadership behaviors (i.e., Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration). A sample item rated by participants is: "Members of my team instill pride in being associated with each other." The TMLQ instrument uses a five-point scale ranging from 0 for 'not at all' to 4 for 'frequently, if not always.'

Teamwork Quality

Hoegl and Gemuenden's (2001) teamwork quality instrument (TWQ) was used to measure teamwork quality. This 38-item questionnaire measures teamwork quality along six sub-constructs: communication, coordination, the balance of member contributions, mutual support, effort, and cohesion (Hoegl & Gemuenden, 2001). A Sample item rated by participants is: "The

team members communicated mostly directly and personally with each other.” The TWQ instrument uses a five-point scale ranging from 0 for 'strongly disagree' to 4 for 'strongly agree.

Team Effectiveness

The team effectiveness scale of the teamwork quality instrument developed by Hoegl and Gemuenden (2001) was used to measure team effectiveness. Eight items were used from the team effectiveness scale. A sample item rated by participants is: "The team was satisfied with the quality of the project result."

Analysis

Descriptive statistics (i.e., mean, SD) of all variables (i.e., age, gender, individual-level transformational leadership, shared transformational leadership, teamwork quality, and team effectiveness) were conducted. Pearson product-moment correlation and Cronbach's alpha test of variables were conducted; the significance level was set at the 0.05 level. Exploratory factor analysis (EFA) and inter-rater reliability (i.e., R_{wg}) were also conducted. SPSS 27 was used to conduct those analyses. The hypotheses were tested by conducting a structural equation modeling procedure called path analysis, using MPLUS software (Muthén et al., 2017). (Due to ILA's word limit, only the hypotheses results will be reported.)

Results of Hypotheses Tests

In hypothesis 1, we predicted that the individual-level transformational leadership of team members will be positively related to shared transformational leadership. Results showed that the individual-level transformational leadership of team members was not directly related to shared transformational leadership ($B = 0.07$, *ns*). Hence, hypothesis 1 was rejected.

In hypothesis 2, we predicted that the shared transformational leadership of team members will be positively related to team effectiveness. Results showed that the shared

transformational leadership of team members was positively related to team effectiveness ($B = 0.54, p < 0.01$). Hence, hypothesis 2 was supported.

In hypothesis 3, we predicted that the effect of shared transformational leadership on team effectiveness will be mediated by teamwork quality. Results showed that the effect of shared transformational leadership on team effectiveness was mediated by teamwork quality, as evidenced by a significant indirect effect ($B = 0.56, p < 0.01$). Hence, hypothesis 3 was supported. The mediation model suggested a good fit to the data ($\chi^2 = 2.72, df = 2, p > 0.05, CFI = .98, TLI = .94, SRMR = 0.08$).

Discussion

In the study, we found that teamwork quality mediates the relationship between shared transformational leadership and team effectiveness. The findings suggest that shared transformational leadership improves team effectiveness by improving the quality of teamwork in a team. The significant mediation effect was consistent with those of theoretical models positing that teamwork processes would mediate the relationship between team transformational leadership and team performance outcomes (Dionne et al., 2004; Zaccaro et al., 2001). The findings are also in consonance with the empirical research by Boies and colleagues (2015), who found that team communication and team trust mediated the relationship between team transformational leadership behaviors (intellectual stimulation and inspirational motivation) and team performance. Finally, the study provides support for the study by Cha, Kim, Lee, and Bachrach (2015); those authors found that teamwork quality fully mediated the relationship between team leaders' transformational leadership and inter-team collaboration.

Interestingly, individual-level transformational leadership of team members was not significantly related to shared transformational leadership. This finding suggests that the ability

of a team to share transformational leadership is not dependent on team composition in terms of the transformational leadership capacity of individual members (Hoch & Dulebohn, 2017). Put simply, because a team is full of transformational leaders does not mean such a team will be successful in sharing transformational leadership.

Conclusion

The central problem this study seeks to solve pertains to the inability of college graduates to engage effectively in teamwork. To solve this problem, we explored the antecedent and outcome of teamwork quality—shared transformational leadership as an antecedent and team effectiveness as an outcome. We hypothesized that the effect of *shared transformational leadership* on *team effectiveness* will be mediated by *teamwork quality*. The findings provide support for the hypothesis, as evidenced by a significant indirect effect between shared transformational leadership and team effectiveness ($B = 0.56, p < 0.01$), through teamwork quality. We also hypothesized that *individual-level transformational leadership* will predict *shared transformational leadership*. The hypothesis was rejected, as it was not supported by the findings.

Implications

Theoretical Implications

Although leadership scholars have hypothesized a positive relationship between shared transformational leadership and team performance outcomes, only a few studies have tested those propositions empirically (Ensley et al., 2006; Han et al., 2017). This study adds to the body of knowledge by contributing empirical support for the relationship between shared transformational leadership and the outcome of team effectiveness.

Moreover, while previous studies have accounted for the effect of mediating variables such as teamwork quality (Cha et al., 2015; Yang, Huang, & Wu, 2011), team communication and team trust (Boies et al., 2015), on the relationship between transformational leadership and team performance outcomes, many of those studies have been conducted with teams with positional team leaders (Braun et al., 2013; Cha et al., 2015; Yang, Huang, & Wu, 2011). The current study, therefore, supplements limited existing evidence regarding the mediating effect of teamwork quality on the relationship between team members' shared transformational leadership and team effectiveness in self-managed teams.

Implications for Future Research

The current study explored the mediating effect of teamwork quality on the relationship between shared transformational leadership and team effectiveness. However, other types of shared leadership models exist in the literature (Grille & Kauffeld, 2015). Therefore, it is recommended that future studies explore the mediating effect of teamwork quality on the relationship between other types of shared leadership and team effectiveness. Moreover, while this study was conducted with self-managed student project teams, it is recommended that future studies explore other contexts such as professional work teams, virtual teams, etc.

We observed during this research that many existing theories used to describe and/or measure shared leadership lack the capacity to account for the type of leadership displayed (Grille & Kauffeld, 2015). For example, many researchers have used social network analysis to measure shared leadership (Carson et al., 2007; McIntyre & Foti, 2013). In many of those studies, team members were asked to nominate any of their teammates that have displayed leadership in the team; while this approach may measure whether or not leadership is shared, it fails to account for the type of leadership being shared. Therefore, it is recommended that future

studies develop theories and instruments that more accurately measures shared leadership, as well as the type of leadership being shared.

Practical Implications

The findings of this study suggest that shared transformational leadership was positively related to teamwork quality. The study also found that the individual-level transformational leadership of team members was not significantly related to shared transformational leadership. However, students have, for a long time, been taught transformational leadership at the individual level. However, the nature of the challenges we face in our society today is becoming increasingly complex (Rosen, 2008), and solving them requires individuals who can work collaboratively with others in a team. It is, therefore, recommended that leadership educators devote more attention to teaching college students about shared transformational leadership to foster their ability to work effectively with others in a team (Avolio et al., 2002).

Equally important as teaching shared leadership, is providing college students with the opportunities they need to practice shared leadership. What better ways for college students to learn how to build and share leadership with team members than completing course projects as part of a team? It is recommended that the leadership curriculum be designed in such a way that it necessitates students to complete a semester-long team project in their courses; Such projects should be problem-based, reflecting the problems in the real world. Moreover, the project should be set up as self-managed, where teachers provide guidance, while at the same time granting autonomy to teams, especially in matters of team leadership.

Finally, since the findings of the study showed that shared transformational leadership is germane for high-quality teamwork, employees who lack the skills to share (transformational) leadership with their teammates may harm teamwork quality and team effectiveness. It is

therefore recommended that organizations invest in shared (transformational) leadership training for employees.

References

- Avolio, B. J., & Bass, B. M. (1995). *Multifactor leadership questionnaire instrument (leader and rater form) and scoring guide (form 5x-short)*. Mind Gardens, Inc.
www.mindgarden.com
- Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational and Organizational Psychology*, 72(4), 441–462.
<https://doi.org/10.1348/096317999166789>
- Avolio, B. J., Sivasubramaniam, N., Murry, W. D., Jung, D. I., & Garger, J. W. (2002). Assessing shared leadership: Development and preliminary validation of a Team Multifactor Leadership Questionnaire. In C. L. Pearce & J. A. Conger (Eds.), *Shared Leadership: Reframing the Hows and Whys of Leadership* (pp. 143–203). SAGE.
- Bass, B. M., & Avolio, B. J. (1996). *Multifactor Leadership Questionnaire for Teams: Sampler set; Manual, Sample team answer sheets, scoring key for MLQ (team Version) and sampler set*. Mind Garden, Incorporated.
- Boies, K., Fiset, J., & Gill, H. (2015). Communication and trust are key: Unlocking the relationship between leadership and team performance and creativity. *The Leadership Quarterly*, 26(6), 1080–1094. <https://doi.org/10.1016/j.leaqua.2015.07.007>
- Boies, K., Lvina, E., & Martens, M. L. (2010). Shared leadership and team performance in a business strategy simulation. *Journal of Personnel Psychology*, 9(4), 195–202.
<https://doi.org/10.1027/1866-5888/a000021>

- Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The Leadership Quarterly*, *24*(1), 270–283. <https://doi.org/10.1016/j.leaqua.2012.11.006>
- Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of Management Journal*, *50*(5), 1217–1234. <https://doi.org/10.5465/amj.2007.20159921>
- Cha, J., Kim, Y., Lee, J.-Y., & Bachrach, D. G. (2015). Transformational leadership and inter-team collaboration: Exploring the mediating role of teamwork quality and moderating role of team size. *Group & Organization Management*, *40*(6), 715–743. <https://doi.org/10.1177/1059601114568244>
- DeRue, D. S., & Myers, C. G. (2013). *Leadership development: A review and agenda for future research*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199755615.013.040>
- D’Innocenzo, L., Mathieu, J. E., & Kukenberger, M. R. (2016). A Meta-analysis of different forms of shared leadership–team performance relations. *Journal of Management*, *42*(7), 1964–1991. <https://doi.org/10.1177/0149206314525205>
- Dionne, S. D., Yammarino, F. J., Atwater, L. E., & Spangler, W. D. (2004). Transformational leadership and team performance. *Journal of Organizational Change Management*, *17*(2), 177–193. <https://doi.org/10.1108/09534810410530601>
- Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal*, *45*(4), 735–744. <https://doi.org/10.5465/3069307>

- Ensley, M. D., Hmieleski, K. M., & Pearce, C. L. (2006). The importance of vertical and shared leadership within new venture top management teams: Implications for the performance of startups. *The Leadership Quarterly*, *17*(3), 217–231.
<https://doi.org/10.1016/j.leaqua.2006.02.002>
- Grille, A., & Kauffeld, S. (2015). Development and preliminary validation of the Shared Professional Leadership Inventory for Teams (SPLIT). *Psychology*, *06*(01), 75–92.
<https://doi.org/10.4236/psych.2015.61008>
- Gupta, V. K., Huang, R., & Niranjana, S. (2010). A longitudinal examination of the relationship between team leadership and performance. *Journal of Leadership & Organizational Studies*, *17*(4), 335–350. <https://doi.org/10.1177/1548051809359184>
- Han, S. J., Lee, Y., Beyerlein, M., & Kolb, J. (2017). Shared leadership in teams: The role of coordination, goal commitment, and knowledge sharing on perceived team performance. *Team Performance Management: An International Journal*, *24*(3/4), 150–168.
<https://doi.org/10.1108/TPM-11-2016-0050>
- Hoch, J. E., & Dulebohn, J. H. (2017). Team personality composition, emergent leadership and shared leadership in virtual teams: A theoretical framework. *Human Resource Management Review*, *27*(4), 678–693. <https://doi.org/10.1016/j.hrmr.2016.12.012>
- Hoegl, M., & Gemuenden, H. G. (2001). Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. *Organization Science*, *12*(4), 435–449.
- Humphreys, D., McCambly, H., & Ramaley, J. (2015). *The quality of a college degree: Toward new frameworks, evidence, and interventions*. Washington, DC: Association of American Colleges and Universities.

- Martin, J., Cormican, K., Sampaio, S. C. B., & Wu, Q. (2018). Shared leadership and team performance: An analysis of moderating factors. *Procedia Computer Science*, *138*, 671–679. <https://doi.org/10.1016/j.procs.2018.10.089>
- Mathieu, J., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, *34*(3), 410–476. <https://doi.org/10.1177/0149206308316061>
- McIntyre, H. H., & Foti, R. J. (2013). The impact of shared leadership on teamwork mental models and performance in self-directed teams. *Group Processes & Intergroup Relations*, *16*(1), 46–57. <https://doi.org/10.1177/1368430211422923>
- Muthén, B. O., Muthén, L. K., & Asparouhov, T. (2017). *Regression and mediation analysis using Mplus*. Muthén & Muthén Los Angeles, CA.
- NACE. (2019). *The key attributes employers seek on students' resumes*. National Association of Colleges and Employers. <https://www.nacweb.org/about-us/press/2017/the-key-attributes-employers-seek-on-students-resumes/>
- Nielsen, K., & Cleal, B. (2011). Under which conditions do middle managers exhibit transformational leadership behaviors? — An experience sampling method study on the predictors of transformational leadership behaviors. *The Leadership Quarterly*, *22*(2), 344–352. <https://doi.org/10.1016/j.leaqua.2011.02.009>
- Pillai, R., & Williams, E. A. (2004). Transformational leadership, self-efficacy, group cohesiveness, commitment, and performance. *Journal of Organizational Change Management*, *17*(2), 144–159. <https://doi.org/10.1108/09534810410530584>

- Riggio, R. E. (2008). Leadership development: The current state and future expectations. *Consulting Psychology Journal: Practice and Research*, 60(4), 383–392.
<https://doi.org/10.1037/1065-9293.60.4.383>
- Roberts, T. G., Harder, A., & Brashears, M. T. (2016). *American association for agricultural education national research agenda: 2016-2020*. American Association for Agricultural Education.
- Rosen, R. H. (2008). Embracing uncertainty and anxiety. *Leader to Leader*, 2008(50), 34–38.
<https://doi.org/10.1002/ltl.304>
- Schriesheim, C. A., Wu, J. B., & Scandura, T. A. (2009). A meso measure? Examination of the levels of analysis of the Multifactor Leadership Questionnaire (MLQ). *The Leadership Quarterly*, 20(4), 604–616. <https://doi.org/10.1016/j.leaqua.2009.04.005>
- Sivasubramaniam, N., Murry, W. D., Avolio, B. J., & Jung, D. I. (2002). A Longitudinal Model of the Effects of Team Leadership and Group Potency on Group Performance. *Group & Organization Management*, 27(1), 66–96. <https://doi.org/10.1177/1059601102027001005>
- Stashevsky, S., & Koslowsky, M. (2006). Leadership team cohesiveness and team performance. *International Journal of Manpower*, 27(1), 63–74.
<https://doi.org/10.1108/01437720610652844>
- Stewart, C., Wall, A., & Marciniak, S. (2016). Mixed signals: Do college graduates have the soft skills that employers want? *Competition Forum*, 14, 276.
- Sun, J., Chen, X., & Zhang, S. (2017). A Review of Research Evidence on the Antecedents of Transformational Leadership. *Education Sciences*, 7(1), 15.
<https://doi.org/10.3390/educsci7010015>

- Wang, D., Waldman, D. A., & Zhang, Z. (2014). A meta-analysis of shared leadership and team effectiveness. *Journal of Applied Psychology, 99*(2), 181–198.
<https://doi.org/10.1037/a0034531>
- Wang, X.-H. (Frank), & Howell, J. M. (2012). A multilevel study of transformational leadership, identification, and follower outcomes. *The Leadership Quarterly, 23*(5), 775–790. <https://doi.org/10.1016/j.leaqua.2012.02.001>
- Western, S. (2010). Eco-leadership: Towards the development of a new paradigm. In B. W. Redekop (Ed.), *Leadership for environmental sustainability*. Routledge.
- Yang, L.-R., Huang, C.-F., & Wu, K.-S. (2011). The association among project manager's leadership style, teamwork and project success. *International Journal of Project Management, 29*(3), 258–267. <https://doi.org/10.1016/j.ijproman.2010.03.006>
- Zaccaro, S. J., Rittman, A. L., & Marks, M. A. (2001). Team leadership. *The Leadership Quarterly, 12*(4), 451–483. [https://doi.org/10.1016/S1048-9843\(01\)00093-5](https://doi.org/10.1016/S1048-9843(01)00093-5)